

BRITAIN'S LEADING HISTORICAL RAILWAY JOURNAL

Back Track

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IN THIS ISSUE

THE LONDON & BIRMINGHAM RAILWAY

SR 'KING ARTHUR' CLASS IN COLOUR

DOWN IN THE LIME STREET CUTTING

SOUTHERN GONE WEST

THE 'NIGHT FERRY'

THOUGHTS ON PASSENGER ACCOMMODATION



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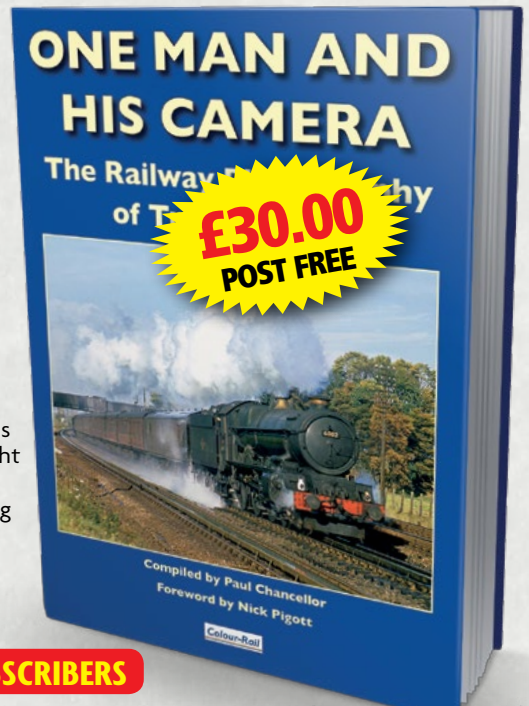
ONE MAN AND HIS CAMERA THE RAILWAY PHOTOGRAPHY OF TREVOR OWEN

COMPILED BY PAUL CHANCELLOR

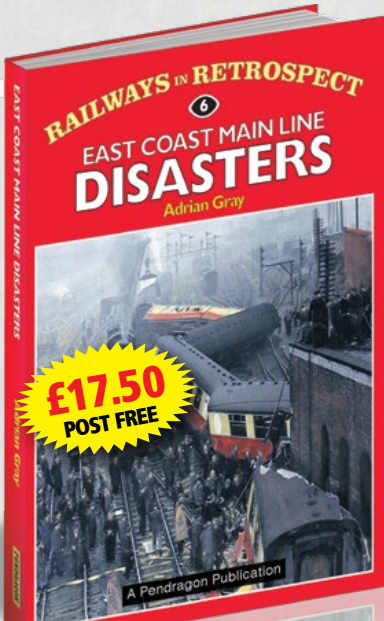
Trevor Owen is undoubtedly one of the greatest names in railway colour photography. Avid readers of the railway press will be very familiar with his name whilst many others would be able to spot one of his pictures without noticing the photographer credit. First and foremost the quality of the image was generally second to none but other factors would betray the touch of his genius, such as the creative use of light, often low winter sunshine. Other 'trademarks' were locomotives in action rather than at rest and trains in the landscape rather than being tightly framed front three quarters views. With

Trevor being a prolific and a very early adopter of colour film, the results of his work are some of the best images of the UK railway scene that we can enjoy today and the fact that we can do this is down to the photographer having had the foresight to place his work in the Colour-Rail Collection. In association with Colour-Rail, Pendragon Publishing now brings you this wonderful selection of some 250 classic Trevor Owen images of the steam railway in 1950s and 1960s.

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Editorial

Rattling the bones

Railway history encompasses many aspects: industrial, social, political... and we cover them all in Backtrack. However, contributor LES SUMMERS looks behind some well-known headlines and in this guest editorial notes that not all stories are always as comfortable as we might like.

History is a funny old thing. I was once criticised by a tutor for describing Mary Tudor as a 'butcher'. The argument was that past events cannot be judged by today's protocols. This seemingly logical point is, however, increasingly challenged by demands for 'apologies' for the past. I cannot help but say that unless they refer to judicial errors under contemporaneous law, such apologies made to people long dead are of no help to them whatever. At the same time there is a question to answer about the commemoration of that past and this applies no less emphatically to the history of railways.

These perambulations are suggested by recent events both abroad and in Britain questioning the activities of British imperialists and merchant traders. I have a little book somewhere, issued to mark the 1953 coronation, which is a compilation of 'great Britons' among whom is Cecil Rhodes. His was the dream of a 'Cape to Cairo' railway, running through British controlled colonies, which by means of armed aggression he pressed very nearly to its fulfillment. The justifiable destruction of the Rhodes legend has encouraged other such investigations, in particular in the city of Bristol.

Despite my left-leaning views, I am known as an enthusiast for the Great Western Railway; no irony there as I believe that the GWR's concerns about its employees were genuine, if not always well executed. Certainly the modern American-inspired mantra of maximised profit at any cost did not underlie its activities. Yet the fact that the original GWR main line was built, in part at least, with money obtained from the slave trade, still has the capacity to shock.

In 1951 the Western Region decided that the 13.15 train from Paddington to Western-super-Mare should carry the name 'The Merchant Venturer' in honour of the society that had predominated in Bristol's trade and commerce from the middle of the sixteenth century onwards. Unfortunately it was the Society of Merchant Venturers which was involved, very lucratively, in the British slave trade. It is estimated that in the period to 1799 the triangular trade operating out of Bristol in which, at first, trinkets, later minor manufactured goods, were shipped to west Africa and bartered for black slaves, later sold in the Americas to fund the import of sugar, rum, tobacco and cotton, had accumulated, in contemporary values, some £4 million. In 1807 Britain outlawed the slave trade and in 1834 voted to release all slaves still held in bondage. According to the latest research both Acts were often

ignored, amongst other things because enforcement was difficult and expensive. But this is not all; the Government of the day paid out £20 million to 3,000 families to compensate for the loss of their 'property'.

The GWR was sponsored, in 1832, by four organisations: Bristol Corporation, the Venturers, Bristol Dock Company and Bristol Chamber of Commerce. Leaving aside the latter, this was an association of like-minded and associated people to whom the prosperity of its shipping trade was highly important. Among the names quoted by McDermott as being the original members of the Bristol Committee of Directors, Robert Bright and George Gibbs can be directly linked with the trade and received compensation for the loss of slaves. Thomas Richard Guppy was involved in commerce directly related to the slave trade and further research would, no doubt, turn up the facts about more of these characters. That, however, is not necessary to the question I want to pose.

The city of Bristol has been forced by popular demand to rename its concert hall, the Colston Hall, because Edward Colston was an eighteenth century slave trader. The Society of Merchant Venturers still exists, purely as a charity though it appears to remain a powerful organisation. So what of the Great Western Railway? The historian in me says that we cannot re-engineer the past; for their time these men were no different to Members of Parliament in the twentieth century who voted against women being allowed to vote or to receive equal pay, though some are, indeed, the equivalents of those of the fox hunting fraternity who continue this activity in defiance of the law. The reactionary will always be with us; our task is to confront their legacy. It would be ridiculous to condemn the actions of the many truly great officers of the GWR, purely because some of its early financiers were, in our terms, villains. At the same time we must not allow the activities of those people to be forgotten. Railway history, no more than national history, should not be shorn of its dark side.

L. A. Summers

What have bullion robberies, Lawrence of Arabia, suffragettes, Peeping Toms, the history of sleeping cars, Lenin, circus trains and the wartime blackout all got in common? Well, they were all the subject of articles in *Backtrack* during the last five years and to find them, and all the other articles you've been looking for or didn't even know about, you'll need our new Cumulative Index to Volumes 26 to 30. Don't delay – details are shown opposite and my ever-helpful assistant Samantha is by the packing bench ready to oblige.

Ed.

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SR 'King Arthur' 4-6-0 No.30779 Sir Colgreance passes Bramshot, west of Farnborough, on the South Western main line on 2nd March 1957. (Trevor Owen/Colour-Rail.com 392148)

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THE 'NIGHT F



This is the first post-war 'Night Ferry' waiting to leave Victoria station on 15th December 1947 behind SR 4-6-2 No.21C156 (later 'Battle of Britain' *Croydon*) and L1 4-4-0 No.1757. (Pendragon Collection)

The Times, Tuesday, 13th October 1936, page 13

NEW TRAIN FERRY DOVER–DUNKIRK ROUTE OPENED A BOON TO BAD SAILORS

[From our special correspondent, Dover, 12th October.]

"By pressing a button on the pump house at the new ferry dock at Dover, the French Ambassador – M. Corbin – today officially inaugurated the Southern Railway Company's new through sleeping car service between London and Paris via Dover and Dunkirk. The button gave a signal for the lowering of the dock gates, and when these had disappeared beneath the water, the steamer 'Hampton Ferry' steamed into the harbour on her voyage, which today was to Calais.

"Half an hour earlier a number of guests of the company from London and Paris assembled in the steamer's garage on the top deck, where the Ambassador said that every new route that was opened stimulated traffic and brought about an increase in trade. The present time offered particular reasons for anticipating such an expansion. The currency statement which had just been carried out by the French Government following an understanding with London and Washington, and the steps taken a few days ago in France in order to relieve the pressure of tariffs and modify, or even abolish quotas, would promote the development of trade between the two countries. The new route would be one of the first to benefit from these advantages. The ferry service would attract many business men, for whom every hour counted. They should no longer have reason to avoid a journey which had been purposely devised to save their time and energies."

Closer relations

For those interested in history or archaeology,

for lovers of landscape and ancient monuments, few countries offered so many resources as France. Now that the journey was going to lay a smaller burden on their pocket, it was hoped that more British travellers than ever would stop in his country and its capital. Since the War Frenchmen seemed to have given up those stay at home habits, with which they had always been credited. They were met far more frequently today in the United Kingdom than ever before. From now on they would have at their disposal another attractive way to reach the centre of the Empire. All these visitors from one side of the Channel to the other helped to establish closer relations and contacts, which fostered the mutual comprehension so essential to Franco-British friendship. The men who had forged that new link deserved their gratitude for facilities which might to some extent strengthen and tighten the bond between their two great nations.

Mr. R. Holland-Martin, the chairman of the company, who presided on behalf of the Southern Railway, extended thanks to the French Ambassador for being there on that occasion, which was an indication of his feeling towards the new link with France. The train ferry was the fulfilment of a dream by Sir Herbert Walker (General Manager) and its construction had been fraught with very great difficulties among which were the high rise in the tide and the fact that the site was a very windy one in which to put the ferry. In looking for a port on the other side of the Channel, they chose Dunkirk on account of its magnificent docks and the great improvements which had been carried out there.

Work under the sea

When the work was started at Dover geologists assured that what they put down

Backtrack for both November and December 2016 contained a fascinating two-part article by R. A. S. Hennessey surveying the history of train ferries in Britain and elsewhere. A recent reading of the newspaper files of *The Times* of London has allowed the following material to be extracted, presented here by **ARNOLD TORTORELLA**.

would be on solid chalk. The first difficulty they encountered was the weather and then when they started to build walls of concrete, it was found that there were fissures in the chalk rock formation forming the sea bed. Finally, they decided it would be necessary to carry out the work under the sea and this had been successfully done under Mr. George Ellison, the company's chief engineer, to whom and to the contractor Mr. Holland-Martin offered congratulations.

As to the users of the ferry, people who were bad sailors, had for a long time dreaded the necessary changing from train to ship, but that would now be avoided, and passengers could travel in comfortable sleepers. They would go to bed at Victoria and sleep right through the journey to Paris, arriving there in time for their work in the morning.

The service should also be a great help to trade, as the objection to sending perishable goods and breakables had been that of transshipment. Goods could now be placed anywhere in Europe and the wagons would go right through.

Many of the guests, among whom was Sir John Simon, the Home Secretary, crossed in the steamer to Calais. Among those who were on board but came ashore were Lord Willingdon, Lord Warden of the Cinque Ports, and the Mayor of Dover, Alderman G. M. Norman.

The same page above also published a small black and white photograph, measuring 5½in long by 5in tall with the caption "The 'Hampton Ferry' leaving Dover after the inauguration of the new train ferry service by M. Corbin, the French Ambassador."

The Times, Wednesday 14th October 1936, page 8

NEW TRAIN FERRY SERVICE FROM LONDON TO PARIS WHILE SLEEPING

FRENCH CARS AT VICTORIA

[From our special correspondent]

"The inauguration of the train ferry service between Paris and London, begun on Monday with the ceremonial lowering of the dock gates at Dover, was completed yesterday morning when, for the first time, an international sleeping-car express which had left the Nord station in Paris some 11 hours earlier arrived with passengers at Victoria Station. The train had crossed the sea and the travellers had made the journey from one capital to the other while they slept."

Pullman cars were familiar at Victoria, but this train of French cars with the inscription of the Compagnie Internationale



'FERRY' - AS INTRODUCED IN *THE TIMES*



des Wagon-Lits above each coach and indicators reading 'Paris-London' was new. Something of the Continent had been brought to London in a way that could not

London Victoria and on this autumn evening the 'Night Ferry' will be taken by a Class 33 diesel-electric locomotive on its journey to Dover Western Docks. (Allan Trotter)

be suggested by a boat-train. What it meant was indicated by Sir George Clerk, British Ambassador in Paris, on Monday night when he said that it would now be possible to travel from London to Istanbul without a change of carriage.

A large section of the company present at Dover for the opening of the ferry dock proceeded to Calais by the steamer *Hampton Ferry* and then to Paris to make the first

A close-up view of the compartments of berths 1/2 and 3/4 of a 'Night Ferry' Type F sleeping car. (Allan Trotter)

regular crossing by the service. This outward journey followed the usual routine of train, boat, and train as the ferry port on the French side was at Dunkirk. In Paris the guests were entertained at an inaugural banquet at the Hotel George V. M. Paul Ramadier,





Under Secretary for Mines, deputising for the Minister for Public Works, presided and during the evening he invested Sir Herbert Walker, General Manager of the Southern Railway, with the insignia of a Commander of the Legion of Honour and Mr. Charles Cooper, Continental Manager of the line, with that of Chevalier of the order.

The Magic Carpet

Sir John Simon, the British Home Secretary, described the creation of the service as equal to the story of the magic carpet and said that the train ferry should entirely remove the average Englishman's dread of a rough Channel crossing. In England, he added, we no longer feared a French invasion and would welcome French visitors by this new link between their country and ours.

Mr. R. M. Holland Martin, the SR chairman, said that the ferry would help to cement friendships between the countries of the world. Anything that facilitated trade and commerce between nations helped also the peace of the world. The ferry was now ready, he announced, for its work and for the first fortnight the passenger list was fully booked.

After the banquet two trains, both consisting of six sleeping cars, left the Gare du Nord for London. The passengers entered their berth when the trains steamed out of the station and remained in bed when the coaches were shunted at Dunkirk on to four sets of rails on the train deck of the *Twickenham Ferry*. There was some shouting in French and some clanking of chains before the trains were settled in their positions for the sea passage, but the noise would not have awakened sound sleepers. The crossing could not have been more comfortable and at breakfast time, when

The corridor side of a Type F sleeping car at Victoria. No doubt one of the reasons for the demise of the 'Night Ferry' was the alternative air services being advertised inciting passengers to fly 'Super Jets'. (Allan Trotter)

rolls and coffee were brought to the berths by French attendants, the *Twickenham Ferry* was in dock at Dover with the drawbridge down waiting for engines to make up the trains again.

The first train arrived at Victoria at 11.00am, but a slight mishap in hauling the second train off the steamer led to delay. The last of the sleeping coaches, in which Sir John Simon, Mr. Holland-Martin, Sir Herbert Walker and others were travelling was derailed by, it was believed, some obstruction which fouled the metals. The passengers were transferred to another coach and the train then left for London.

Services for the Public

"The first of the ferry trains for the public would leave Victoria Station tonight [Wednesday 14th October 1936] at 10.00pm and was due to arrive in Paris at 8.55am tomorrow morning. The corresponding service from Paris would begin tonight, leaving Paris (Nord) at 9.50am, to arrive in London at 8.30am, the following morning. The services would then run every night in each direction."

Sleeping cars of the most modern type, decorated in blue, had been specially constructed by the Wagon-Lits Company for running over the British and French lines. The cars were about 63 feet long and could each take nine first class or eighteen second class passengers. In the second class coaches

the compartments were the same as in the first class, with the exception that they contained two sleeping berths instead of one. Arrangements had been made for customs and passport examinations to be made on the outward journey shortly before the train reached Paris; in the reverse direction the French examination would take place immediately after the train left Paris and the English examination on arrival at Victoria.

The charges for the use of the sleeping cars would be £1 12s 6d first class and £1 5s 6d second class, in addition to the ordinary fares via Dunkirk. The costs included reservation fees and gratuity to the sleeping car attendant.

Three vessels, averaging about 2,840 tons, had been constructed for the new service and each had been named after a famous Thames ferry. To convey the trains, the ship had to have a width of over 60ft and the tunnels had been rigged to port and starboard. Above the train deck restaurants, saloons and private cabins had been provided for passengers who did not travel in the sleeping cars and there was also a garage with room for 25 motor cars. In addition to the night services the ferry boats would also run a day service, except on Saturdays, between Dunkirk and Dover for passengers, motor cars and goods traffic. The times of departure would be 1.15pm from Dover and 2.15pm from Dunkirk.

Interested readers will also find a fuller history of the Dover–Dunkirk train ferry service within *Night Ferry* by George Behrend and Gary Buchanan (Jersey Artists Ltd., 1985).

The author is a member of The LMS Society.





THE 'NIGHT FERRY' THE END OF BRITAIN'S FIRST INTERNATIONAL PASSENGER TRAIN

ALLAN TROTTER sets down some personal observations of the final years of this once illustrious train service.

The 'Night Ferry' was Britain's first international passenger train. Uniquely the 'Night Ferry' offered direct through sleeping cars from London Victoria to Paris Gare du Nord via the train ferry between Dover Marine (later renamed Dover Western Docks) and Dunkerque. The service was instigated and operated by the British Southern Railway and the French Nord Railway.

First, though, a brief background to the 'Night Ferry' service. Twelve specially built Type F sleeping cars were constructed for the start of service. These cars were based on the then standard Wagon Lits Type Y sleeping cars but because of the more restrictive British loading gauge, the Type F cars were built to 63ft in length. Instead of eleven cabins as in the Type Y, there were nine in the Type F. Each cabin contained two berths and could be configured for either day or night use although after 1956 only passengers travelling first class and thus occupying a single berth were carried. There were connecting doors between pairs of cabins to create a suite but cabin 9 had no connecting door. Cabin and connecting doors were of the conventional hinged type – Wagon Lits did not use sliding doors. Passenger access doors to the cars was at one end only, the other vestibule contained the conductor's pantry and the car steam heating boiler. However, emergency exit doors

were located in these vestibules. Like other Wagon Lits cars, heating could be provided by the on-board boiler but provision was also made to obtain steam heat from the locomotive in the regular manner. Vehicles were equipped for both vacuum and air braking. After the elimination of steam traction, electric train heating of both the British and European standards was used and vacuum brake equipment was removed.

The sleeping cars remained much as they were built throughout their in-service lives. The main visible change that came about was at the end of steam haulage around 1960 when the glass louvres for ventilation above the cabin windows on the cabin side only were removed. Some cars later managed to lose their CIWL embossed crests too. Three cars were repainted in a light blue colour with a white line below the windows and carried the markings of SNCF. One Type F car was restored by Wagon Lits and may now be currently inspected at the National Railway Museum at Shildon. Sufficient glass louvres could not be located for this restoration and so only some cabin windows have these, a situation that did not exist whilst the car was in service.

The service commenced on the evening of 14th October 1936 and offered a through overnight sleeping car service between London

A Class 09 shunter takes the 'Night Ferry' train from Dover Marine for embarkation on the ship. (Allan Trotter)

and Paris and eventually from 1956 to Brussels. The service was, of course, suspended during the period of hostilities when all the cars were returned to France. Just at this time, because of the success of the 'Night Ferry', a further six more Type F cars had been delivered. To make it a bit more difficult for some of these newly built cars to be sequestered by the occupying forces, the bogies were not attached and were located elsewhere. During hostilities some of the twelve original cars ended up in other places with some being converted to dining cars whilst others just simply disappeared.

Normal service resumed in December 1947 and in 1956 second class ceased to be offered. Catering services between London and Dover also declined and were finally eliminated in 1977. The Class 71 electric locomotives which were the mainstay of the service in post-steam days were also retired at this time, leaving the service to be operated by the less powerful Class 33 diesel-electrics and the Class 73 electro-diesels. The 'Night Ferry' was finally killed off on 31st October 1980 when Class 33 No.33 043, fitted with a commemorative headboard, led the final passenger-carrying formation to Dover Western Docks. The following evening the previous night's incoming train was returned to France, devoid of any revenue-generating passengers.

So how did this fascination with the 'Night Ferry' first come about? Interest came about purely by chance. Being in Glasgow Central station to make a booking on the Glasgow to Bristol overnight sleeper train, a schematic map was noted depicting all sleeping car services in Great Britain. One service noted was from London to Dover but as the distance is only around 70 seven miles, why was a sleeper service required? On asking

the ticket agent about this service he stated he did not even know of its existence.

Curiosity was now aroused and this mysterious service required further investigation. Back in the 1970s there was no such thing as the internet so this resulted in any research having to be done by use of books and any published advertising material. Once information was collated, an overnight sleeper trip to London was arranged with specific plans made to visit Victoria station late at night to attempt to see the elusive 'Night Ferry' train.

Photography of the train was another hurdle to overcome. As can be deduced by the title of the train, operation took part during the night which is not conducive to photography. This was well before the era of digital cameras and we were using Kodachrome 64 ASA colour slide film. Time exposures and a tripod were essential. Also, as I resided in Glasgow at this time, regular visits to the area were restricted by employment commitments and financial considerations. Despite all this, a number of visits to London and Dover were made to capture the images. In the late 1970s there were neither restrictions nor discouragement from railway staff for setting up a tripod and camera for close-up photography of this international train at either London Victoria or Dover Marine. Try to imagine this scenario today concerning an international train and the present-day onerous regime; the force would immediately be upon you.

Operation of the train in the UK was quite convoluted. The following description is based on first-hand observation only. During the day the train was usually stabled in Road 1 in Victoria Grosvenor Road Carriage Shed. At the appropriate time it was brought into Platform 2 of London Victoria station by either a Class

Platform 6 at Dover Western Docks (renamed from Dover Marine in 1979). A Class 73 electro-diesel is ready to take the 'Night Ferry' to London Victoria.
(Allan Trotter)

33 or 73 locomotive, then another would be attached at the other end ready for the journey to Dover. The first vehicle behind this locomotive was an adapted Mk1 brake corridor composite BCK, either S21270 or S21273. This vehicle was only for use by the train guard, no non-sleeping car passengers being carried. The next vehicles in the train were the CIWL Type F sleeping cars. The number of cars varied depending on demand but six sleeping cars seemed to be common. Bringing up the rear there were either one or usually two SNCF four-wheel fourgon vans.

The train was generally routed via Folkestone but deviations could happen. After exiting Shakespeare Cliff Tunnel the train took the right-hand line at Archcliffe Junction and proceeded into Platform 4 at Dover Marine station. There are four platforms here, Nos.3 to 6. Platforms 1 and 2 are not passenger platforms but are the two lines set into the quayside.

On arrival the locomotive was detached and a Class 09 diesel shunter attached to the rear of the train. This locomotive then hauled the vehicles towards Hawkesbury Street Junction and towards Dover Priory station. Once it had cleared the junction it was propelled towards the train ferry dock. The Mk1 BCK was detached and left in a siding adjacent to the link span whilst the sleeping cars and the vans were distributed in a balanced position on the train ferry where they were jacked up off their springs and then secured by chains to the deck, thus restricting movement due to inclement weather. This is the English Channel, remember! The Class 09 then withdrew.

The following morning the ferry returned with the other 'Night Ferry' set from Paris and Brussels. The fourgons and sleeping cars were removed from the ship by a Class 73 locomotive and a stop made to collect the BCK left on the previous evening. The train then proceeded towards Hawkesbury Street Junction and Dover Priory and once the junction was cleared it was propelled into

Platform 6 at Dover Marine. After some time the 'Night Ferry' then departed for London via Folkestone. I was unable to observe operations on the other side of the Channel despite having at one time purchased through tickets from London to Paris. The excursion was cancelled as the French *matelots* were having one of their many industrial disputes.

After 31st October 1980 it would be further fourteen years before it would be possible to travel by direct through passenger train from London to Brussels or Paris. However, this time only day seating accommodation was offered and no sleeping car service was provided. On the opening of the Channel Tunnel, this ideal opportunity to provide through day and sleeping car services between regional locations throughout Britain and the abundant city centres of mainland Europe was squandered despite the fact the some 'Night Star' sleeping cars and lounge cars had been constructed. These were eventually sold off to VIA Rail of Canada.

No doubt because of the petty politics of railway privatisation in the UK and elsewhere and the subsequent chaotic franchise company fragmentation, this will ensure that such an ideal scenario will never come about. Progress does not necessarily indicate an improvement in the quality of services available to customers. Even the passengers on the prestigious Venice Simplon Orient Express are compelled to disembark the British Pullman cars at Folkestone West and transfer to a bus to travel beneath the English Channel – yes, a bus, incarcerated on board a commercial freight vehicle shuttle train!

How much more convenient it would be if all Continental departures took place from London St. Pancras station. Once the Continental loading gauge line between London and Folkestone had been opened, there was no logical reason why this could not be the case. However, there is a surfeit of superfluous and trivial excuses from so-called industry experts for this not happening. What an opportunity lost!

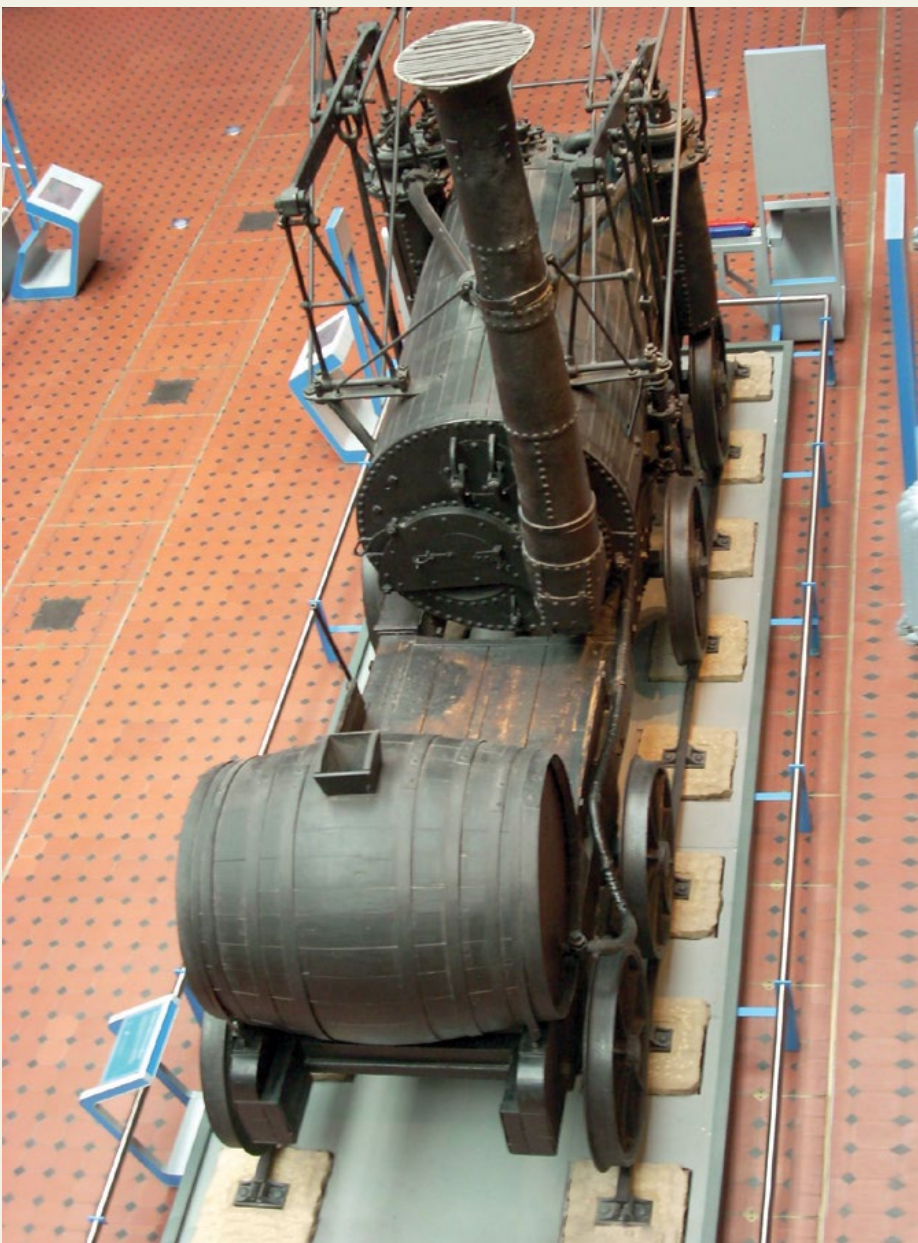




THE MEN FROM THE MINISTRY

A 'TEUTONIC CHRONICLE' PRESENTED BY GEORGE SMITH

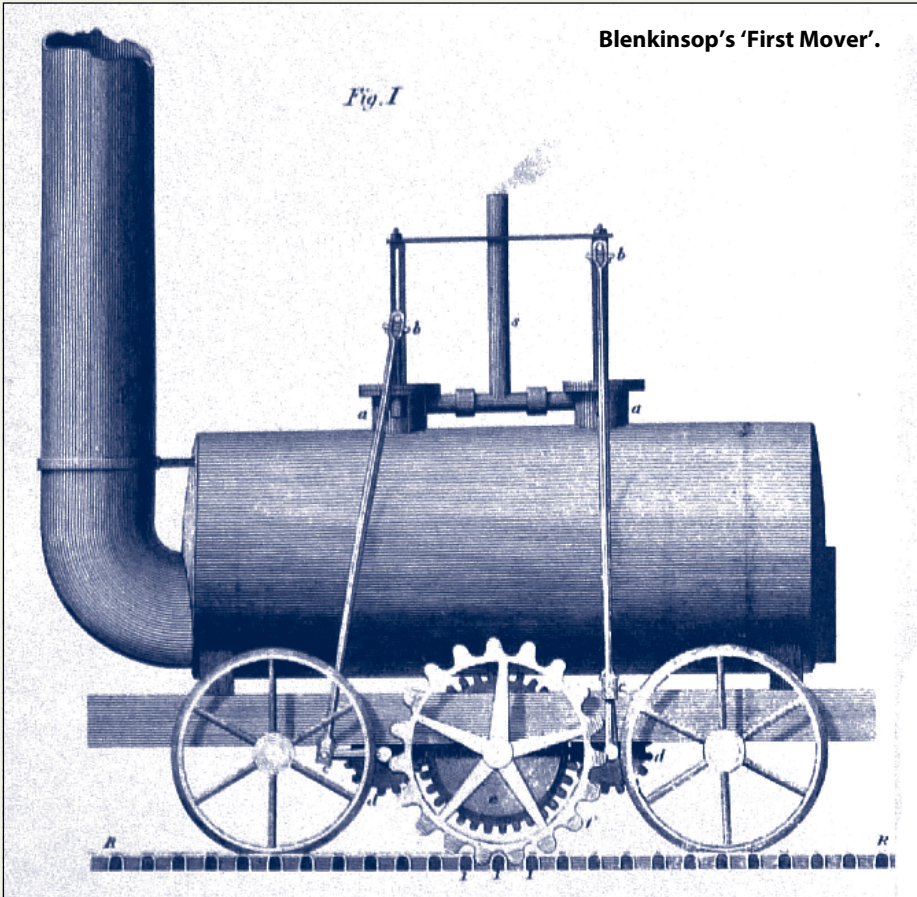
Hetton Colliery as it would have appeared in 1827. Inset are portraits of Ernst von Dechen (left) and Karl von Oeynhausen (right).



Less than a year after the first official appearance of *Locomotion* in 1825, two men with European accents turned up at the workshops of the Stockton & Darlington Railway (S&DR) at New Shildon, complete with packing cases of measuring equipment. They were there at the request of the Mining Department of the Prussian Ministry of the Interior, which had given them instructions to assess the applicability of British railway technology and operational practice to the Prussian state. They set about the task with the vigour of youth: Karl August Ludwig Freiherr von Oeynhausen was 31 and his colleague Ernst Heinrich Karl von Dechen just 25. To these men, New Shildon would have seemed the modern equivalent of a working holiday at Cape Kennedy. Everything was new, dynamic and thrilling. They had a tight schedule and tried to cram as much into the few months they had in Great Britain as was possible. To this end they travelled the length and breadth of the country, dropping in on as many railways, both public and private, as could be fitted in. New to the railway business and therefore unsure of what was important and what was not, they carefully examined everything they laid their hands on and, in this, they were nothing if not thorough.

In the body of the subsequent report they produced there are whole pages devoted exclusively to the structure of wagon wheels, which is fascinating, instructive and illuminating assuming you are interested in wagon wheels. Nothing was too small to be included. They calculated the average speed a horse moved along rails when pulling three

Wylam Dilly at the National Museum of Scotland. When the German engineers saw it, unlike today, it still had eight unflanged wheels.

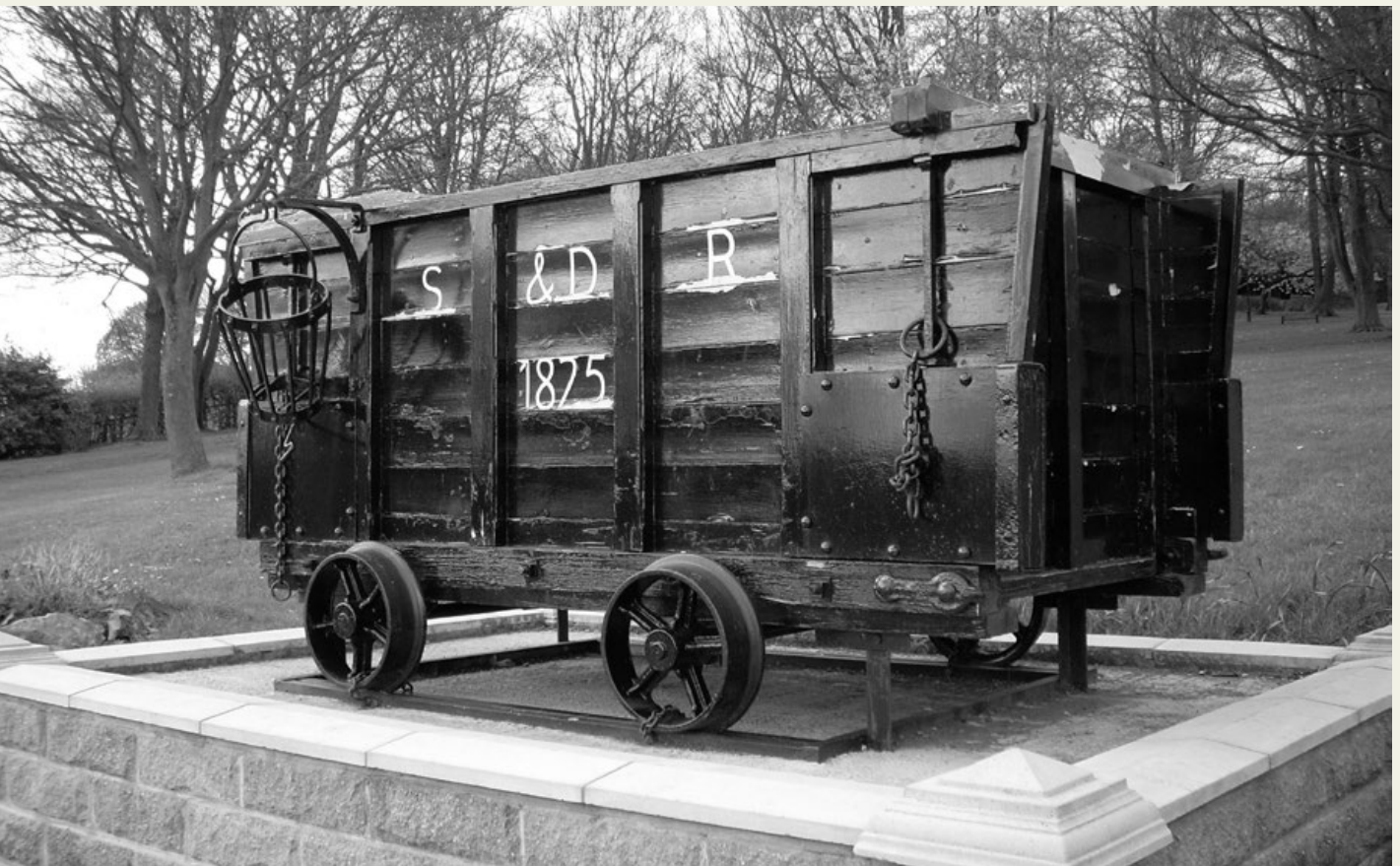


loaded coal wagons (three feet a second): the exact dimensions of all standing inclines, going as far as to pace out the distances involved themselves to verify the information they had been given – eg length of Brusselton Incline on the S&DR 152ft 8in on the east side and 89ft 8in on the west: gradient 3ft elevation for every 100ft distance ascent (west), 2ft for every 500ft descent (east). They examined the structure and durability of all types of rails used, used their measuring callipers on wheel axles and brakes and made detailed drawings of everything potentially useful. Along the

way they assembled a wealth of information about pre-Victorian railways which, more than a century later, was translated into English for the Newcomen Society by a man called Ernest Forward. As a glimpse of what railways were like at the beginning of the railway age the report takes some beating.

The information gathered fell into three distinct categories: long-established railways, newly operating railways and railways under construction. In addition to information on

1825 S&DR coal wagon.



plant and equipment, the report also covered every aspect of railway management from construction to operation, including the relative cost of everything involved. The one thing they didn't do was provide accurate dates and times of where and when they were working at any one time. All we know for certain is that they were resident somewhere in England from the summer of 1826 through to spring the following year. Since it would have been impossible at that time to simply flit on a whim from one end of the country to the other, we can assume the railways were visited in a sequential manner based on their proximity to each other, packing up all their equipment on to pack horses and wagons and moving on to the next nearest railway. They worked from north to south as this is how their report is laid out. There was logic to this. The age of the steam railway began in the north east, so both the development of the locomotive and railways in general could be easily gauged using Durham and Northumberland as their starting base.

Let us assume, therefore, they began their adventure at Newcastle, transferring their gear to a keel boat heading up the Tyne, with the first stop Wylam Colliery. That they visited Wylam is in no doubt since they noted there was only one working steam locomotive on the Blakett tramway there, an eight-wheeler (presumably *Wylam Dilly*), which was still plodding along pulling wagons on antiquated 'L'-shaped cast iron plate rails; the move to conventional edge rails had therefore yet to take place. The men from Prussia didn't linger long at Wylam; they must have considered the tramway outdated and unworthy of detailed attention. While the layout of their report suggests that the Stockton & Darlington Railway (S&DR) was the next port of call, in terms of operational history, the private railway from Hetton Colliery to Sunderland was the logical chronological step after Wylam and it's worth considering what they found there first.

At some time during the spring of 1827 they went to Hetton Colliery. They went there to see how George Stephenson's locomotives, which had been working there for at least five years, were coping. Hetton is a village eight miles south of Sunderland. Beneath it, at the beginning of the nineteenth century, were vast reserves of coal; so much in fact that local coal-working survived through to the Government-led demolition job of the 1980s. In the previous year the colliery had produced a million tons of coal, all of which had been moved to collier boats on the River Wear, the main destination London. In terms of efficiency the two men were well impressed by what they saw. They described the railway as "the finest in England" after the S&DR. The similarity was unsurprising. It was built by George Stephenson's brother Robert to George's original design yet by modern standards it was a convoluted affair, consisting of a tortuous sequence of inclined planes with only the odd locomotive-worked section. One notable absentee was the presence of horses. If they were used at all at Hetton they can only have been restricted to local haulage at the coalface as there is no mention of them taking part in the transfer of coal from pithead to boat.

This gives credence to the argument, often made, that it was George Stephenson's intention that this little railway would act as a showcase for steam locomotives, particularly his own, at a time when the rest of the nation was losing interest. Six of George's engines had been supplied to Hetton Colliery, although the foreign visitors found only two to be operational, both confined to the first mile and a half of the railway from Hetton to the foot of an inclined plane.¹ The problem in using locomotives more widely, it seems, was the drastic effect they were having on the cast iron rails.² These, funnily enough, were also Stephenson's invention. He had patented them in conjunction with their manufacturer, William Losh of Newcastle. Reports of regular rail damage caused by his engines at Hetton weren't lost on Stephenson and, to his credit, he argued the case for wrought iron rails to the proprietors of the S&DR despite the personal financial loss which resulted.

Regardless of locomotive problems, it is evident from the tone of the report that the two Germans considered the railway at Hetton a major achievement. The railway worked well and the operation was financially sound. The authors of the report noted that despite including seven inclined planes in a railway only eight miles long it still managed to convey coal from pithead to quayside in less than two hours. The engineers walked all eight miles themselves, making notes on everything they saw, and then commented at length on the various methods used for transferring coal from wagon to ship. They were particularly taken by the cunning way wagons were attached and detached from moving ropes when negotiating inclines. The one outstanding (from our viewpoint) piece of



Statue of Timothy Hackworth at Shildon, County Durham.

information they didn't record, however, is a description of the locomotives employed; there is no mention anywhere of their construction and design.³ That this was an oversight seems unlikely given the level of detail included elsewhere. It seems more probable the engines used at Hetton were just not considered 'state-of-the-art' and therefore of little interest.

If the Hetton railway was the penultimate 'finest in England', then the S&DR was the ultimate, to the extent that von Oeynhausen and von Dechen visited New Shildon twice, the first in the autumn of 1826 and the second just before their return home in the summer of 1827. A lot had happened at New Shildon in the previous twelve months. The two major inclines at Etherley and Brusselton, which brought in the output from all the neighbouring collieries, were fully operational and the first coal and passenger trains were plying between New Shildon and Stockton-on-Tees, albeit that steam locomotives were only being used on freight trains. In consequence the S&DR was internationally famous and there was a veritable stampede to build new public railways on the strength of its success. Given this situation, it is surprising that the visitors from abroad were given so much leeway to examine the minutiae of railway operation on the S&DR, particularly the costings, profits and losses involved, with the distinct possibility that they might broadcast what they found. Perhaps it was because the information was meant to go overseas that was

the telling point: poor communication in the early part of the century would likely ensure that no useful material was going to find its way into the hands of the S&DR's competition, or if it did it would arrive too late to have any significant financial relevance.

The S&DR was in a state of transition. Although regular trains were now working between the central Durham coalfields and Teesside, the rail network was far from complete; at the end of 1826 only the main line was built, along with a major branch to the market town of Yarm and a few short spurs to local collieries. At New Shildon the company still had to purchase all the land it needed for sheds and workshops. Land acquisition had proved a long drawn-out process. From the local landowners' perspective the land the company needed had little agricultural value, as it consisted of un-farmable marsh; nevertheless, since its purchase obviously meant so much to the S&DR, hard bargains were being struck and discussions were dragging on. Some indication of the poor quality of the land is evident in the German report where the two engineers noted that the nearby incline at Etherley kept collapsing because "the swampy ground was not able to support the weight of the embankment, which continually sank and caused the ground to swell up at both sides".

Despite this, New Shildon was already the hub of S&DR operations and was now presided over by the recently appointed Timothy Hackworth, described in the Prussian report as the S&DR's 'mechanician'. Six locomotives were in use, four observed to be similar in construction and hence likely to be the Stephenson engines: *Locomotion*, *Hope*, *Black Diamond* and *Diligence*. The fifth was probably also a Stephenson engine, the ill-fated *Stockton* which spectacularly fell apart shortly after the German's visit, killing the driver. Intriguingly, the sixth may have been the experimental four-cylinder 0-2-2-0 known to the railway as 'Chittapratt', the name derived from the staccato chuffing noise exhausted steam made.⁴ Although steam locomotives were viewed in the report as an improvement on horses in terms of their load-carrying capability, their performance was also recorded as less than impressive. The average speed for journeys between Shildon and Stockton involving sixteen loaded coal wagons was 4mph, rising to 5mph hauling empties on the return leg. What's more, the engines were constantly breaking down, a fact the authors diplomatically attributed to the poor state of the track, where mainly cast iron rails had been laid down.

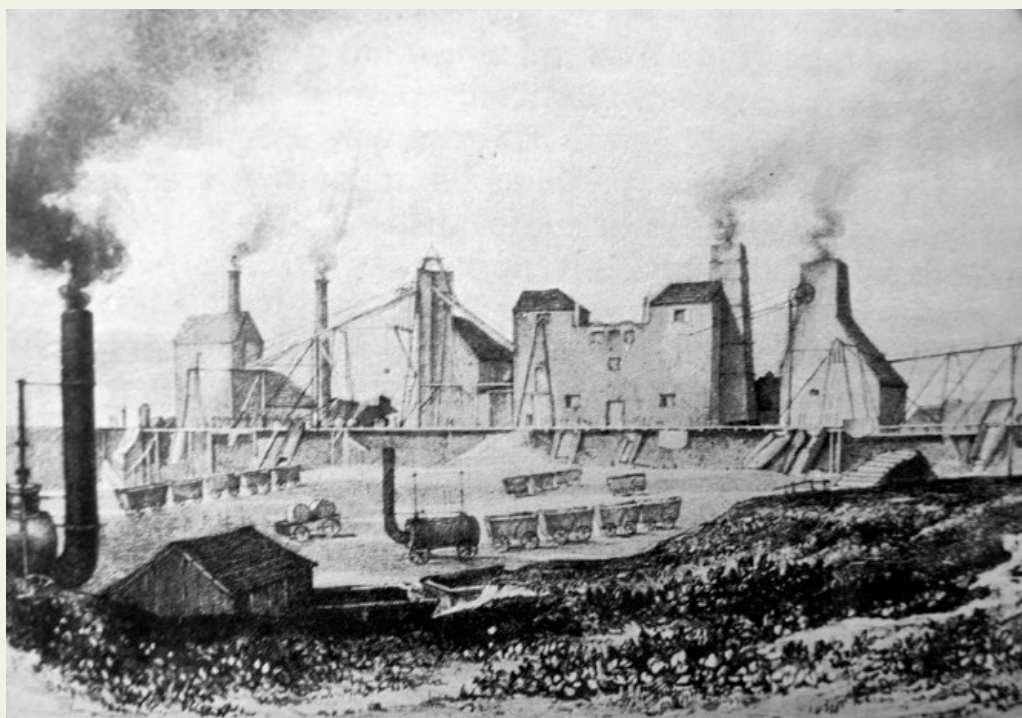
It was also pointed out, probably significantly, that the locomotive drivers were not directly employed by the S&DR but were sub-contractors, transporting goods at the rate of a farthing (one quarter of an old penny) per ton per mile. Out of this the drivers had to pay for all the coal and oil used as well as the wages of a fireman, without whom the engines couldn't be operated. Incidentally, the rate of

pay for horse drivers on the S&DR was much higher and without the extra expenditure incurred, although the freight tonnage they could shift during the working day was that much smaller. According to the authors the damage caused by locomotives to the rails, with the additional cost of purchasing and maintaining them, meant that their superiority over horses was marginal at best. As they put it: "On these grounds it may be difficult to ascertain exactly how much advantage, or whether any advantage at all, results for traction by locomotive engines."

The management board of the S&DR was no doubt thinking the same thing. In consequence, the forthcoming crucial intervention of Timothy Hackworth, by producing reliable and efficient engines, may have ensured the survival of the steam locomotive both here and throughout the world. Although the Teutonic duo was unconvinced of the benefits of steam, they agreed to travel to Robert Stephenson's Forth Street works at Newcastle to see what improvements were in the pipeline. What they saw there was a revolutionary 0-2-2 engine with two horizontal cylinders, partly enclosed within the boiler. This engine was subsequently supplied to the S&DR and given the name *Experiment*. However, as an experiment it was not a success. The engine only lasted a couple of years before Hackworth completely dismantled it and rebuilt it in the form of an 0-6-0 similar to *Royal George*.

If they were unimpressed by the locomotives they saw, the European visitors had nothing but praise for steam-driven inclines, to the point where you might have supposed their eventual recommendation to their employers would be for continuous-rope worked railways, as indeed existed on a few small private operations. There were, nevertheless, one or two glitches even with these which needed attention. In the days before telegraphy, communication between train drivers and the winch house at the top of the hill was a problem. The agreed procedure on the S&DR for wagons travelling over inclines was that they would be lined up at the foot of the hill and when the railwayman in charge thought them ready he switched a crude disc signal to the 'go' position.⁵ Unfortunately this signal was too far away for the engine house operator to see. The solution, which appears to have impressed the Germans, was the provision of fixed telescopes located at engine house windows. What procedure was followed on foggy days is not stated.

After exhausting possibilities in the North East the duo moved on to the Liverpool & Manchester Railway (L&MR) by way of the Middleton Railway (MR) in Leeds, one of 23 privately owned and operated railways they inspected in their grand tour. The Middleton Railway lays claim to being the first profitable and reliable steam railway. Built in 1812 as a rack and pinion railway, the two pistons on each of their locomotives turned a cog connected to a rack which ran alongside the rails. Efficient in terms of negating wheelslip it didn't make for speed and the engine was seen by the Germans as unbalanced, since all the traction was directed on one side only. The only advantage the engineers could see to the lop-sided rack and pinion arrangement



Hetton Colliery from an early nineteenth century drawing.

was that it left the gap between the rails free for horses to use, with once again the inference being that horses were a better haulage option. They were more impressed by the stone-built coal drops they were using and in particular the clever way the bottom of each wagon opened up to release coal as they travelled over the top of the storage bays.

With little novel to report the two men didn't hang around at Leeds, preferring to devote their precious time to the more promising developments at Liverpool and for once we know when they were actually on site; it was April 1827. Having seen what Stephenson had done at Hetton and Darlington they were eager to find out what the next stage in railway development would be. Unfortunately, as it transpired, there was little to see. The difficult and revolutionary construction of the railway over the morass that was Chat Moss still lay in the future and the Prussian delegates were left with inspecting the ongoing work on the rail tunnel being dug beneath Liverpool. Nevertheless they carried this out with typical thoroughness. Seven access shafts to the tunnel had been created at evenly spaced intervals and to one side of the tunnel workings, so the intrepid duo clambered down each of them to view at first-hand how work was being conducted.⁶ Each section of the tunnel was being worked in isolation from its neighbour, with temporary rails laid down as the work progressed to enable spoil to be transferred easily to entrance shafts and lifted to the surface. It was noted that only the arched tunnel roof was made out of brick, the rest reliant on the strength and quality of the local red sandstone. Back on the surface, where rails had been laid, they were of a robuster (and more expensive) wrought iron than that used on the S&DR, with the suggestion made that this was because Stephenson's four-wheeled locomotives were still destroying rails in the North East, including those made from wrought iron.⁷

With nothing much to measure in Liverpool they travelled the short distance to

Bolton to inspect the Bolton & Leigh Railway, the last public railway designed to be used by steam locomotives they visited. This was also in the process of construction, with the intention that it would eventually connect with the L&MR. The two foreign visitors were able to observe for the first time the cut-and-fill techniques being used for making cuttings and embankments and examine the elaborate tipper wagons used for moving spoil.

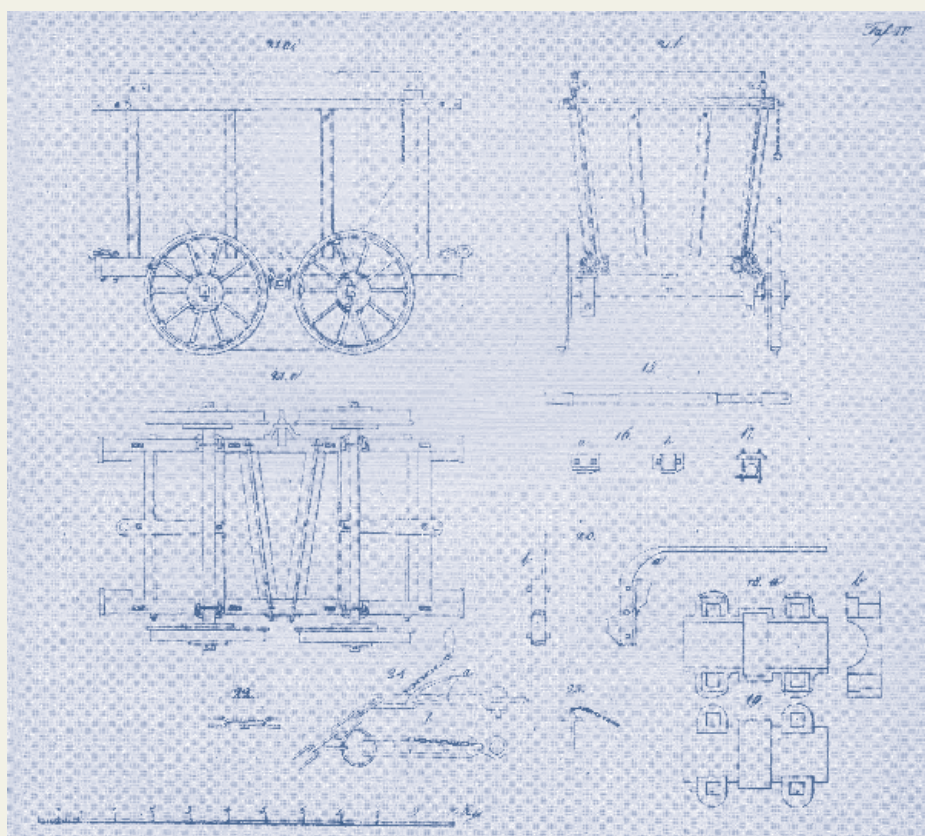
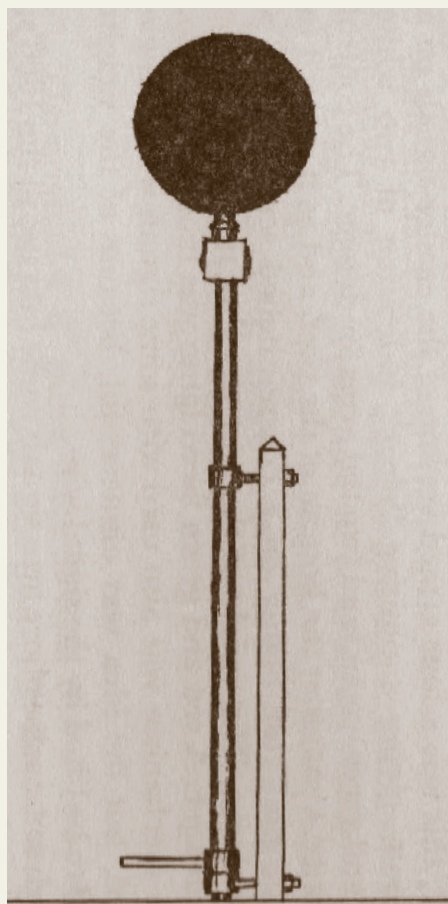
Having exhausted the potential of public railways the Germans set off down to the south west to look at tramways, many of which had been operating since the previous century.⁸ They went first to Dartmoor to inspect the cast iron narrow gauge railway laid from the coast to a solitary building in the middle of the moors, the same building that became Dartmoor Prison. Originally built to house Napoleonic War prisoners, it had been standing empty for years pending an official decision as to future use. A recent proposal for converting it to an agricultural school for 'poor children', to instruct them in the arts of turning barren moorland to profitable farmland, had fallen through, much to the relief presumably of both the moorland and the 'poor children' concerned. We are thinking 'Dotheboys Hall' here. The railway was, nevertheless, being used. It had come into its own as a means of transporting local granite to Plymouth for export as building material and the visitors made elaborate notes on the arrangements being made to lift the stone into the holds of ships at Plymouth docks.

They travelled from tramway to tramway, more than a dozen in total, through Cornwall, Devon and South Wales, summarising in a few paragraphs, supplemented by the occasional drawing, what they found. By far the most interesting of these short accounts was their encounters with two strange monorails, both designed and built by Henry Palmer.⁹ The first of these had been constructed to service merchant ships on the Thames at Deptford and was intended to facilitate the transfer of goods from ships to nearby warehouses.

The monorail they saw was essentially a continuous metal bar, elevated three feet above the ground, which acted as the rail on which the unique wagons travelled. These were fitted with three 18in wheels, each lined up one behind the other. They had been cast with a double flange, which overlapped on both sides of the rail thereby preventing lateral movement. The wagons could weigh more than two tons when fully loaded but were 'easily moved' manually by four stevedores. A similar arrangement pertained at limekilns at Cheshunt in Hertfordshire, although in this instance most of the mile-long monorail was below ground level, supported on a timber framework located in a trench, complete with complex sidings and metal-gated level crossings where the tramway crossed roads. Unlike at Deptford, horses were being used to haul the two-wheeled wagons involved. Despite the novelty both 'Palmer' monorails are given short shrift in the Prussian report: "The Palmer railways do not appear to afford the necessary security, nor to permit the use of the forms of wagons often necessary."

Having completed their stint in the UK the two men returned to Germany where they would go on to enjoy distinguished careers: Karl von Oeynhausen became the Prussian Chief Mining Councillor and later Privy Councillor in the Finance Ministry, whilst Ernst von Dechen became Head of the Ministry of Mines, Factories and Salt Works and Member of the Prussian Council of State. Their railway report didn't get published until late in 1829, by which time steam railways in England were already demonstrating their worth in a way the two

Drawing of the disc signal used on the S&DR worked inclines.



Drawing of a coal wagon from the Prussian engineers' report.

Germans would never have envisaged. In the summary they enthused over wrought iron rails which the authors recommended for use in all German mines. They demonstrated no similar support for steam locomotives. It is obvious the financial benefit arising from the use of steam locomotives over other forms of traction, in 1827, was marginal at best and steam locomotives looked a risky business. The conclusion they reached was understandable. Hindsight is a wonderful thing. It was only because of continual promotion by George Stephenson, and the improvement in performance achieved by Timothy Hackworth, that the move to steam didn't stall, both here and abroad. Judging by what Karl von Oeynhausen and Ernst von Dechen found during their extended visit, it was a close run thing.

References

1. Presumably these are the two shown on the famous drawing of the colliery. Only five locomotives are accounted for in the report.
2. Thirty years later there were no steam locomotives on the railway, horses being used in their place.
3. Since one of these engines (or perhaps an early replica) has survived and is resident at Beamish Industrial Museum, we do know what they looked like and how they operated but on this particular point the two 'vons' are silent.
4. It is known from other sources that 'Chittapratt' was such a poor performer it was eventually taken apart, with parts recycled in Hackworth's revolutionary 0-6-0 *Royal George*. It could not have been the Stephenson engine *Experiment* as suggested in Ahrons, which wasn't delivered until the following year.
5. According to Holmes this was just a white disc on a pole which was turned edge on to the incline until the wagons had been correctly coupled to the ropes when the pole would be rotated to face the engine house.

6. Since the descent involved a series of crude, hand-made wooden ladders, this was even more precarious than might be supposed.
7. Oeynhausen and Dechen refer to the S&DR as the "Wrought iron railway at Darlington". Nevertheless, although effort was being made in 1827 to replace cast iron rails with wrought iron most of the line was still laid using the former because of cost. This was a significant factor in Hackworth's move to six-wheelers which spread engine-load so much better.
8. Not completely true as they did visit the Surrey Iron Railway Company which ran from Wandsworth to Croydon and was the world's first public railway, albeit involving only horse-drawn trains. They weren't impressed; one of their few comments was "The line...has not completely achieved its objective and has anything but encouraged similar undertakings."
9. These monorails, designed by Henry Robinson Palmer, are believed to be the first in the world. Palmer had started his career as an engineer working for Thomas Telford before striking out on his own. Amongst his many achievements he is credited with the invention of corrugated iron.

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A general view of Friary station, looking west towards the buffers, on 8th July 1924 from Tothill Road overbridge. No fewer than five sidings are occupied by empty coaching stock. Adams T1 Class 0-4-4 tank departs on the lengthy 1.54pm run to Tavistock via North Road, whilst later Adams O2 No.218 waits by the Friary 'B' signal box. The O2 was to end its days as No.W33 Bembridge on the Isle of Wight, surviving until December 1966 but sadly not being preserved. (H. C. Casserley)

SOUTHERN GONE WEST

PLYMOUTH AND ITS BRANCHES

PART ONE • BY DAVID THROWER

Past features in this occasional series have concentrated upon the various former Southern branch lines east and west of Exeter Central, as far east as Seaton and as far west as Padstow. Future articles will retrace our steps from Plymouth and from Barnstaple to Exeter, along the former Southern Railway main lines. However, we start with a detailed look at the ex-SR lines in the Plymouth area, a city whose services were, of course, dominated by the rival Great Western Railway.

As is very well known, fate has not been kind to the Southern in the Far West, and today virtually all that remains in the Plymouth and North Cornwall areas is the former Callington branch truncated back to Gunnislake and the remains of the Friary approaches and the Cattewater branch, together of course with the outpost of the western end of the preserved Bodmin & Wadebridge Railway at Boscarne Junction, hopefully to be extended soon to a new station on the edge of Wadebridge. Plymouth's former joint station at North Road nevertheless remains a very important InterCity railhead for the West Country and now-distant 1960s Beeching and 1980s Serpell threats to cut Plymouth off altogether from the rail map only seem like a bad dream nowadays.

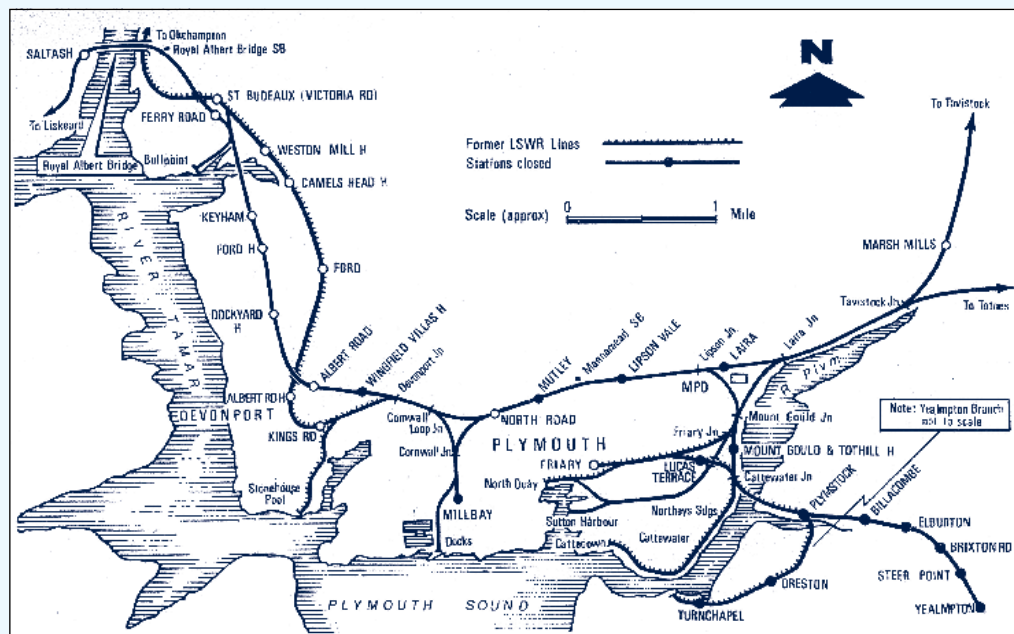
The Southern's presence in Plymouth

was a particularly interesting one and has a more complex history than might at first be imagined. Surprisingly, it has received relatively limited coverage, either in book or article form. Moreover, the loss of the former SR route to Plymouth has become very topical with the repeated and sometimes very severe damage to the GWR route at Dawlish. Many enthusiasts with long memories will recall saying "we told you so". Reopening of the SR

route via Okehampton and Tavistock is now being seriously examined, partly as a result of the wish for better connectivity between West Devon/North Cornwall and the main line network at Exeter and partly as a result of the Dawlish sea wall troubles. Another sea wall collapse may force the issue.

Incidentally, on a purely personal note, my interest in the SR in Plymouth – which I never got to see in real life, even in its early-

(From *Plymouth Steam 1954-63* by Ian H. Lane, Ian Allan Ltd.)



1960s swansong – commenced when I took out a library book, Pat Whitehouse's original *Branch Line Album*, in the mid-1960s in faraway Chester-le-Street. I was completely riveted by photographs of O2, M7 and B4 tanks (the latter with jaunty wire-basket spark arresters) puffing along obscure lines such as to Turnchapel, Stonehouse Pool and Cattewater. Cattewater? As an SR fan, I had never even heard of it! Did it really exist at all?

Historic port

Even before the Industrial Revolution, Plymouth had become the westernmost large port on the South Coast. Famously, the sailing ship *Mayflower* had set out from Plymouth in 1620. The original port at Plymouth was at Mount Batten, but this was later overtaken by the sheltered harbour that was to be created at Sutton, along with the strategic naval base established further to the west at nearby Devonport. The relatively deep natural harbours later made the city accessible to the largest passenger ships of the day, with these anchoring in The Sound and then being served by tender. There were also quays at Cattewater Harbour. Sutton Harbour was run by the Sutton Pool Company, which was empowered to construct "additional piers, quays, wharves, wet and dry docks and cranes" on land around the harbour. Later, this became the Sutton Harbour Improvement Company.

There was also one more natural harbour, the poetically-named Hamoaze, but this seems to have been reserved for Royal Naval ships. Naval activities and dockyard repairs were to become the major employer in the city for several centuries, indeed until very recently when dockyard activities were steadily run down as part of reductions in 21st-century British defence expenditure, with the port finally losing out to its historic eastern rival, Portsmouth.

The commercial port of Plymouth also served agricultural imports and exports, light engineering exports and fishing, with an important fish quay serving the city's population. Other typical imported cargoes handled through Plymouth during the 1950s were petroleum, coal, phosphates, timber, grain, fruit and vegetables, along with other commodities. Exports included china clay, stone and general goods. Much of this arrived or departed on the landward side by rail.

Rival routes

Although the history of the main line route between Exeter and Plymouth will be covered in detail in a future article, a very brief description of the sequence of events is appropriate.

As is very well known to readers, the LSWR's and Southern's presence in Plymouth was something of a geographical oddity and its arrival in the port a protracted process. Because of the GWR's control of the South Devon Railway, which had reached Plymouth Laira in January 1848, the south-of-Dartmoor corridor to Plymouth became exclusively GW territory at a relatively early stage and it was left to the LSWR to eventually and rather belatedly gain access to the Far West via the north-of-Dartmoor route, striking westwards via Crediton and Sampford Courtenay, then heading southwards through Okehampton.

Like the alignment of its route, the LSWR



An interesting view from the train of double-headed T9 4-4-0s Nos.E403 and E721 leaving Devonport King's Road on 6th August 1928 in the up (north westerly) direction with the 4.05pm Plymouth Friary-Waterloo through train. The locomotives are just about to pass under Paradise Road bridge and then enter the tunnel beneath Devonport Park. In the foreground is the track from one of the centre roads at the station, with the down platform line to the right. (H. C. Casserley)

organised its arrival in Plymouth in a decidedly roundabout way. The broad gauge lobby did not want to see the LSWR in Plymouth at any price and naturally wished to keep the city and Cornwall for itself. As early as 1847 the LSWR promoted its ambitions towards the city through its support in Parliament for the Cornwall & Devon Central & Plymouth Railway, as well as backing promoters of Sutton Harbour.

Little actual progress ensued. The next attempt to construct a railway to Plymouth to rival the Dawlish route was the clumsily-named Plymouth, Tavistock, Okehampton, North Devon & Exeter, which failed to make progress in 1853 (promoters of today's HS2 and HS3 can take comfort from these exasperating Victorian stalemates). This was followed by the Plymouth, Tavistock & Devon Central Railway initiative, which was no more successful than the others. A House of Commons Committee meanwhile had urged that the standard gauge route to Okehampton should be allowed to extend to Plymouth and was particularly mindful of the strategic importance of the naval dockyards at Devonport.

The Devon & Cornwall Railway meanwhile made slow progress in its quest westwards to tap into West Devon and North Cornwall. The company had reached Okehampton by October 1877 and, in readiness for extending south of that town to Lydford, under an Act of Parliament of 1865 it served notice on the broad gauge South Devon Railway to add a third set of rails from the latter's station at

Lydford to Plymouth Millbay station plus the branch to Sutton Harbour. Not content with this, the D&C submitted plans for a new line from Marsh Mills onwards to new (non-South Devon Railway) stations in Plymouth and in Devonport. This threat was again selfishly fought-off successfully by the South Devon in Parliament.

A wholly new railway was therefore opened from Okehampton to Lydford, via the lofty Meldon Viaduct, in October 1874, where a connection was made with the South Devon Railway's branch from Launceston via Lydford to Plymouth, coming south and then approaching the city from the east. This obviously again involved conversion of the Lydford-Plymouth section to mixed gauge, which was eventually successfully completed and opened for standard gauge traffic as far as Devonport Junction on 17th May 1876. The event must have made the GWR and its allies grind their teeth.

The South Devon then obtained powers to expand Millbay station and agreed to convert both the Millbay branch and the Sutton Harbour branch to mixed gauge, plus (doubtless unwillingly) agreeing to the construction by the Devon & Cornwall of a branch on the east side of the city to serve a new standard-only gauge goods station at Friary. This was initially to be known as Friary Gardens and later as Friary Green.

From 18th June 1878 the standard gauge was completed into Millbay Docks. However, most oddly, standard gauge wagons were then



A spot of shunting is taking place at Devonport King's Road on 30th August 1945, with O2 0-4-4 tank No.216 (withdrawn in 1957) and attending goods shunters and pointmen. Note the characterful wire basket spark arrester, for shunting the timber yards at Oreston and probably of more imagined than real benefit. In the background the tracks disappear round the curve towards the GWR at Devonport Junction and North Road, whilst platelayers' trolleys rest on the ballast in the foreground.
(H. C. Casserley)

reputedly worked into and out of Millbay by broad gauge engines, which if true must have required some considerable care.

Finally, amicable agreement was fully reached between the Devon & Cornwall and the South Devon. The D&C would construct the Friary (goods only) and Devonport (passenger and goods) stations and the branches to serve them. In return for this it would abandon running powers over the line connecting the South Devon and the Cornwall Railways. It would also abandon running powers over the Sutton Harbour branch (beyond the new junction for Friary) and the Millbay branch further west. The 1865 Act requiring standard gauge rails on these routes would be repealed.

In return for this, the South Devon was to convert the route that ran east-west through Plymouth North Road to mixed gauge. It would also construct standard gauge sidings at Laira Junction and double the Sutton Harbour branch (then only broad gauge) to make it mixed gauge as far as the junction for Friary, from where it would of course be standard gauge only into Friary and broad gauge only to Sutton Harbour. In addition, there would also be mixed gauge on the first stretch of track into Keyham Harbour (Devonport dockyard) and the Devon & Cornwall would have immediate running powers over all these mixed gauge sections of line.

Peace at last?

The agreement was a triumph of common sense, with Parliamentary pressure at long last putting the economic well-being of Plymouth

and Devonport above the narrow interests of squabbling private companies. The Devon & Cornwall thus effectively became part of the LSWR, whilst the South Devon amalgamated with the Great Western, both in 1875.

Down LSWR trains from Exeter and Okehampton were then at last able to pass through Mutley and North Road, along mixed gauge lines, and then diverge south westwards to terminate on the metals of the Devon & Cornwall Railway at a brand-new terminus west of the city, at Devonport. After some finishing-off works, LSWR trains first arrived at Devonport on 17th May 1876. Almost a year later, the enlarged joint station at North Road opened on 28th March 1877.

But why have an LSWR terminus at Devonport at all? Why not just terminate LSWR trains at North Road? The reason seems to have been that, as well as having a place of their own, the station was sited in a more prosperous community than the relatively low income Plymouth city centre, while North Road, as its name implies, was not actually in

the heart of the city centre.

Contemporary reports in the *Exeter & Plymouth Gazette* related that the much-delayed arrival of the standard gauge into Plymouth was greeted with "enthusiasm and rejoicing". It had taken a long time and might have been by a roundabout route, but at long last the LSWR had finally got there. Importantly, it also met the Admiralty's strategic wish for a direct standard gauge link with the remainder of the national network.

The arrival of the line was celebrated by distributing food vouchers to 800 of the poorest local people, with a civic dinner in Devonport goods shed plus fireworks and a bonfire. However, the Great Western was predictably dilatory in providing mixed gauge further east, towards Friary, and it was to be not until 1st February 1878 that the goods station at Plymouth Friary was at last fully opened for traffic.

Needless to say, the single track access to Plymouth via Lydford, with passing places, and then the brief section of double track

A general view of the frontage of Plymouth Friary in 1913. Although the station was solidly-built and pleasing in appearance, it was perhaps slightly odd that a city terminus was constructed as a single-storey structure, in contrast to Devonport.
(H. C. Casserley Collection)



South Devon Railway immediately east of Plymouth, was never likely to satisfy an ambitious company such as the LSWR and the bottleneck which this created both damaged punctuality and restricted the number of services that could be operated. The route, too, was scarcely a main line, either in terms of geographical directness or maximum line speeds.

A wholly new route, the Plymouth, Devonport & South Western Junction Railway, was the outcome. This took a 22-mile alignment south from Lidford (note the varied spelling) through Tavistock, Bere Alston and the east bank of the Tamar, eventually coming into Devonport via St. Budeaux and Ford. The route into Plymouth from the west and north (from Okehampton and Lydford) featured several stations plus some major pieces of engineering within the Devonport and Plymouth area.

On 2nd June 1890 the PD&SWJR finally opened the new line from Lidford through Bere Alston, coming into Devonport King's Road from the west. This reduced the distance between Plymouth and Waterloo by no less than fifteen miles, accelerating through expresses by about half an hour.

There had only been one snag. The still almost new Devonport terminus had been constructed as a terminus facing east. Fortunately the PDSWJR and LSWR were able to convert it to a through station by breaching the solid stone west end walls and creating two new archways within them for the platform lines. The two centre roads of the original east-facing layout remained as underused dead ends, still approached from the east. The layout at Devonport subsequently puzzled those not in the know, including myself when I first saw it illustrated in books, for many decades afterwards.

There was a further significant problem, for Exeter-bound and London-bound passengers, in that the main buildings at Devonport, being on the north side of the tracks, were now all on the 'wrong' platform. The south-side platform, formerly merely a dead-end arrival platform from the east, was now the departure platform for up services which henceforth departed westwards via St. Budeaux and Okehampton. There was a booking hall and waiting room on this newly-designated up side, but these were only wooden and nowhere near as grand as their counterparts across the tracks. A further minor alteration was the provision of water columns on the up platforms, whereas previously water supplies at the adjacent small shed had sufficed.

Opening of the new route into Devonport King's Road was greeted by cheering crowds and bands playing (they did not have "Stop the..." protestors and obstructive great crested newts in those days), but clearly having a station at Devonport was still not wholly sufficient, with GWR trains enjoying the more convenient (for Plymouth) North Road and Millbay to the east.

The LSWR becomes established

On 1st April 1891, the GWR opened its Lipson Junction to Mount Gould Junction curve to freight trains, with the curve open for passenger trains by 1st July. This gave the GWR a more direct access from west of the city and from Millbay to its goods branch to



Gleaming Adams X6 4-4-0 No.660 in full LSWR livery and with striking stovepipe chimney proceeds round the south-to-west curve at Lipson Junction with a short express rake in about 1905, with the Great Western route to Exeter on the extreme left. The locomotive was to be withdrawn by the Southern Railway in October 1936. No X6s are preserved, sadly, but magnificent and very similar T3 No.563 was part of the National Collection until regrettably it was recently given away. (H. C. Casserley Collection)

Sutton Harbour, of which more later. It also gave the GWR access to an aspired-to local passenger and goods route to Plymstock and Yealmpton. Again, this is detailed later.

The LSWR was then able to exercise running powers along the new Lipson Junction to Mount Gould Junction section and, as noted, already had running powers over the Laira Junction to Mount Gould Junction part of the Laira triangle, and along a short section of the GWR's Sutton Harbour branch. The opportunity for down LSWR services to then run right across the city (note, from west to east), calling first at the reconfigured Devonport King's Road, then at the enlarged joint North Road, and finally to operate southwards over the new Lipson Junction to Mount Gould Junction curve and terminate on the east side of the city centre at Friary, was obvious.

On 1st July 1891 Plymouth Friary passenger station therefore came into use, having been a goods terminus since February 1878. The Friary curve thus resulted from then onwards in down LSWR trains turning sharp right at the Laira triangle. The curve still exists today, to the relief of steam special operators wishing to turn locomotives.

Plymouth, like Exeter St. David's, thus famously thus became a West Country city which for most of the next eight decades was peculiarly served by both the Great Western and LSWR, later Southern, but with respective services to London running in opposing directions. This must have been very confusing for unwary passengers, although today's excellent train departure announcements and platform indicators make light of such trivia at places such as Exeter St. David's, but it crucially gave both these two important centres a better service than they otherwise might have had.

Creation of the northern route via Okehampton thus brought the LSWR's trains into Plymouth from a north westerly direction, through St. Budeaux. Indeed, passengers in down trains travelling more or less south westwards from London would bizarrely find themselves at one stage travelling north eastwards, as they made their way around this great hook-shape of a main line to come into

Plymouth from Devonport. An uninformed late-afternoon passenger sitting in a window corner seat from Waterloo certainly might wonder why the sun was apparently boxing the compass, shining from behind as they still supposedly travelled west.

However, this new northern route to Plymouth was actually less roundabout than might at first be assumed. Indeed, were the ex-SR route to be reopened to main line standards, it has very recently been calculated that a hypothetical Cross-Country 'Voyager' diesel would take only a few minutes longer to travel from Exeter to Plymouth via Okehampton than running via Dawlish, although necessarily smart reversals at Exeter St. David's and (if the train was continuing to Cornwall) Plymouth North Road would add further to this. The LSWR route via Okehampton was very well engineered and mostly suited to fast running, even right up until closure.

Devonport was well-located in relation to its namesake and was reasonably close to the docks at Millbay but these latter, of course, were also directly served by the GWR's own branch. Once east of Devonport the LSWR line, as before, joined the GWR main line near Molesworth Road. To the east of this junction the GWR's Millbay branch struck southwards, from a triangular junction with its main line, until it reached the terminus at Millbay station, sited on Millbay Road.

Incidentally, although this article is about the LSWR and SR in Plymouth, very brief mention must be made of the GWR's broad gauge and its sad but inevitable demise in 1892. In that final year, the following sections of GWR route in the Plymouth area that are relevant to our story were still broad or mixed gauge:

- Tavistock Junction–Millbay Docks Junction
- Millbay Docks Junction–Millbay station
- Plymouth North Road–Devonport Junction
- Cornwall Junction (on the Millbay branch)–Keyham Junction
- Marsh Mills–Lydford
- Laira Junction–Friary Junction
- Friary Junction–Sutton Harbour–North Quay

(to be continued)





ABOVE: **No.30772 *Sir Percivale*** makes a move away from Farnborough in 1960. The 'King Arthurs', if not sleekly handsome, were certainly purposeful in appearance. The large 5,000-gallon double bogie tender enhances the suggestion of size and strength. (Colour-Rail.com 340082)

BELOW: **No.30454 *Queen Guinevere*** briskly works an up South Western main line stopping train, consisting of five Bulleid vehicles in carmine and cream, past Bramshot in February 1957. No.30454 was from the first order for the Southern Railway N15s which were built at Eastleigh Works in 1925. (Trevor Owen/Colour-Rail.com BRS1973)

'KNIGHTS' OF THE SOUTHERN LANDS

The N15 'King Arthur' Class was the express version of Mr. Urie's two-cylinder 4-6-0 designs for the London & South Western Railway on which they were introduced in 1918. After the formation of the Southern Railway at the 1923 grouping, the new Chief Mechanical Engineer Richard Maunsell improved the original design in 1925 and added another 54 to make a total of 74. The legendary King Arthur and his knights, ladies and associated places became the naming theme for the class (see *BT 22/10* for more details) and fine locomotives they were.

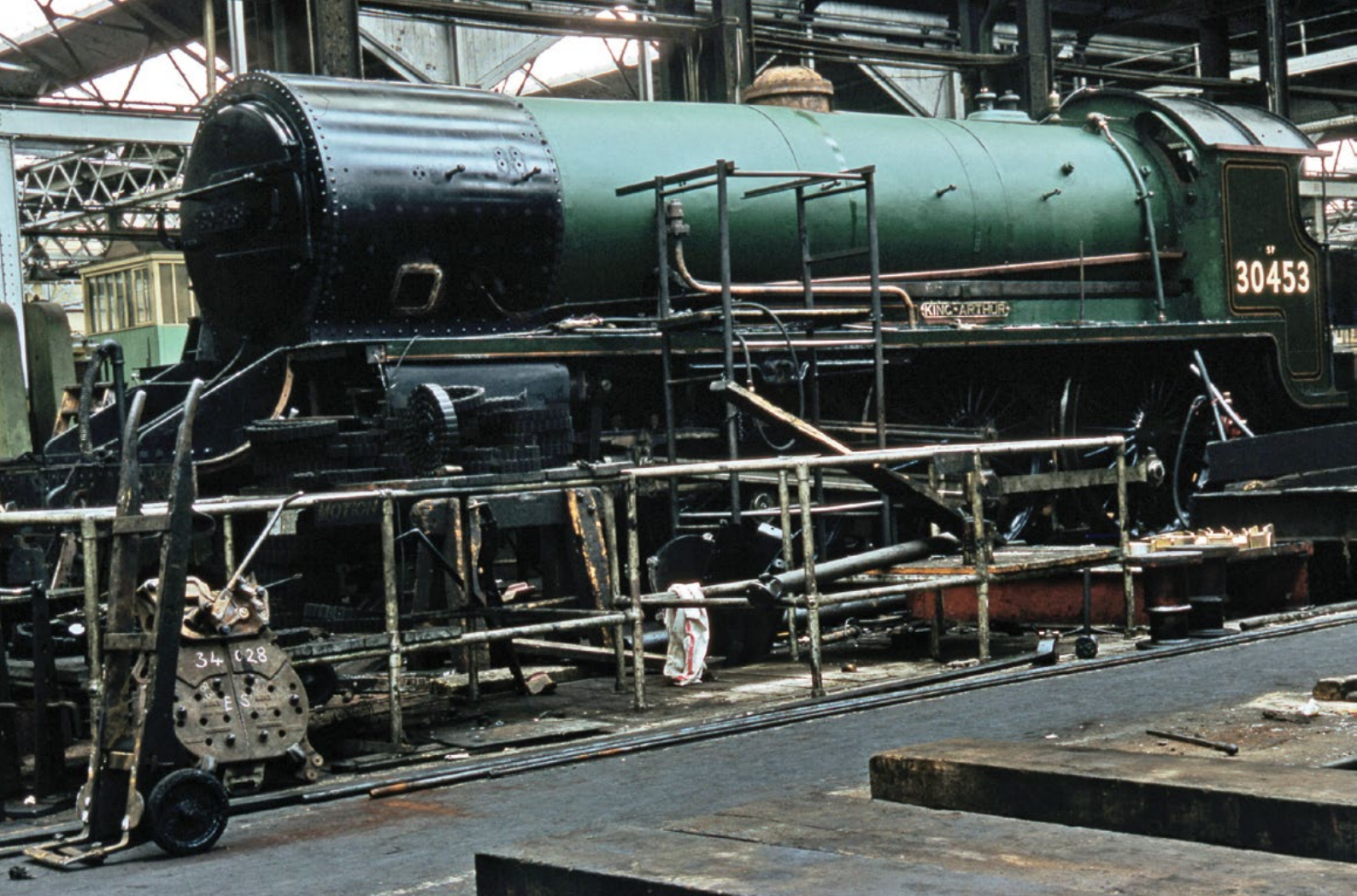




ABOVE: A very agreeable portrait of No.30805 *Sir Constantine* during an 'R and R' break in front of the coaling stage at Ashford shed on 23rd July 1953. *Sir Harry* was from the final order for N15s delivered from Eastleigh in 1926/7. They were intended for use on the Central Section of the SR (the Brighton lines) for which they were given smaller 3,500-gallon six-wheel tenders due to weight restrictions. (I. Davidson/Colour-Rail.com 308812)

BELOW: The signal is 'off' for No.30773 *Sir Lavaine* to depart from Eastleigh station with a service for Portsmouth on the evening of 15th August 1961. The 30 engines ordered in 1925 were constructed by the North British Locomotive Company in Glasgow and became known as 'Scotch Arthurs'. (Gavin Morrison)





ABOVE: The 'once and future king' himself – No.30453 *King Arthur* undergoing overhaul in Eastleigh Works on 6th July 1958. The Arthurian naming theme was proposed by John Elliott, the SR's Public Relations Assistant to the General Manager. (Trevor Owen/Colour.Rail.com 392684)

BELOW: No.30804 *Sir Cadof Cornwall* speeds the down 'Kentish Belle' through Bromley in August 1958; two Pullman cars betwixt the carmine and creams with a green one at the back for variety. (Derek Cross/Colour-Rail.com BRS242)





TOP: Autumn colours help to set off No.30795 *Sir Dinadan* (with six-wheel tender) as it heads the 12.35pm Victoria-Ramsgate near Shortlands on 22nd October 1957.

MIDDLE: No.30794 *Sir Ector de Maris* makes a rather smoky departure from Ravensbourne with a Ramsgate train, splitting distant signals at the ready, on 21st July 1957.

BOTTOM: No.30796 *Sir Dodinas le Savage* has steam to spare as it drops down Sole Street bank with a Victoria-Ramsgate train in August 1958. (All by Ken Wightman from the David Clark Collection, by courtesy of Rodney Lissenden)





ABOVE: Looking sharp is No.30750 *Morgan le Fay*, photographed in the yard at Eastleigh on 24th September 1955; the small version of the early BR emblem looks rather lost on the large tender, though! This was one of the LSWR N15s, from a batch of ten ordered at the end of 1920 and entering traffic in October 1922. With changing motive power requirements on the Southern Region the Urie 'Arthurs' were the first to go; apart from an early scrapping in 1953, withdrawal began at the end of 1955 and was completed in 1958. (Trevor Owen/Colour-Rail.com 392642)

BELOW: No.30770 *Sir Prianus* has clean paintwork and polished metalwork to show while being coaled by crane and skip at Eastleigh shed. The plentiful stock of SR Bulleid Light Pacifics followed by the BR Standard Class 5s had reduced the front-line role of the 'King Arthurs', a situation hastened further following the Kent Coast electrification. As mentioned, the LSWR engines had been cleared out by 1958 and 1962 was to be the final year of the Maunsell ones, with *Sir Prianus* being the last to leave the scene that November. (Ken Wightman from the David Clark Collection, by courtesy of Rodney Lissenden)





The view from the terminus shortly before the wires started to go up. The massive brickwork and girders on the right are an aberration – bedrock below and rusticated stonework above are the usual style throughout. Bricks are usually restricted to the arches and patches to cover faults in the rock. The single line tunnels on the left were an afterthought, to allow one of the four lines in the main Russell Street tunnel to be used as a shunting neck. (D. Ibbotson)

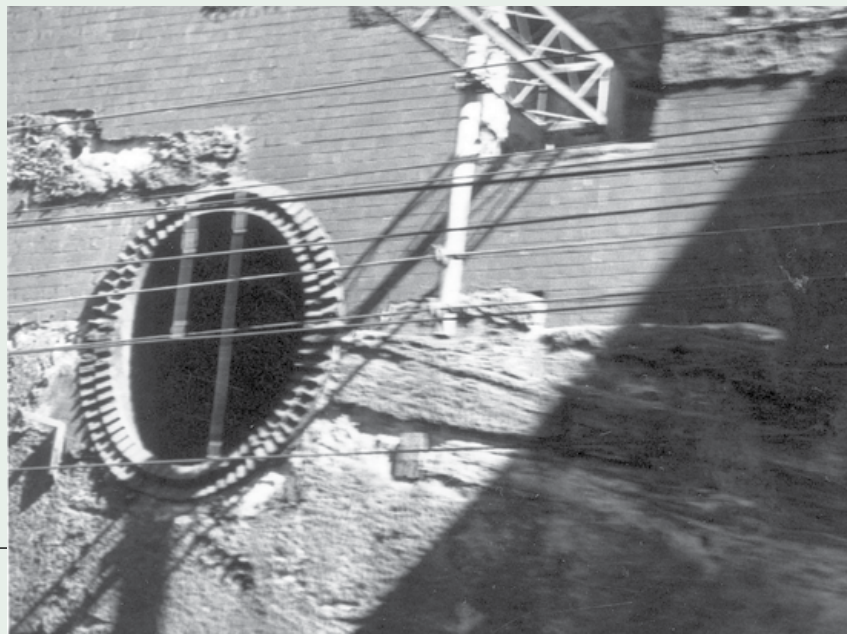
DOWN IN THE LIME STREET CUTTING

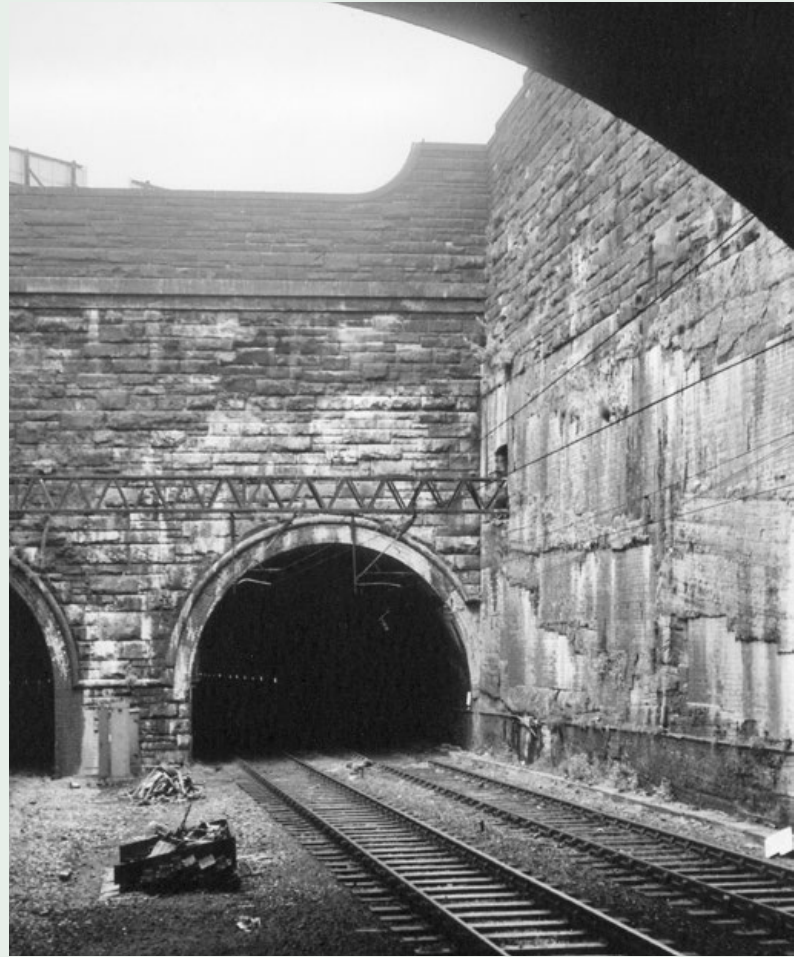
Owing to three of the four single tunnels at the west end being joined by single track cuttings, the only way for a passenger to see them properly is through the cab of a diesel multiple unit, when the design permits. We are looking back to Lime Street through the tunnel under St. Andrew Street and Gill Street.

Lime Street station in Liverpool was opened in 1836, connected to Edge Hill by one long tunnel. In the 40 years to 1885 the tunnel was gradually cut back and the line widened until the splendid array of bridges and tunnels to be seen today was created. The cutting was in the news during March when the collapse of a section of wall meant the temporary closure of the station until repairs had been completed.

JOHN C. HUGHES takes us into the cuttings and tunnels.

In 1903 George Whale began to introduce larger locomotives and the carriages were getting bigger as well. As some of these used the single line there was soon a rash of complaints about smoke in these tunnels. In 1908 three ventilation shafts were added to the longest of them – set at an angle so that they could vent into the higher tunnel alongside. In 1923, the newly-formed LMS decided to add five more of these openings. All the ones readily visible are from this batch. Some were given decorative brick lining, like this one, while others were just holes in the rock. (D. Ibbotson)





ABOVE: This is the four-track line alongside the single tunnels. The train I am on has just come from the down fast using the crossing behind and is continuing to the shunting neck. Any rolling stock leaving this without permission will doubtless be stopped in its tracks by the catch points, which are clearly designed to keep the runaway off the running lines to either side. The vent on the left, between St. Andrew and Gill Streets, appears to be the one in the last picture. The five-track span in the distance is Brownlow Street bridge, now with the other side closed in as mentioned below.

ABOVE, RIGHT: The next pair of short tunnels runs under Crown Street. The University's platform covers the west end, but the east end here can still be seen. More evidence of Williamson's work is visible on the north side of the cutting. The height of the rock here is well over the tops of the tunnels, but evidently the ground was too far gone for patching so the whole face has been built up with stone.

BELOW: Three sections of the original

tunnel of 1836 were left in place, requiring new tunnels alongside. These two are under the University and are not now visible from the train as the cutting at both ends has been closed in with concrete platforms. This is a pity as we have now arrived at the territory claimed by Joseph Williamson, the Mad King of Edge Hill. This admirable eccentric arranged for a maze of tunnels to be dug – to provide work for the unemployed, for the fun of it, or very

possibly both. He was still at it in the 1830s, when he reputedly terrified the men digging the L&MR's tunnel by breaking an opening into the works – from below – and demanding to know who was entering his domain. An impression of the scale of his works is provided by the patching needed over the east end of these tunnels – and is that an arch in brick to the right? (For more information, look up 'Friends of Williamson's Tunnels.')





ABOVE: This is the north side of the cutting showing the Crown Street tunnels and Smithdown Lane again. The section of wall at top right is the part that collapsed on 28th February this year. An engineer interviewed on television mentioned the need to watch out for unknown tunnels; I am not sure if the brick patches here are a sign of Williamson's work, but he was certainly active a little way to the west and north. There have been similar collapses along Olive Mount cutting and the Cheshire Line's Committee's route out of Liverpool; such incidents generally follow heavy rain and the latest slip is no exception. One does wonder if it is wise to allow all that greenery to push roots into the cutting walls – just a thought. It never used to happen.



TOP, RIGHT: The main point of interest in this view is the ghost of the 1836 tunnel on the north side of the cutting. It will be noticed that the curve of the roof starts quite low down; in fact some work had to be done in enlarging the surviving parts of this tunnel before tracks could be laid with the new standard gap of six feet between them. Going east, we have now passed Mason, Highgate and Kinglake Streets. The last was joined by Nevison Street just here – hence the generous squinch arch. (D. Ibbotson)



RIGHT: At last, another pre-electrification view. The cutting really did look better without wires and without weeds. We are looking west with Chatsworth Street bridge in the foreground. (D. Ibbotson)

BOTTOM: Looking east under Chatsworth Street at the last stretch before Edge Hill station, visible through the third fragment of the 1836 tunnel which still has its original stone surround at the east end. With another two bridges and three tunnels to go, Chatsworth Street's bridge plate is number 26. Eric Treacy was often to be found with his back to the wall between the centre tunnel and the single track tunnel just out of sight to the right. It was a safe place and convenient to reach, but this meant that his views often show the sewer suspended under Uxbridge Street bridge – the one such straight line in the whole cutting. Of course, his views of the cutting are often spoilt by trains getting in the way as he pressed the shutter!



The present-day entrance to the tunnel is approached from the caravan park drive on the right after the bridge over the ECML. It is located in a hollow at the bottom of a recent flight of steps. In this 2016 view vegetation is beginning to mask the entrance and the protective grill has been partially removed. (Author)

Passengers travelling northwards along the East Coast Main Line after Berwick-upon-Tweed cannot fail to be impressed by this beautiful section of railway line which hugs the clifftop closely until geography forces it to curve inland just before the site of the former Burnmouth station. It has been necessary to divert this line away from the cliffs on at least two occasions as a result of continuing erosion of the rather friable sandstone. The first diversion, at Marshall Meadows, was planned by the North British Railway in the early years of the twentieth century; the second, of a more minor nature, took place between Lamberton (on the Anglo-Scottish border) and Burnmouth in more recent times.

Unknown to most travellers on the line there is, close-by, the remains of a railway tunnel linking the clifftop and the beach some 200ft beneath. This tunnel and its railway have received much local interest and comment over a period of years and have been the subject of much speculation regarding their function. John Logan Mack, in his book entitled *The Border Line, from the Solway Firth to the North Sea*, published by Oliver & Boyd in 1924, makes reference to the line: "The curious tunnel was constructed about a



THE MARSHALL MEADOWS BERWICK-UPON-TWEED

BY ROGER JERMY

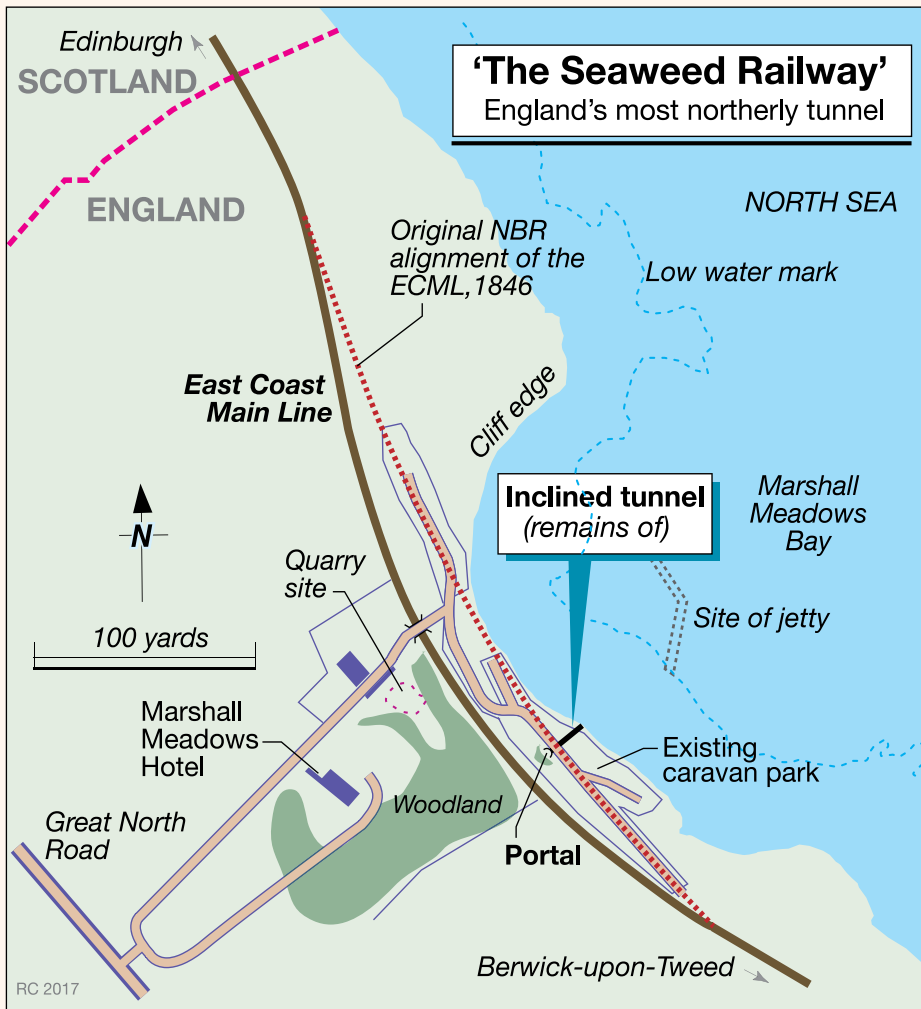
hundred years ago to enable seaweed to be transported from the shore to be spread as manure on the adjacent farms. It was laid with rails, the motive power required to haul up the

trucks being obtained from a stream, which, at a later date was diverted and the tunnel rendered useless for its original purpose."

Bearing a 1920s date there is a Sale Document, with accompanying Plan, which was drawn up for the sale of the Marshall Meadows Estate. It contains the following: "There is also a subterranean passage leading from the Headland down to the bay. Romantic legends are attached to this passage which is said to have been used by smugglers in olden days."

Francis Cowe (a Berwick historian and writer) mentioned it in his book *Berwick Upon Tweed: A short historical guide*, in 1975. This book was published locally by Bell's bookshop and quoted Mack's volume as a source. Raymond Lamont Brown mentioned the tunnel in another local guide in 1988. A discussion of the origins and purpose of the line appeared in the present author's book *Minor Railways of Northern Northumberland, Volume 1*, which was published in 2010 by The Oakwood Press. Subsequent to this book appearing, additional information has come to light and comment has appeared recently in the electronic media.

The tunnel was constructed through the sandstone rock a short time after the time of the building of the North British Railway's main line linking Edinburgh and Berwick-upon-Tweed in the 1840s. However, there is no reference to the line on the North British Railway's plans of 1839 and it appears for the first time on the First Edition Ordnance Maps of around 1860. The tunnel descends at an angle of between 30 and 40 degrees from the clifftop to the exposed shore beneath the cliffs. Originally the tunnel commenced on the landward side of the NBR main line but the diversion of this line some 30 metres inland, following successive collapses of the cliff face, resulted in the upper tunnel entrance today being located in a hollow between the main line and the top of the cliff. At its lower end





ABOVE: This view shows the late twentieth century view of the lower tunnel arch. Successive cliff collapses have caused the lower tunnel entrance to be several metres above its original position. The original stone arch over the entrance has long since disappeared.



RIGHT: Inside the tunnel entrance is seen a ceiling recess and beam where the turbine-driven machinery for moving the wagons was located. (Author)

TUNNEL RAILWAY NEAR

the tunnel now emerges into daylight on to stone rubble from the collapsed cliff, several metres above high water mark. Formerly it continued at the same sharp angle on a short embankment towards a now long-disappeared jetty.

So what was the real purpose of this line and its tunnel, the northernmost railway tunnel in England? Logan Mack referred to the line as being used to transport seaweed for use as manure. However, it would seem rather unlikely that such a line was constructed, at great expense, solely for this purpose. Other suggestions as to its use have been as a short cut to the shore for local fishermen, for upward movement of sandstone from the cliffs for use in local buildings or even (as mentioned in the 1920s Marshall Meadows Estate sale document) as a short cut to the shore for smugglers! None of these, on their own, appears to offer a satisfactory explanation, but the title of 'The Seaweed Railway' has been generally attached locally to the line which is the northernmost industrial railway in England if one excludes some temporary narrow gauge tramways used during the railway realignment.

It is as a result of the recent facility of being able to search the local and national newspapers via the internet that further information about the tunnel and its railway has come to light. Both *The Scotsman* and the local Berwick newspapers have contributed to producing here what is hoped is an accurate history, being based on the reported recollections and experiences of some local residents who recalled the line 'in action'.

The newspaper correspondence appears to have been stimulated by a narrative of Logan Mack which appeared in *The Scotsman* a couple of years before publication of his 1924 book. He expressed great surprise at the existence of the tunnel. A certain Mary A. Darling, a resident at Marshall Meadows, replied to Logan Mack by stating that the tunnel was originally the brainchild of a

Mr. Murray, who was at that time the Laird of Marshall Meadows. She said that the construction of the tunnel was accomplished in three years through the work of Welsh miners, though a subsequent commentator suggested that the men were either Welsh miners or workers from the lead mines of the Peak District of Derbyshire. Mrs. Darling referred to the channelling of water from the Marshall Meadows estate into a 'streamlet'. This water was used to power a water-wheel at the mouth of the tunnel for the purpose of drawing trucks up and down the inclined rails through the tunnel. According to her account, the water-wheel was attached to a huge timber beam in the roof at the upper end of the tunnel. The trucks were used to carry stone down the gradient to waiting boats, which shipped the stone to Berwick for the construction of the Royal Border railway

bridge. Other individuals had suggested that stone, obtained from the sandstone cliffs, had been hauled upwards through the tunnel. However, such red sandstone does not feature in the construction of the Border Bridge or in local buildings, for which its crumbly nature made it totally unsuitable. Stone from the Marshall Meadows quarry, further inland, is much stronger and not friable.

Mrs. Darling states that the stone for the Border Bridge was extracted from a large quarry located in the wooded 'dean' (dene or narrow valley) stretching between the main line railway towards the North Road (now the A1) to the west. A member of the Berwickshire Naturalists Club, James Hewat Craw, of West Foulden, Berwick, concurred with the above in a local newspaper letter dated 13th February 1922, stating that the owner of the Estate constructed the tunnel

This photograph, taken in the 1920s, shows an early alignment of the ECML close to the friable sandstone cliffs. By this time the line had been realigned further inland for safety reasons and to make sure that vibrations from passing trains no longer caused the unstable cliffs to collapse. The parapets of this bridge are visible today but the railway is crossed by a new bridge closer to Marshall Meadows Farm. (The late Neil Mackichan)





This is a nineteenth century photograph was taken when Marshall Meadows House and its extensive grounds were in private ownership. The ladies posing in the photograph are all wearing elegant long dresses whilst one of the gentlemen is in military uniform whilst the other sports a top hat. (Marshall Meadows Hotel Collection)

and line, realising the value of the bay beneath for the transport of the stone by vessels to Berwick. A second letter appearing in a later paper quoted evidence gained first hand from local residents and fishermen, confirming that the statements of Mrs. Darling and Mr. Craw were entirely correct. It referred to the Marshall Meadows tunnel being known locally as 'The Wham Tunnel' and being recognised as an engineering achievement, having been cut entirely by pick. It was said that on the south side of the tunnel was located a small 'aqueduct' (*sic*) cut into the rock sill from top to bottom.

At the top of the tunnel was a large water wheel which drove the winding gear which, in turn, raised or lowered the 'tubs'. The water came from the high ground above the nearby New Farm and passed through the grounds of Marshall Meadows house to power the wheel. Once having passed over the wheel it ran down the channel on the south side of the tunnel so as to drive a smaller water wheel at the lower end. This wheel drove a further set of winding gear which lowered and raised the tubs on a railed slipway from the foot of the tunnel to a small jetty on the beach. This jetty was constructed by Mr. Murray, the local Estate Laird, at the same time as the tunnel. In the rock face at the bottom of the tunnel, on its north wall, was a stone seat cut into the wall. This was for the 'level minder' who waited to unhitch the tubs (also referred to as 'trucks' or 'trolleys') coming up from the beach and hitch them to the 'big wheel tackle' which hauled them to the top of the tunnel.

A certain Mrs. Dowens, an old lady approaching her centenary and living in High Greens, remembered the wheels being in regular use. She recalled that the large wheel at the top of the tunnel was tended by a Mr. James Renton ("then a lad") who rose from these humble beginnings to become a successful farmer on the Corporation estate. He farmed at Camphill Farm and others nearby. James's cousin, also James Renton, remembered well "...when James used to tend the tunnel wheel...". The wheel at the lower end of the tunnel was said to have been attended by the father of a Berwick Councillor, Mr. Peter Edgar, who married James Renton's

daughter. Mrs. Dowens also recalled that after the cessation of the tunnel's operation the large wheel was removed and purchased by a well-known firm of estate fencers by the name of Wallace, of Grantshouse, Berwickshire, who reused it at a water-mill in that vicinity.

A letter, appearing in the newspapers on 28th April 1922, was written by a Mr. William Wilson of Springbank Manse, in nearby Ayton. Wilson decided to see for himself the Marshall Meadows Tunnel and made a visit with a friend, Mr. William Fortune. The two gentlemen turned up at The Lodge of the Marshall Meadows estate and were given a guided tour by Mr. Blackwood, the head gardener. The lodge was 300 yards from the Mansion House according to Wilson. The House was at that time approached via a tree-lined avenue which was dead straight until it veered left just before the mansion. On the right-hand side of this avenue was the Dene, mentioned earlier, and along which a small stream trickled. The Dene was planted with hardwood trees, described by Wilson as being some 50 to 60 years of age. The party left the avenue for a small path which led past a small waterfall and it was from this point that the quarry extended down the Dene in a linear fashion. This was to ensure that it was within the "...proprietary boundary line". The Berwick Corporation had required that a wall be built along the boundary of the Dene and the fields of the nearby New Farm. When the quarry reached the boundary line it was "...faced up with the pick from bottom to top..." and hence had the appearance of a bare wall some 50 to 60 feet high and stretching down the Dene for "...some considerable distance..." and, according to Wilson, looking anything but attractive when viewed through the leafless trees. Spring must have arrived late that year!

The guide, Mr. Blackwood, took his charges down the Dene until they reached the main railway line and he then pointed out a small tunnel which Wilson reported as being large enough to admit any person provided that they crouched sufficiently. This tunnel took the stream under the railway to where it emptied into a small tunnel, known as the Horse Tunnel, before discharging into the bay

on its south side. The party was then taken to the mouth of Marshall Meadows Tunnel. Wilson then quoted Logan Mack who had clearly measured the tunnel quite accurately. According to Mack the dimensions of the tunnel varied at its upper end but, measured a few yards in from the entrance, it had a mean width of 6ft 10in and a height of 7ft. Mack estimated the tunnel to be 80 metres in length.

Blackwood, Wilson and Fortune scrambled down the tunnel at an angle which they quoted as 30 degrees, being helped by clutching hold of occasional rings set into the left side of the tunnel. At the foot of the tunnel they noted the seat for the wheel-minder. This seat was described as being commodious, with an ample ledge for the body and a handy ledge on which to rest the right arm plus a nice arch overhead with a notch in the centre for the resting of the head! Blackwood must have passed on information about the minding of the wheel for Wilson states that earlier published information was incorrect: James Renton, apparently, looked after the big water wheel at the top whilst a certain Thomas Darling looked after the one at the bottom. Of course it is quite possible that responsibilities changed during the working life of the tunnel and railway.

Of course the Marshall Meadows Quarry was not the sole source of the stone for the Royal Border Bridge. The contractors, Mackay and Blackstock, made use of stone from various other local quarries and obtained the lime, for the mortar, from limestone quarries to the south in Northumberland, whence it was carted to the Tweed.

The letters to the various newspapers also revealed some of the history of the tunnel after it ceased its primary function of transporting stone from the Marshall Meadows Quarry to the jetty. Mary Darling referred to the fact that at the time of writing her letter to the newspaper (1922) the tunnel was in use by local fishermen who carried their salmon, in baskets, up through the tunnel, making use of the rope which was threaded through the rings attached to the wall. She also quoted "old residents" (*sic*) who had assured her that seaweed manure had been drawn up to the clifftop in the same manner. Craw referred to 'seaware' being transported from the beach for agricultural purposes as well as the salmon. Many of the suggested uses of the tunnel thus appear to have been based in fact, related to different periods of the tunnel's existence!

Another tunnel, believed to be of an earlier date, had been constructed at a nearby point on the coast known as 'Mount Zion'. This tunnel was known as the 'Horse Walk' or 'Horse Tunnel'. The landward end had been blocked up by 1922 and was used solely for leading water away from New Barn Farm. Parts of this tunnel were supported by oak beams which had not been necessary in the railed tunnel. It had been stated that horses had once pulled up 'bogies' up through this tunnel. It was said that potatoes from nearby farms had been transported down through this tunnel to be loaded into 'smacks' at a small jetty and that coals were carted up this tunnel from a small outcrop of coal which was worked by the local fishermen and farmers to supply their domestic needs.

A book, written by Alexander Steven and published in 1933, *The Story of Lamberton*



Toll, contains a reference to a gruesome incident in the life of the Marshall Meadows Tunnel. An Edinburgh lady, who had been married at Lamberton, brought to mind the result of a rail disaster at Marshall Meadows. A long time after the accident the body of a gentleman, who had been travelling on the train, had not initially been found in early searches. It was discovered eventually in the tunnel at Marshall Meadows, covered with sand!

At the present time the tunnel is still in existence though its upper entrance lies on private ground which is now part of the large Marshall Meadows caravan site. To make an inspection it is necessary to obtain permission of the owners. It is important to park at the farm before the entrance to the site as beyond this there is a barrier which controls entry and exit of vehicles. The upper tunnel entrance, which was until a few years ago covered by a protective metal mesh, is located some seven metres below the current ground level. A flight of steps leads down to this point where the mesh, now in a very rusty state, covers just part of the opening. The upper 'chamber', which formerly housed the water-wheel, can be seen to be partly lined with sandstone blocks but the remainder of the tunnel has no lining. Timbers, which supported the wheel and winding mechanism, and wall recesses for other timbers, can be identified in the upper chamber. The lower entrance to the tunnel is now well over ten metres above the shore level though a slope, with a recently made flight of steps, leads down towards the site of the former jetty of which there is no trace. Some local residents recall its remains in the early 1960s. Mack certainly referred to it

The presence of railings and the very marshy ground make the taking of a photograph of the brick-lined burn culvert rather difficult. This was the view in January 2017. (Author)



The Marshall Meadows Burn was the original power source for the tunnel railway or wagonway. Network Rail's Bridge ECM77/201 dates back to the realignment of the ECML. A platform to the left of this picture possibly carried the rails from the quarry leading to the tunnel whilst the burn lies in a brick-lined culvert on the right-hand side. Today the burn is almost dry at this point, having been diverted onto a new course further up the Dene. (Author)

as 'disused' in the 1920s and Sanderson's Sale Plan of the vicinity, surveyed in the 1920s, makes no mention of it. Erosion at the lower end of the tunnel has eliminated the remains of the wheel housing and the former operator's seat. All nearby traces of the water supply to power the wheels on this side of the East Coast Main Line have been obliterated by the new railway cutting and the infill which has been used to raise and level the site.

This stretch of the main line has been the location of various railway accidents, some serious. It was reported in the early 1960s that a local railwayman was 'filling in time' between the various phases of his work associated with some track relaying. He visited the beach using the tunnel to gain access. On walking a short distance to the north he came across the damaged wooden frame of a goods wagon which at some stage had either fallen, or been pushed, over the cliff edge!

The original alignment of the East Coast Main Line now lies just a few metres to the east of the tunnel entrance, though taking photographs of this route infringes the privacy rights of those associated with the caravans and is inadvisable without their express permission.

From the car park in front of the Marshall Meadows Hotel and, with permission, it is possible to follow a somewhat steep, winding and slippery path down into the Dene. At the lower end of the path the face of the former Marshall Meadows quarry comes into view, especially on the south side of the Dene, though this view is somewhat restricted when the trees are in leaf. The valley floor is very boggy at this point. If the valley is followed eastwards for a short distance the Network Rail bridge (ECML7/201) comes into full view. Beneath the bridge and on the north side there is a raised area or platform along which the stone may have been taken from the quarry faces to the tunnel. It is not known whether the tunnel rails extended towards the quarry or whether the stone was loaded from carts on to the rail wagons close to the tunnel. The former might appear likelier though no on-the-

ground evidence can be seen. To the south side of the arch beneath the rail bridge is a brick-lined culvert which formerly carried the water of the Marshall Meadows Burn towards the water-wheel or 'turbine' as it was sometimes known. In January 2017 this culvert was almost dry. From the top of the path, close to the car park, it is possible to hear the sound of rushing water indicating that the burn now flows along a new route, though the boggy nature of the floor of the Dene precluded a more detailed search.

Hopefully this article resolves the arguments about the tunnel and the function of its rail line. However, it must be emphasised that accessing and traversing the Marshall Meadows Tunnel is somewhat inadvisable today. It is a potentially hazardous or dangerous exercise in view of the steep gradients involved and the inherent instability of the overlying sandstone rock. Water seepage causes the floor and steps to become slippery at times and, for some, the claustrophobic nature of the tunnel itself makes the experience unpleasant. Finally, on the beach below the tunnel, there is the risk of falling material from the unstable cliff face.

All the adjacent land, and the tunnel itself, lie on private ground and express permission must be obtained from the Hotel or the nearby farm to make a visit or to take photographs. Just a fleeting glimpse of the Marshall Meadows Dene, to the west of the main railway line, can be obtained from the windows of a passing train.

Acknowledgements

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ATLANTIC JOURNEYS

The Atlantic 4-4-2 wheel arrangement had a short but distinguished period of pre-eminence during the first couple of decades of the twentieth century before six-coupled locomotives came to the fore. Here are a few classic Atlantic designs.



TOP: The Great Northern Railway was first with an Atlantic class in 1898 but followed that in 1902 with a large-boilered type which became its top-link motive power before the Pacific era dawned. At the start of the LNER period No.1459 waits at Nottingham Victoria as the fireman trims the coal before continuing with the Sheffield–King's Cross Pullman in 1923. (T. J. Edgington Collection)

The Lancashire & Yorkshire Railway '1400' Class was an eye-opener when it appeared in 1899 with its large high-pitched boiler and 7ft 3in driving wheels. 'High Flyers' they became known as and No.1404 is getting the 4.55pm Manchester Victoria–Blackpool express on the move, passing the LNWR's Exchange station with one of that company's engines alongside. (G. W. Smith)

The Great Central Railway's 8B Class 4-4-2s were particularly handsome machines, introduced in 1903. LNER No.6091 was photographed heading south near Rugby with an express which included a through carriage to the Great Western via Banbury. (T. J. Edgington Collection)



For its heaviest trains on the difficult Aberdeen and Carlisle routes the North British Railway moved to Atlantics in 1906. No.905 *Buccleugh* shows the design's impressive proportions at the east end of Edinburgh Waverley station. (T. J. Edgington Collection)



The London, Brighton & South Coast Railway's 4-4-2s of 1905 seemed to have looked to those of the GNR for inspiration – but its Locomotive Superintendent D. E. Marsh had come from the latter company. The Southern Railway decided to name them and No.2038 *Portland Bill* is seen (it is believed at Eastleigh) in the malachite green livery it applied post-war. (T. J. Edgington Collection)



Atlantics appeared on the North Eastern Railway in 1903 with Worsdell's two-cylinder locomotives, followed in 1911 by a three-cylinder class to Vincent Raven's design – later LNER Class C7. One of those, No.2197, is at the south end of York station in May 1929. Yes, there was something about Atlantics... (T. J. Edgington Collection)





ABOVE: The London & Birmingham (as far as Rugby) became in due course part of the West Coast Main Line to Scotland and home to sights such as this – and there can be none better. LMS 'Coronation' Pacific No.46246 *City of Manchester* in BR crimson lake stomps up the climb out of Euston and through the short tunnel at Kensal Green with the northbound 'Mid-Day Scot' in September 1961. (A. C. Sterndale/Colour-Rail.com BRM1786)

BELOW: The cleaners have set about LMS rebuilt 'Royal Scot' 4-6-0 No.46163 *Civil Service Rifleman* and turned it out in sparkling order, this scene captured in November 1959 near Northchurch. The train is the up 'Emerald Isle Express' (but without its headboard) from Holyhead which had connected with the steamer from Dun Laoghaire. (J. P. Mullett/Colour-Rail.com BRM412)

ON THE LONDON & BIRMINGHAM LINE

An article this month looks at the building of the London & Birmingham Railway, Britain's first trunk main line and, as David Jenkinson described it in his 1988 book on the subject, 'A Railway of Consequence'. Let's take a look at the route in steam days.





ABOVE: Rebuilt LMS 'Patriot' 4-6-0 No.45527 *Southport* heads north through Watford Junction with the Euston–Liverpool Lime Street 'Shamrock' on 30th April 1955. Connections would be made at Liverpool with sailings to Belfast and Dublin. Plenty of spotters are alert to note the number (a 'rebuilt Pat' was a good catch!) and even on the far platform passengers focus on the train's passage through the station. At that time the colourful carmine and cream carriage livery still held sway. (Trevor Owen/Colour-Rail.com BRM2757)

BELOW: A green 'Coronation' was almost as good as a red 'un, especially if as well turned out as Camden's No.46239 *City of Chester* is for this Euston–Windermere train leaving Northchurch Tunnel in August 1962. Appearances notwithstanding, steam was in decline on the WCML by then as it looked forward to electrification, with Camden shed closing the following month and its remaining Pacifics moving across London to Willesden. (J. P. Mullett/Colour-Rail.com BRM399)





TOP: Rebuilt 'Patriot' No.45529 *Stephenson* is about to cross the Grand Union Canal at Apsley with a northbound express freight in 1962. Modernisation is coming to the WCML and Robert Stephenson's original skew arch has been strengthened by being encased in concrete.

(Celyn Leigh-Jones/Colour-Rail.com BRM1953)



MIDDLE: Coventry station, like much of the city, was badly ravaged during the war and was radically rebuilt and extended in readiness for the WCML electrification – and with better results than in many contemporaries. That was still pending when LMS Class 3 2-6-2T No.40135 was found there with a load to its liking and resting awhile before moving it a bit further.

(Ray Reed/Colour-Rail.com BRM2439)

BOTTOM: Harrow & Wealdstone is gone in the blink of an eye as LMS 4-6-0s Class 5 No.45034 and 'Jubilee' No.45737 *Atlas* whisk the up 'Midlander' from Birmingham New Street to Euston through on a summer day in 1962. (Colour-Rail.com BRM2604)





ABOVE: BR 'Britannia' Pacific No.70001 *Lord Hurcomb* is making good speed with a down fitted freight as it heads out of Tring cutting towards Cheddington in August 1963. On the up side some supports for the imminent installation of the overhead wires have been erected. (Colour-Rail.com BRM2316)

BELOW: A bit moody but still magnificent: even a coating of dust can't diminish that. 'Coronation' 4-6-2 No.46254 *City of Stoke-on-Trent* is accelerating through the Home Counties on its way north through Bushey station in July 1963. (Paul Riley/Colour-Rail.com BRM1928)





J. C. Bourne has captured a scene of great activity in the Camden area during the construction of the winding engine houses and the locomotive depot, which is in the final stages of completion. In the foreground is the excavation for the accommodation of two 60hp winding engines and steam boilers from the works of Messrs. Maudsley, Son & Field. The mode of drawing trains up the steep gradient out of Euston Grove was by dint of an endless rope measuring 4,080 yards in length and seven inches in circumference. The rope cost £476 19s and was the product of Messrs. Hoddart & Co. of Limehouse, London. Two chimneys were to dominate the area – these have yet to be built.

THE FORMATIVE YEARS OF THE BIRMINGHAM RAILWAY 1830

BY JEFFREY WELLS

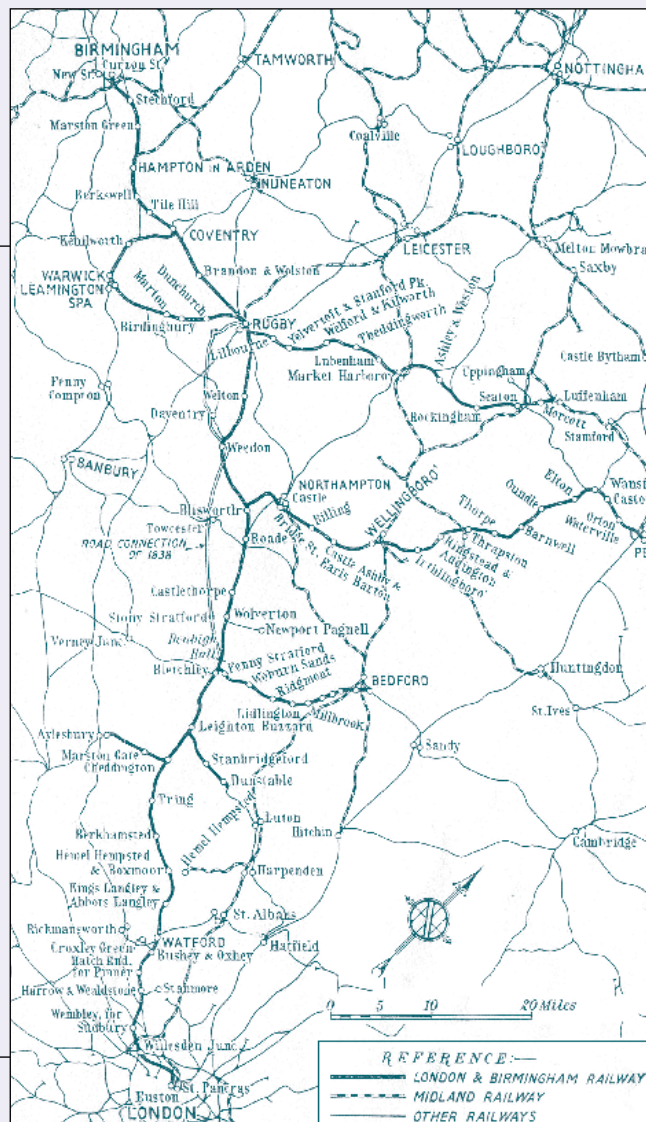
have coalesced; and they intend to apply to Parliament next Session for an act to empower them to carry their plans into execution."

In its 17th December 1830 issue, the *Liverpool Mercury* apprised readers of the following development: "The London & Birmingham Railway Company have increased their capital from two millions to three millions, wisely resolving to construct the road on the best possible plan that can be devised. They intend forming a quadruple line of road all the way; and we understand that it is in contemplation to light the road in winter with gas, as coals can be procured along the line in various parts on very reasonable terms, the coke produced will be of importance to the Company in supplying their own engines. The Liverpool & Birmingham Railway Company, it is said will pursue the same plan on their line. Both companies expect to obtain acts of Parliament in their favour this session, if they succeed the works will be prosecuted with such vigour, that the whole line may be completed in three years." Such optimism was confounded when the ambitious plans were rejected.

Genesis

The success of the Liverpool & Manchester Railway (LMR) as a passenger-carrying railway encouraged the business world in the North West of England and London to establish a link between the LMR and the Metropolis. The northern arm of such a trunk line would link Liverpool with Birmingham: this was the so-called Liverpool & Birmingham Railway, an early title that blossomed into the more impressive Grand Junction Railway.

The southern arm between Birmingham and London would be the longer of the two, totalling a distance of 112½ miles. Moves in this direction were made in 1830, when two prototype schemes were proposed and rejected. The two schemes joined forces under the title London & Birmingham Railway (L&B). *The Lancaster Gazette*, 9th October 1830, reported that "The two companies formed for the purpose of constructing railways between Birmingham and London



Map reproduced by courtesy of *The Railway Magazine*.

A further attempt in obtaining an Act of Parliament was made in 1832. It met with stiff opposition from landowners who perceived that the line would be deleterious to their estates and residences. The railway company did all in its power to allay the fears of the gentry. The following is an abridged version of the 1832 prospectus, which appeared in *The Morning Post*, 3rd July. The proposed trunk line would be:

"A line from the Liverpool & Manchester Railway at Newton to London, way of Birmingham, will unite the two greatest seaports in the kingdom. The proposed railway from London to Birmingham forms part of this great national line. Its





THE LONDON & 2-1838 **PART ONE**

length will be 112½ miles; the cost will be £2,000,000. The railway will probably not be used to convey coals, lime, and other heavy articles, which comprise the chief traffic of canals; and will, therefore, very little, if at all, interfere with the interests of the canal proprietors.

“The engines will burn only coke and cause no smoke; the carriages, going at the rate of a mile in three minutes, will only be a part of the time in sight and hearing from any one place. The railway does not intersect with any park or pleasure ground, or approach so near as to be an annoyance to any considerable mansion.”

Such assurances failed to impress the gentry. The principal opponents comprised several influential bigwigs: the Earl of Harrowby, the Countess of Bridgewater, the Earl of Essex, the Earl of Clarendon, Lord Norwick, Sir John Filmer, the Ryder family and others. Their opposition to the L&B was based upon three notions:

1. Large embankments would be necessary in low-lying areas and deep cuttings through high ground, both of these disfiguring and injurious to estates, farmland and properties.
2. A trunk line was considered unnecessary because passengers and goods were already conveyed by canals and roads.
3. The undertaking had been projected without the benefit of local knowledge and support – it was based upon false calculations.

The Newcastle Courant, 21st July 1833, reported that “The London & Birmingham

The southern portal of Primrose Hill Tunnel was an impressive one. Built of stone, Whishaw considered the ornamental design to be too flamboyant. Within the tunnel, the walls and arched roof were lined with three layers (rings) of bricks, held in cement. The invert (the corresponding subterranean arch) consisted of two layers of bricks. It appears in the image that work continues, judging by the loaded trolley and the two men nearby. On the other side of the lines, close to the portal, a lone policeman stands outside his timber shelter.

LMS 5XP ‘Jubilee’ 4-6-0 No.5559 (yet to be named *British Columbia*) vigorously attacks the climb of Camden bank heading a northbound express out of Euston c1935. (Pendragon Collection)





Harrow & Wealdstone station in LNWR days, being visited by 'Precedent' 2-4-0 No.1532 Hampden. The branch to Stanmore had opened in 1890. (Pendragon Collection)

Bill was, on Tuesday [17th July] thrown out in a Committee of the House of Lords, upon a resolution that the promoters had not made out such a case as would warrant the forcing of the railway through lands and property of so great a proportion of dissentient landowners, and it was decided by a large majority that the preamble had not been proved."

Undaunted, the nascent body of directors made yet another application to Parliament for an act of authorisation. A modified route was produced, the line now passing through Pinner (near Harrow), Watford, Leighton Buzzard, Stoney Stratford, Blisworth, Daventry, Rugby, Coventry and on to Birmingham. There were to be nine tunnels: the longest, Kilsby Tunnel, bored through Kilsby Ridge, was forced on Robert Stephenson by opponents of the scheme: it was to raise difficult engineering problems. A new estimate of the total cost of the railway was £2,500,000, the anticipated revenue set at £730,692. Daventry was bypassed three miles to the east. Eight tunnels were actually constructed.

In the 19th November 1832 issue of *The Morning Chronicle*, space was generously allocated to a report entitled 'Advantages of the London and Birmingham Railway'. This was based on the opinions of several traders, merchants and others who would benefit from the railway. Two examples will suffice to show the level of support.

Mr. Hellmsley, a director of the Union Kent Glass Company, said "the swiftest conveyance of goods at present was by fly boats, which are four days on the road"; 1,500 tons were received in London from the Company's factories at Birmingham every year. The breakage of glass in transit amounted to 2½%, therefore the glass company sustained a loss of £5,000 a year." On a railway the breakage of glass would not amount to a half per cent."

Lt.-General Gordon averred that a railway would afford excellent facilities for the transport of troops in an emergency. This

was a cogent reason for supporting rapid movements of the military to quell civil unrest (this was at time of the rise of Chartism) and the riotous behaviour of railway navvies.

The Leicester Chronicle, 1st December 1832, stated that "The Directors have come to an arrangement with the noblemen whose opposition led to the failure of the bill last Session in the Lords, and this important undertaking is now likely to obtain the sanction of the Legislature." In the event, in April 1833 the L&B Bill was read a third time

and passed and a month later, on 2nd May, the Lords announced that Royal Assent had been granted. The L&B Company was incorporated on 6th May 1833.

Construction commenced in the same year. *The Essex Standard*, 17th August, noted that "The London and Birmingham is at length commenced, excavations are now going on in the fields between London and Hampstead, and the whole undertaking will doubtless be completed in less time than it has taken to get the Act of Parliament. For the first twenty

The Watford Viaduct spanned the valley of the River Colne. The structure (portrayed by Bourne) was built of brick with the usual stone dressings (copings and imposts) and consisted of five semi-circular arches, each of 30ft span. Two land arches are found at each end. The greatest height above the river was 35ft and a width of 28ft separated the parapets. Lecount made the following observation about the viaduct: "The construction of this bridge [viaduct] was a work of considerable skill and labour, the foundations being of the loosest material possible; in fact, it may be almost called a floating bridge – for it rests entirely on platforms of wood, having sheet piling to protect them. The cost of its construction was little less than £10,000."



miles of its course, the railway is intended to follow the track of the Grand Junction Canal.”

The first meeting of the L&B directors and shareholders was held at the City of London Tavern, 19th September 1833. It was made known that equal portions of the railway had been placed under the superintendence of local committees. Robert Stephenson was appointed Engineer in Chief. Eleven directors recommended that the line at the London end “should be finished with expedition, from a conviction that the novelty and convenience of a railway contiguous to the metropolis would excite general interest, and prove an early and productive source of revenue to the Company”.

Early progress 1834–1834

At the first half-year general meeting, Captain Moorsom stated that the whole of the line from London to Birmingham had been staked out and levelled, with the exception of a few points, and that the plans and specifications for 70 miles of railway would be ready for inspection on 1st March 1834.

The Lancaster Gazette, 17th May, reported that “tenders have been accepted for executing the first 21 miles from London...on terms which are considered very favourable, this being, in many respects the most expensive part of the line”. Further contract advertisements were to appear for the section of line between Coventry and Birmingham.

On 2nd August *The Essex Standard* reported the level of progress made: “The work to be done in the immediate vicinity of the London end of the road is to raise an

embankment across Pancras-hill to make a nearly level way. The men are now cutting through a depth of ten feet a day, and the road is made on a trifling descent...after proceeding by cutting away the earth about 100 yards further...to commence a tunnel, which will go under the foot of Primrose-hill, and under the new road to Bilburn [*sic*], Kilburn.”

To facilitate conveyance of excavated material to form the embankment a temporary tramroad was laid. Horses were used to haul the four-wheeled wagons, this daily activity resulting in an accident to one young worker. *The Standard*, 7th October, enlightened readers of the incident: “Yesterday afternoon, between two and three o’clock, a fine lad, named John Crisp, aged 12, son of a labourer employed on the London and Birmingham Railway, whilst in the act of unchaining one of the horses attached to a large waggon filled with earth, was thrown down across the tram road, and the waggon [weighing three tons] passed over him.” One of his legs was crushed and he was immediately taken to Middlesex Hospital where it was deemed essential to amputate his stricken leg.

The Birmingham Gazette, 23rd February 1835, noted the company’s intention to extend its line from Camden to Euston Grove: “The Directors believing that it would be for the interest of the Company that passengers by the railway should have a nearer access to the metropolis than is afforded by the station at Camden Town, caused surveys and estimates to be made of a line, which the Engineer recommended, about a mile in length, without

a tunnel, from the present termination to Euston Grove.”

On 3rd July 1835 the L&B Company successfully obtained a second Act for the purpose of extending the railway from Camden Town (the initial location of the terminus station) to Euston Grove, a distance of 1¼ miles, and also the authorisation to arrange a loan to the value of £165,000. Concurrent with this decision to extend to Euston Grove the company was beset with a major accident at Watford Tunnel. *The Morning Post*, 18th July, presented the ‘Fullest Particulars’ of the ‘Awful Occurrence’ at the London and Birmingham Railway.

“Thursday morning [16th July] the town of Watford, and the country for many miles round, was thrown into a state of the greatest excitement and alarm, in consequence of a report gaining rapid circulation...that one of the shafts of the tunnel...had fallen in, and been attended with an immense sacrifice of human life.”

The shaft affected (one of four) in the 1,700-yard long tunnel was a gin shaft, about 90ft

LMS ‘Coronation’ No.6224 Princess Alexandra speeds the ‘Coronation Scot’ across the embankment at Watford in 1937. The 70ft high embankment along the Colne valley, consuming over a million cubic yards of earth in its construction, was completed in 1937. Note the access steps for Post Office staff to the mailbag collection net.
(Pendragon Collection)





Watford Tunnel was 1 mile 70yd in length, cut through chalk with intermixtures of sand and gravel. LMS Class 5 4-6-0 No.5350 leaves it behind with a lightweight four-coach express in the late 1930s.
(Pendragon Collection)

in depth below an elevated platform “erected for the purpose of moving the earth”. From the bottom of the shaft, two headways, about nine feet in length, had been bricked, whilst a third heading had just been mined and awaited the night shift bricklayers (comprising five bricklayers and six labourers) to form the tunnel brickwork. In removing the timber supports the earth gave way, bringing the timber shattering with it and leaving a void of about 35ft deep and about 40ft in breadth. The night gang and a horse were buried beneath the mound of earth. Sixty men bravely extricated the deceased men and the dead horse. In a rare display of empathy, the Earl of Essex and Lord Clarendon expressed concern for the bereaved families. A liberal subscription was arranged by the inhabitants of Watford.

On 7th October 1835 *The Times* carried a contract advertisement for the extension line to Euston Grove: “The London Committee of Directors of the London and Birmingham Railway Company will meet at the Railway Office, 83, Cornhill, on Wednesday, 18th November next, at 1 o’clock precisely, to receive TENDERS for MAKING and LAYING the RAILWAY, finding all the materials, except the permanent rails, chairs, keys, pins, blocks, sleepers, and trenails, from the crossing of the proposed line of railway over the Regent’s Canal near Camden Town, to the intended depot at Euston-grove, Euston-square, being a length of about 86 statute chains, with all excavation, embankments, retaining walls, bridges, culverts, roads, gates and fences complete, and to keep the whole in repair for one year after completion.”

Six weeks later *The Sheffield Independent*

reported that company had announced that it was ready to receive tenders “for the supply of locomotives” which would be put into service on the London to King’s Langley line (fifteen miles) as from 1st January 1837. The successful contractor was expected not only to manufacture suitable locomotives but also to keep them in repair. Progress had really taken a positive stance.

‘RIOT AMONGST THE LABOURERS ON THE LONDON AND BIRMINGHAM RAILWAY, ON BOXMOOR’

News spread quickly of a riot that took place in and around the Sun Inn on Monday 14th March 1836. A master bricklayer, working under Messrs. Cubitt, the contractor, had some ninety bricklayers in his charge, plus a number of labourers. Saturday evening was pay day, but unfortunately, the master bricklayer had insufficient money to pay the men, a situation which met with anger: they refused to work on the following Monday.

The evening before there had been a quarrel between an English and an Irish navvy, resulting in the former being badly injured and taken to hospital. This was the catalyst for Saturday night’s fracas. Some of the Irishmen were armed with sticks and used them to force the English contingent out of the inn’s backyard and on to the turnpike. Despite the efforts of a railway superintendent to quell the rioting, he was threatened and wisely backed off.

English navvies from other parts of the work joined their compatriots, and finally overpowered the Irish who fled into the woods and neighbouring lanes. Some were caught and badly beaten. With the aid of the local constabulary, about fifteen of the navvies (both English and Irish) were rounded up and spent a night in the Berkhamstead lock-up. The fifteen appeared before a magistrate in the King’s Arms in Great Berkhamstead: seven were committed for re-examination at Hemel Hempstead. Meanwhile, the police hunted

for the known ringleaders. During this time little work was carried out on the line in the Boxmoor area.

At the sixth half-year meeting of the company, held on 5th August 1836, the directors were able to report that “the whole line of road is expected to be completed by the summer of 1838, and the first 21 miles from London in the spring of next year”. Formidable difficulties had been overcome in the tunnels at Primrose Hill, Honeypot Tunnel, Watford and Kilsby.

Kilsby Tunnel deserves attention in its own right. Published in 1849, William Whellan’s *Gazetteer* described the immense problem encountered during 1836 and 1837. “Difficulties of an unusual character presented themselves during the completion of this tunnel. These arose from the existence of an extensive quicksand in the line of the tunnel. Extra shafts were sunk, and four powerful pumping engines erected which continued to pump from the quicksand for six months, with scarcely a day’s intermission, at the rate of 1,800 gallons per minute, till at length the difficulty of tunnelling in the sand was reduced, though the operation was still one of extreme difficulty and danger.”

On 12th March 1836 J. Newell & Sons relinquished their contract on the tunnel: the firm gave up in desperation. Robert Stephenson took over, determined to extract the quicksand water, despite the intercession of Captain William S. Moorsom who suggested that assistance should be called for. Doggedly, Stephenson remained optimistic. Moorsom’s report to the company reflected this optimism, although it was not shared by them. After thirteen months of pumping, the directors felt that the time had come to cease work on the tunnel. In the end Stephenson was given a further six months to solve the problem, otherwise the tunnel project was to be abandoned.

The engine houses were located on the northern fringe of the Kilsby Ridge, the twin





chimneys indicating that there were two steam engines driving the subterranean pump via a mechanism on the surface. In total, Stephenson employed thirteen pumping engines and twelve steam engines. The groundwater was pumped to the surface and discharged by pipes, probably into a local river.

The L&B station at Tring was designed by George Aitchison and constructed by W. & L. Cubitt for £16,885. Francis Whishaw considered that the station was “inconveniently placed in a cutting”. Access to rail level from the top of the cutting was by means of a flight of steps for foot passengers “and a sloped road for the private carriages to be embarked or disembarked at the carriage dock”. A separate passage leading from the railway permitted passengers arriving by train to exit the station. The original station was replete with facilities: booking office, waiting room, urinals and water closets (placed well away from the general waiting area “on the other side of the offices”). This LNWR view is looking north towards Linslade and Cheddington. The single line bay would be used for loading and unloading road vehicles. Two coupled locomotives await departure at the island platform. (Pendragon Collection)

The Manchester Times, 24th September 1836, made light of the quicksand water, informing readers that the problem “will be speedily overcome”. Furthermore, “Two additional steam engines and pumps are just about to be erected, to aid the draining of the quicksand, at the earliest possible period.”

It was discovered that below the quicksand lay beds of compact limestone and hard blue clay. The water level had already been reduced 15ft and only about 13ft remained to be pumped out. F. B. Head, writing in 1849 and published in his book *Stokers and Pokers*, commented on the final success: “By the main strength of 1,250 men, 200 horses, and 13 steam engines, not only was the work gradually completed, but during night and day, for eight months, the astonishing and almost incredible quantity of 1,800 gallons per minute from the quicksand alone was raised by Mr. Robert Stephenson and conducted away.”

The effects of the influx of 1,250 navvies and 200 horses upon the small village of Kilsby were profound. Barns and outhouses in the village were occupied by the navvies, while a camp of tents and mud huts sprang up on Kilsby Ridge. The horses also had to be stabled, fed and watered. Again F. B. Head noted that “Besides the 1,250 labourers employed in the construction of the tunnel, a proportionate number of suttlers [*sic*] (sutlers) and victuallers of all description concentrated

Whishaw noted that “There is scarcely a portion of this line, from one end to the other, which is not either carried by embankment above the general surface of the country, or sunk below by means of excavation.” This fact alone caused enough problems, added to which were the tunnels. Bourne’s image shows the excavation of the 2½-mile-long Tring Cutting and the method of carrying the spoil from the base of the cutting to the top by means of wheelbarrows hauled up wooden planks, guided by men. This was a dangerous operation: many accidents occurred due to slipping and overturning of men and barrows. Lecount and Roscoe were well aware of the danger: “It is a fearful practice; and should any accident occur, by the breaking of a rope or restiveness of the horse, the workman is precipitated to the bottom in an instant.” The date of this J. C. Bourne image is 17th June 1837.

on the village. In several houses there lodged in each room 16 navvies, and as there were four beds in each apartment, two navvies were constantly in each; the two squads of eight men alternately changed places with each other in their beds as in their work.” (*Stokers and Pokers*)

In addition to the problem of finding



accommodation for the workforce, Kilsby village witnessed the recreational activities of the rough men in bouts of drinking, inebriation, petty thefts, dog and cock fighting and fighting each other. On more than one occasion, the military had to be called in to quell the disorder and anti-social behaviour. Kilsby, for a few years, was an unpleasant place to be.

The winter of 1836/7 was particularly severe for a period of four months, the consequence of which was that all construction work was very much impeded. Nevertheless progress picked up in the spring: the first 21 miles from London were expected to be opened by the summer of 1837 and the line to Tring (30 miles from London) was anticipated to be open by autumn of that year. By March 1837 it was reported in *The Standard* that Watford Tunnel, one mile and seventy yards long, 25ft high and 24ft in width, was completed. It had been a difficult job, driving a tunnel through mixed sand and gravel. The embankment along the Colne Valley, Watford, some 70ft in height, was also finished.

Good news was impaired by the occurrence of “a dreadful accident” caused by the falling of an iron bridge very recently

thrown across the Grand Union Canal at King’s Langley. A report in *The Standard*, 2nd March, drew attention to the fact that “the bridge was considered to be perfectly strong, but on the morning of Monday, 27th February, it suddenly gave way and broke...[and] it fell upon the engineer and killed him on the spot [the engineer is not named]. Six unfortunate men were thrown into the canal; drags were immediately obtained, and they were taken out of the water and conveyed to the infirmary”. Four of the men were not expected to survive.

“Observations have been made by eminent medical men upon the effects which produce upon the human frame. The question is an important one, not only to those who are engaged in the construction of railways, but also to the public, who are eventually to travel by them.”

Primrose Hill Tunnel had been driven through London clay: it was lined with brickwork throughout its length of 3,750ft. Whishaw states that the tunnel “is of three bricks in thickness, and built in cement, with an invert of two bricks”. An inspection of Primrose Hill Tunnel was made by Drs. Paris and Watson, accompanied by Messrs. Lawrence, Phillips and Lucas. Their report

begins with the above justification of the inspection; the following is an abbreviated version of their report.

“The experiment was made under unfavourable circumstances. The western extremity of the tunnel being only partially open, the ventilation is less perfect than it will be when the work is completed. The steam for the locomotive engine also was suffered to escape for 20 minutes, while the carriages were stationary near the end of the tunnel; even during our stay near the unfinished end of the tunnel, where the engine remained stationary, although the cloud caused by the steam was visible near the roof, the air for many feet above our heads remained clear and apparently unaffected by steam or effluvia of any kind; neither was there any damp or cold perceptible.”

The atmosphere inside the tunnel was found to be dry and “of a very agreeable temperature, and free from smell”. As the train passed through the tunnel, the carriage lamps were lit and the sensation was similar to travelling in a coach at night “between the walls of a narrow street”. Moreover, the noise of the train moving through the tunnel did not prevent normal conversation.

The overall opinion of the five men was that because of effective ventilation, there was no danger in passing through well-ventilated tunnels, nor more than in travelling by train in the open or by coach along a turnpike road. Apprehension, which had been expressed by the public, that tunnels were detrimental to health, was groundless.

The village of Kilsby and the associated tunnel appeared as a news item in *The London Dispatch*, 7th May 1837. Instead of expending energy on working, the navvies engaged in working on the tunnel assembled to watch a fight between two of their compatriots. While the fight was in progress the clergymen of Kilsby attempted to intervene and restore peace. This, however, prompted the fighting to continue and the local police tried to restore order until threatened by the horde of navvies, some of whom made their point by smashing the windows of the Devon Ox public house and the windows of the police station. During the fracas, four incarcerated navvies were released by their comrades from the local lock-up. Someone had the mind to send for the military which, on arrival, arrested thirteen of the rioting mob. After a night in Northampton gaol, they awaited trial at the next sessions. The inhabitants of Kilsby stayed behind locked doors until the trouble was over. Meanwhile, a day’s work on the tunnel was lost.

In the summer months of 1837 the Kilsby riot had been forgotten. The L&B Company now concentrated on essential matters prior to the opening of a section of the railway. *Berrow’s Worcester Journal*, 8th June, reported a mundane procedure in preparation for laying track, that of kyanisation of timber sleepers. “The tanking process for the preservation of rot in timber...becomes daily more used by builders; and we hear that a contract for six thousand sleepers is now landing at the Anti-Rot Company’s wharf at Sheepcote Bridge for immersion in the tanks.” (Sheepcote Bridge was located on the Birmingham Canal Navigation, Birmingham.)

(to be continued)

Peter Lecount’s description of Kilsby Tunnel includes a reference to the Great Shaft, which had been commenced in May 1836, taking twelve months to complete. “This shaft is sixty feet in diameter, and 132 feet deep; the walls are perpendicular and three feet thick throughout, the bricks being laid in Roman cement.” In this image, the walls and the shaft remain to be bricked. Bourne’s engraving is of one of the main shafts and illustrates that he had the temerity to walk through the tunnel ere it was completed.





Green Lane Junction in the late 1950s where we have an excellent example of the old joint tradition of a Western Region train hauled by an London Midland locomotive. Stanier Mogul No.42977 is on the up slow line with a local passenger train whilst ex-GW 2-6-0 No.6346 hauls coal empties for the Wrexham area on the up fast line. At that time both were Birkenhead engines. Note the pannier tank shunting in the siding and the new coaling plant behind the old LNWR-type signals. (J. A. Peden)

The routes described, south from Birkenhead

* Indicates stations with booking halls and facilities sited on an overbridge.

As already described, the main line ran as four tracks from Grange Lane where at Blackpool Street Junction the dock lines joined from the west side of the main line which came up from the Woodside Tunnel and the old Town station. On the east side lay an expanse of carriage sidings between the main line and Cammell Laird shipyard. That being served by a private siding complex, with its own bridge crossing the New Chester Road which ran below and parallel to the railway. Continuing as a four-track main line with the fast lines on

THE GREAT WESTERN IN WIRRAL

**PART TWO
BY TONY ROBINSON**

the east side of the formation, Rock Ferry was reached where the Mersey electrics terminated having run along the western side of the line since surfacing at Green Lane Junction.

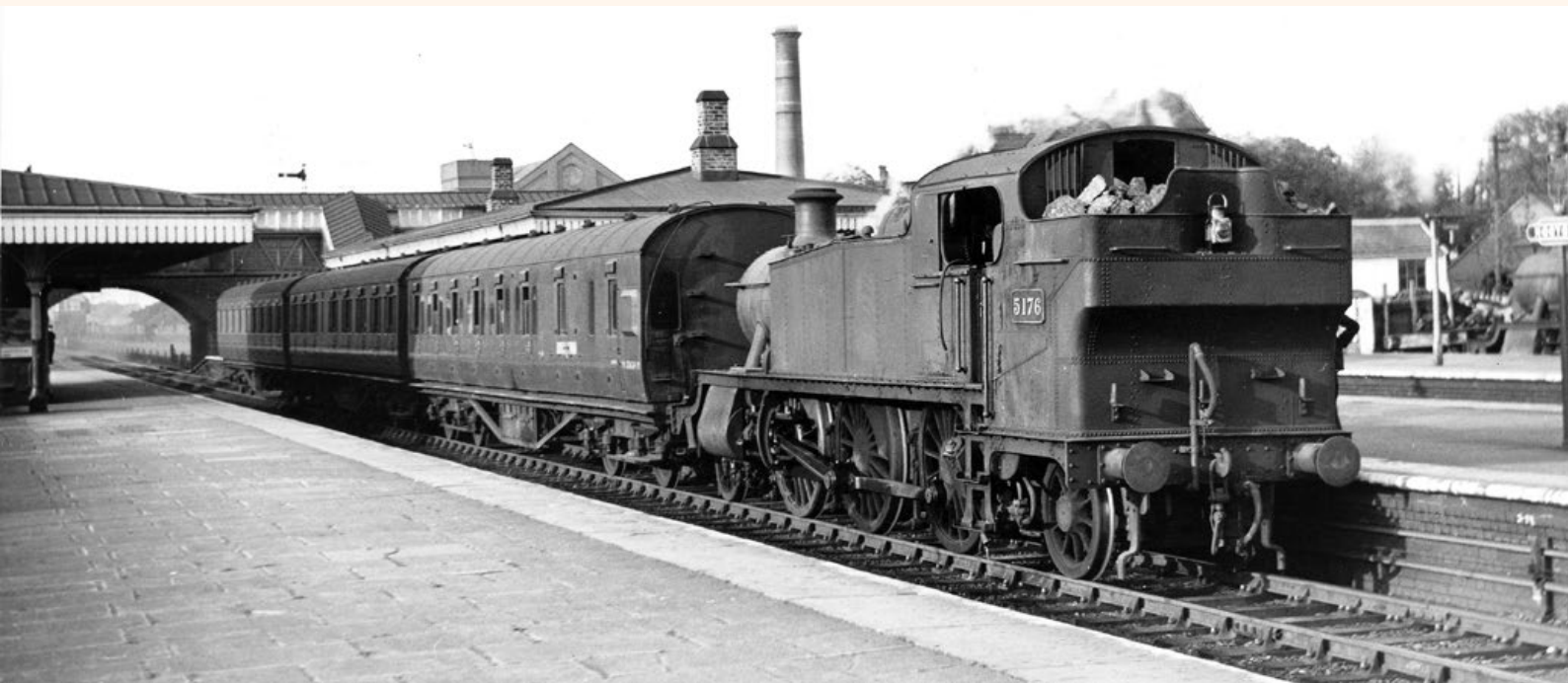
Typical of several main line Joint stations Rock Ferry had an overbridge with booking hall facilities on it. It had four main line platforms and a two-platform bay for the Mersey electrics which until 1956 were predominantly of old Westinghouse stock redolent of American subway trains. The following main line stations of Bebington, *Spital and *Bromborough were all of four platforms with the exception of two-platform Port Sunlight which was built later to serve the Lever Brothers' soap works. Hooton was reached after just over five miles and at an approximate midway point between Birkenhead and Chester. As mentioned previously there were two junctions here necessitating six main line through platforms. An array of sidings on both sides stretched out towards Chester. A single platform bay served

local trains for the Ellesmere Port and Helsby line which branched off to the left (east) shortly after leaving the station. On the opposite side of the line branching off on a westerly curve, commenced the West Kirby branch.

The Great Western Railway had a sub-shed of Birkenhead at Hooton on the up side of the line just on the Chester side of the station. The allocation was known to be small tank engines of the '517' Class 0-4-2T, '3571' Class 0-4-2T and '645' Class 0-6-0ST. It was closed in 1916 and later converted into a goods shed.

From Hooton the line was flanked by several loops and sorting sidings and continued south east as a four-track main line. The slow lines as before being on the

Bunker first with a West Kirby-bound local of ex-LMS suburban stock, '51XX' 2-6-2T No.5176 of 6C shed stands at Hooton on the up slow platform in August 1954. A classmate stands in the Helsby bay nearby. (N. R. Knight)



west side of the formation, the four platform *Ledsham station was reached after a mile, then a mile further on the four tracks became two at Ledsham Junction signal box. Two tracks were the order from here right through to Brook Lane Bridge at Chester, passing first through Capenhurst station. In post-war years there was an extensive Nuclear Fuels plant on the west side of the line and it is known that this generated a considerable volume of traffic between here and Aldermaston, this of course being over the old GWR route south. Perhaps of all the stations on the Wirral main line Capenhurst was the most charming in appearance, being a typical country station with house and adjacent booking hall with awning attached.

From Capenhurst the line ran slowly downhill via a two-mile cutting to Mollington station (closed 1960) where on the down side there was a rail-served oil depot, shortly afterwards crossing Moston Viaduct over the Chester–Ellesmere Port leg of the Shropshire Union Canal. This was the most substantial piece of civil engineering on the line and its cost was believed to have precluded the building of a mating structure to accept the continued quadrupling of the 1902–1908 period. A further mile or so brought the line to the outer extremities of Chester and here a small station called Upton-by-Chester was built with staircase entries to its two platforms from the A41 road overbridge; the writer clearly remembers seeing ‘GW & LNWR Joint Railways’ written on the LNWR-style bridge plate.

Because of the geography of this article we will stop just short of Chester at Brook Lane Bridge where the Cheshire Lines Committee’s Chester–Manchester Central line crossed over the Birkenhead Joint line tracks on the northern edge of the Chester West triangle.

Hooton to Helsby

The Hooton–Helsby route was hardly what one would term a secondary line as it was a

‘51XX’ Class 2-6-2T No.4124 is ready to depart Helsby on the 5.22pm for Hooton and Woodside in June 1956.

(David Chatfield)



Capenhurst in August 1958 with ‘57XX’ Class 0-6-0PT No.9728 on a lengthy up van train, probably a Grange Lane to Chester Brook Lane or Saltney local working.
(H. Leadbetter Collection)

major source of freight traffic to both the Joint line owners. It ran absolutely straight for seven and a half miles, mainly between the oil refineries and associated industrial complexes. As mentioned previously, it was a major route for traffic from Birkenhead Docks to the main industrial areas of Lancashire and north Cheshire. A large (Shell) oil refinery sprang up at Stanlow before the war and this together with various post-war associated chemical factory developments provided a great deal of the area’s freight traffic. The Great Western enjoyed growing revenues for tanker traffic between the refinery at Stanlow and various oil depots in the West Midlands, Rowley Regis being a major recipient of such traffic. Trains would, of course, need to reverse at Hooton before proceeding south via the Chester ‘cutting’ and in order to ease movements during busy periods the various loops and sidings south of the station were regularly put into use for both the marshalling and storage of tank wagons.

Apart from the extensive oil refinery sidings there were private feeder lines from the Manchester Ship Canal Company as well as Bowater’s Paper Mill which (along with the Shell refinery) used their own locomotives for movements on their internal systems. A small two-road LNWR-pattern engine shed stood at Ellesmere Port which was sold to the Manchester Ship Canal Co. in 1921 and was operating until 1961 to facilitate servicing of shunting locomotives employed on their various siding complexes. There were stations at Little Sutton, Ellesmere Port and Ince which were supplemented by a workers’ halt at Stanlow & Thornton. The local passenger trains either ran direct from Woodside or the bay platform at Hooton, with motive power for this traffic being equally shared between the GW and LMS companies. About a mile before Helsby was reached the line ran alongside the south side of the post-war Ince ‘A’ power station which was essentially built there to power the vast nuclear fuel facility at



Capenhurst as well as being a national grid feeder station. Shortly after this point West Cheshire Junction with the Cheshire Lines was reached where a branch from Mouldsworth would bring London & North Eastern Railway locomotives on to the scene in pre- and post-war years. Helsby was reached after a further half mile where the line connected with the GW&LNW Joint line from Chester to Warrington. The line from Hooton ran into separate platforms and shared a still extant signal box in the 'V' of the junction with the line from Chester.

The West Kirby branch

As explained earlier this single line branch was built in two distinct stages. The first in 1866 was from Hooton to Parkgate to facilitate access to the Wirral Colliery. This had a short branch off it in a south easterly direction down to the pit head sidings on the shore of the Dee estuary. Passing loops were available at Hadlow Road (Willaston) and Parkgate stations and the line was extended to its full twelve miles in 1886 through to West Kirby where it had a junction with the Wirral Railway. The line terminated here and so had a separate single platform station. Again there were passing loops with signalled sections at Heswall and Thurstaston with single platform halts at Caldy and Kirby Park.

This line was somewhat bucolic by the standards of the other Wirral line; but for the 'giveaway' signalling it presented itself very much photographically as a typical Great Western country branch line especially when seen with a '14XX' 0-4-2T-powered motor train. Stations were well kept and there were seasonal competitions between the various station masters who liked to show off their gardening expertise.

Whilst traffic was light it was essentially a commuter line for the residents of the more affluent areas of the Wirral to facilitate access to Liverpool, either via Hooton and Rock Ferry in one direction or via West Kirby and the later electrified Wirral and Mersey Railways in the other. One suspects the latter was by far the quicker for people using stations north

GWR Fast Freight Departures Pre- and Post-War, to and from Morpeth Dock, Birkenhead			
Departs	Time	Destination	Train name
Morpeth Dock	3.55 pm	Smithfield	<i>The Meat</i>
Morpeth Dock	6.05 pm	Pontypool Road	<i>The Feeder</i>
Morpeth Dock	8.20 pm	Paddington	<i>The General</i>
Morpeth Dock	9.05 pm	Cardiff	<i>The Mersey</i>
Morpeth Dock	10.50 pm	Bordesley Jct.	<i>The Birmingham Market</i>
Morpeth Dock	11.35 pm	Oswestry	<i>The Cambrian Pioneer</i>
Bordesley Jct.	9.10 pm	Morpeth Dock	<i>The Shipper</i>
Bristol	6.50 pm	Morpeth Dock	<i>The Farmers Boy</i>
Paddington	9.10 pm	Morpeth Dock	<i>The Northern Flash</i>
Wolverhampton	2.45 am	Morpeth Dock	<i>The Northern Docker</i>
Wolverhampton	12.45 am	Morpeth Dock	<i>The Flying Skipper</i>

of Parkgate. However, Hooton was a major changing point for Chester and stations further south. On weekdays there were six trains either way with only three on a Sunday. Pre-war a special 'club car' was provided for first class passengers on the 8.40am from Heswall and the 5.15pm from Woodside. Whilst the line was jointly worked by engines and crews from Birkenhead 6C, the Great Western contingent was represented by the '51XX' Class 2-6-2Ts and the small '14XX' 0-4-2Ts running on motor train; these small engines were unpopular when running bunker first due to poor visibility. Apparently the LNWR ran a competing direct carriage from West Kirby to Euston, no doubt beating any Hooton-Paddington offerings by a considerable time margin!

Passenger workings were pretty equally shared between the LMS and GW from Birkenhead as were the infrequent freight workings. The West Kirby turntable was removed some years before closure, with the last scheduled passenger train being worked by GW '51XX' Class 2-6-2T No.4122 on the evening of 15th September 1956. Apparently that train contained a van with two circus elephants in it which were heard to trumpet their own salute as they left West Kirby (probably brought on by the detonators placed on the track for the occasion!). Complete closure to freight followed in May 1962, the entire trackbed now forming the 'Wirral Way', a pathway for cyclists, walkers and riders

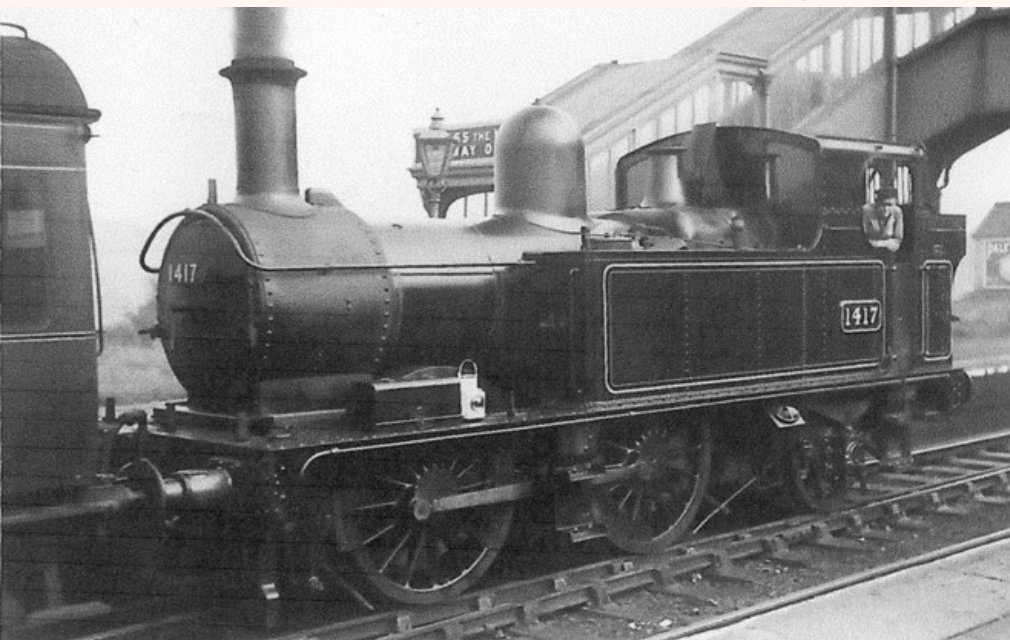
to enjoy with Hadlow Road station nicely preserved for posterity.

Freight traffic to and from Birkenhead

The majority of up Great Western freights were listed as starting from Grange Lane which was the mass of sorting sidings between Blackpool Street and Green Lane Junction. In reality, however, the main starting point was the docks. Whilst some short freight trains were worked up from the Morpeth and Cavendish Docks by a pannier tank to Grange Lane for marshalling prior to departing as a complete train to further destinations, many complete workings originated directly from the docks. These long-distance workings were invariably Class C or D fitted trains in the later years and in true time-honoured GW fashion acquired 'official' nicknames from the goods staff. The names applied to both up and down trains and lasted well into the nationalisation period post-war. Perhaps the most celebrated of the up evening workings was that known as the 'General'. This train was for many years regularly hauled by one of Churchward's celebrated '47XX' mixed traffic 2-8-0 class. Records taken by local enthusiasts reveal these locomotives worked this train regularly right up to 1963 although the 4-6-0 'Halls' and 'Granges' were regular performers on this and the other Class C trains as well. 'Castle' Class 4-6-0s were also recorded on this working right up to 1963. See Table above.

There were over twenty up freight workings daily in the post-war years including the named ones with main destinations including Oxley Sidings (Wolverhampton), Croes Newydd and Bersham Colliery (both Wrexham), Oswestry, Bordesley Junction, Pontypool Road and Cardiff, as well as the express London freights to Smithfield and Paddington. These latter trains were usually worked at night by Birkenhead men as far as Coton Hill yard, Shrewsbury, where Old Oak men would take over. Anecdotes exist of the 81A men complaining about the lack of coal on tenders emanating from Birkenhead; one story relates how following a warning by the shedmaster, a young 6C fireman got a bit carried away at the coaling stage by stacking the tender of his '47XX' so high that, to the wrath of his driver, the coal hit a bridge when running light down the Sough tender first, bringing much of it down on to the footplate! The last recorded working of the 'General' by a '47XX' Class was on 31st May 1963 when No.4704 was in charge. This was by Barry Shore of the now defunct Merseyside Railway Society. After that date most workings (at least

Helsby station and '14XX' 0-4-2T No1417 is at rest in Platform 4 sporting the early BR mixed traffic lined black but without the 'lion on wheel' crest. (J. Lloyd Collection)





as far as Chester) were by Horwich 'Crabs' or Stanier 8Fs and Moguls from Birkenhead shed.

There were many local pick-up and trip goods workings mainly equally split on the Joint Line but the specifically GW ones would run between Grange Lane and Brook Lane (Chester), Ellesmere Port or Saltney yard (South of Chester). These trains were frequently hauled by 84K Chester West '57XX' 0-6-0 pannier tanks. Oil traffic from the Stanlow refinery to the West Midlands and south of Shrewsbury was worked by Birkenhead and Chester West engines and men. These trains, unfitted and with a brake van at both ends, would of course undergo reversal at Hooton.

A great deal of the dock traffic that ran on the joint lines became LMS as it invariably was destined for points further north and east but scrutiny of the dock map will reveal that the Cheshire Lines had a substantial goods station at Shore Road almost adjacent to the GW facilities. The traffic to and from this facility would not share but cross the GW/LMS line out of the dock complex and run on Mersey Docks & Harbour Board tracks westwards past Egerton, Vittoria and Cavendish Dock to join the Great Central line near Bidston beyond the West Float.

It is worth relating a wartime episode of sheer bravery concerning a Great Western man which was enacted at Morpeth docks during a night time bombing raid in 1941. He was a shunter named Norman Tunna and an incendiary bomb landed on a munitions train comprising sheeted wagons which was waiting to leave the yard. The wagons contained high explosive 250lb bombs and with the burning incendiary wedged between them and the sheeting ablaze, Tunna, exceedingly brave and quick-witted, tried to extinguish the blaze with water from the engine. When this failed he used his shunter's pole to force

Parkgate station in August 1954 and over six years after nationalisation '51XX' No.4129 with a 6C shedplate still bears 'G W R' on its tank sides. Thus are displayed the rivalries that lingered on between the old companies as this engine had emerged from a heavy general overhaul at Swindon in 1951 and that would have included a repaint! (J. McCann/Colour-Rail.com BRW1318)

the bombs apart and with his bare hands threw the burning incendiary away from the wagons. The driver and firemen also helped by drenching the burning device with a stirrup pump. For this action Tunna was awarded the George Cross. Two British Empire Medals and a George Medal were also won by his colleagues for their bravery on that dreadful night.

It is worth noting that the weekday freight traffic volume on the GW side of operations alone was copious in the post-war years with up to twenty departures from Birkenhead and up to fifteen arrivals over any 24-hour period. This traffic includes the named Class C and D trains listed previously. The official start and finish point of the freight workings is given as Brook Street but it can be taken that most of the traffic was originating at or bound for the docks. Clearly there would have been flows into and from the coal sidings and the shipyard's private sidings amongst others as part of this volume.

Sadly for Great Western fans the run-down of GWR power on freight duties after 1963 was pronounced, with final sightings by the summer of 1965 of 'Hall', '28XX' and 'Grange' Classes at what had then become 8H. Shortly after the complete (official) cessation of ex-GW classes at the end of that year, the traffic from the docks began its slow decline as container traffic started its inexorable takeover and most types of shipping traffic

were transferred to the opposite bank of the Mersey. Morpeth dock closed in 1972 and today the entire inland dock complex is all but out of use, with rail traffic at the eastern end of the docks having ceased in its entirety by the mid-1990s. Birkenhead Mollington Street sheds were closed for steam at the end of 1967 and became a diesel servicing depot until closure in 1985, complete demolition of the shed site taking place in 1987. Fortunately 'E' Bridge survives to this day as a reminder of what once was and has been nicely preserved, although incorrectly named 'Egerton Bridge'.

Passenger workings

As is typified in the photograph of a Paddington-Birkenhead Woodside passenger working, the bulk of the post-war Great Western main line passenger traffic on the Wirral was worked by engines of the '51XX' class of either Birkenhead or Chester West sheds. On rare occasions, or when a '51XX' was not available, specials were worked by GW tender locomotives of the '43XX' 2-6-0 Class or 'Hall' and 'Grange' Class 4-6-0s. In post-war years the GW (WR) main line destinations were, of course, those between Birkenhead and Paddington, routed mainly via High Wycombe. Secondary main line trains to Welsh destinations regularly operated to Barmouth and Pwllheli. They were augmented by the local 'joint' services to Chester, Helsby and West Kirby. In the summer period there were regular inter-Regional trains operating to the south coast via Shrewsbury, Birmingham Snow Hill, Oxford and Reading. These often comprised Southern (green) stock working through to Ramsgate and Bournemouth West. Engine changes took place at Chester (for reversal) and Oxford where a Southern locomotive would usually take over for the final part of a long journey that became known amongst LMS railwaymen as the 'Great Way Round'. In its post-grouping heyday, including



empty stock workings there were 'jointly' up to 163 passenger train movements in and out of Woodside over a 24-hour period and to handle this volume there were over 75 staff employed including the station master and inspectors.

The most important up daily express was named the 'Zulu' and this with a dining car departed Woodside at 11.40am which in pre-war days avoided Chester, only stopping briefly at a ticket platform which stood on the 'Cutting' avoiding line. This practice stopped when larger and faster locomotives were introduced in the form of the 4-6-0 'Saints' and 'Stars' which invariably backed on to the rear of the trains at Chester. The first down express train of the day left Paddington at 9.10am carrying a dining car and arrived at Woodside at 1.57pm, giving a journey time of almost five hours! I can't be sure but I believe this train was known as 'The Birkenhead Flyer' and so it's easy to see why the Euston-Crewe route was favoured for passengers heading for Chester and the Wirral from the capital! Journey times for this route in post-war years were in the order of just over three hours. Indeed many chose the Euston-Liverpool Lime Street and Mersey ferry route to get to Birkenhead. However, there was one service that was popular and that was the nightly sleeper from Woodside to Paddington departing around 9.00pm. After travelling at a leisurely pace it arrived in the capital around 5.00am and, from personal experience, passengers were allowed to remain in their cabins until at least 7.00am.

An unidentified '28XX' 2-8-0 seen taking water at Hooton prior to running around its ex-Shell refinery tanker train before proceeding south – clearly early 1960s with tender 'flashes'. (G. Parry Collection)

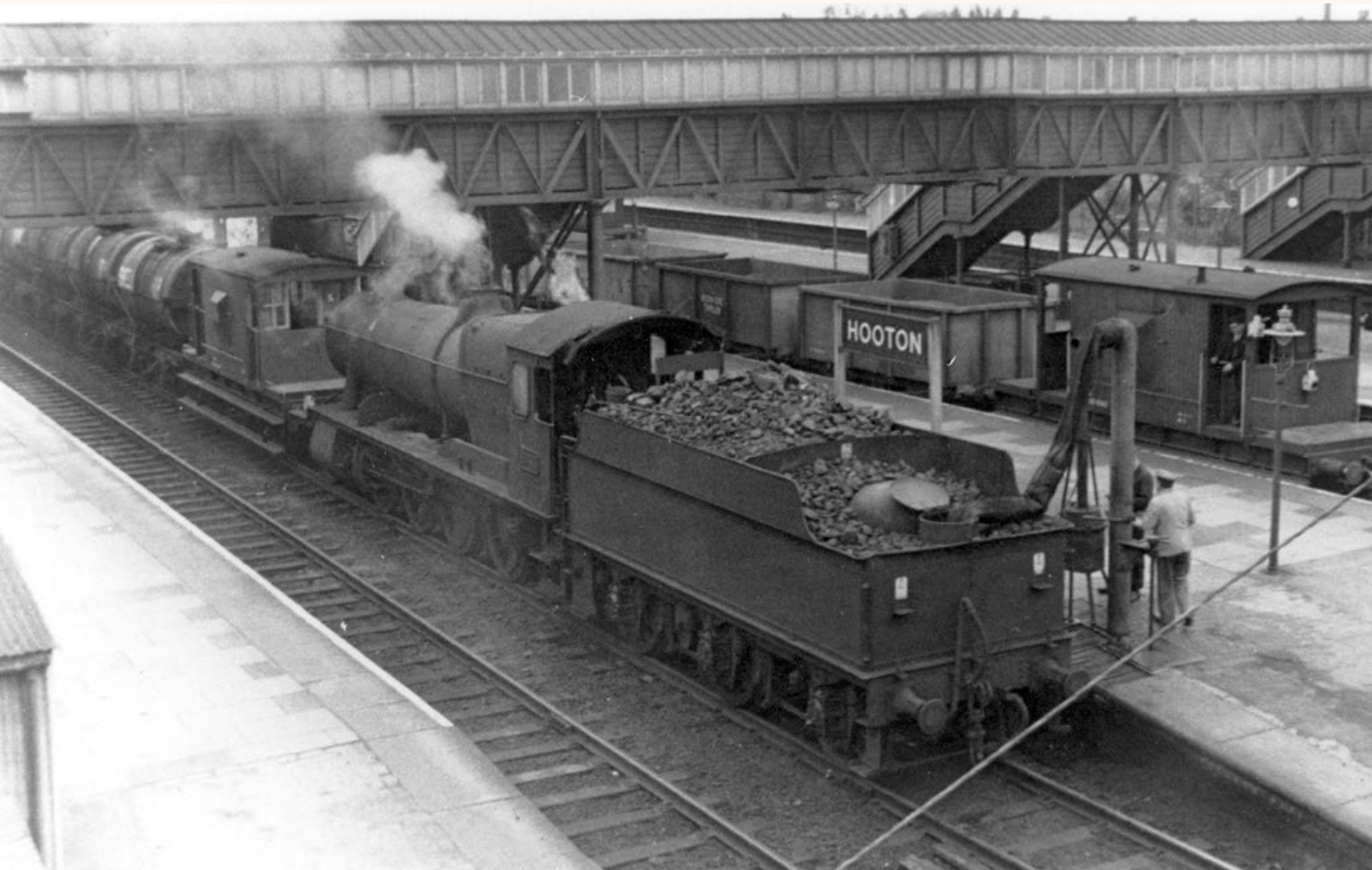


Old Oak Common's '47XX' 2-8-0 No.4704, once a 6C engine, slowly crosses 'E' Bridge with 'The General', a London-bound fitted freight in the late 1950s. (G. Parry Collection)

When this service ceased in 1967 I distinctly remember the Bishop of Chester complaining in the local press that he would no longer be able to leave his abode the night before to arrive nice and early for meetings at Lambeth Palace! This service was balanced by a down working on similar timings. Both trains ran via Reading and Didcot.

In post-war years all passenger trains heading from and to Birkenhead would reverse at Chester with an engine change taking place. The aforementioned 'southern' workings would arrive at Chester from the south and invariably they would have some coaches removed and put into overnight storage there, the reason being that the platforms at Woodside only had a capacity for about six bogies and a locomotive. Platform 1 was the longest at 537ft.

However, there was one annual exception to the reversal rule and that was the Grand National Aintree Special which ran on race day from Paddington to Birkenhead with only a stop at Shrewsbury, then using the 'Cutting' to by-pass Chester station, thus negating the need for a reversal. These trains were invariably hauled by a 'Castle' Class 4-6-0 in the post-war years. In the earlier years these excursions, probably hauled by a 'Star' or 'Saint' 4-6-0, deposited their well-heeled passengers at Woodside where a ferry would be taken to the Liverpool Landing Stage. Thereafter they were transported by charabanc to the Aintree racecourse. The trains were all first class and equipped with full dining car facilities. Fares were in the region of £5 for a full (day) round trip including meals and ferry etc (more than a





A shipyard crane dominates Cammell Laird's skyline as No.5103 of 84K Chester West heads past Green Lane Junction en route for Woodside with a train from Paddington in September 1958. (J. A. Peden)

week's wages for most pre-war!). After 1934 the Mersey Tunnel opened and the clientele was taken by private buses directly to the racecourse from Woodside station. It is worth noting that the larger tender engines were confined to using Platform 1 only at Woodside station due to curvature constrictions on the other platforms.

The Great Western Paddington–Birkenhead passenger service, which had begun in 1861, finally succumbed to the upgrading and electrification of the Euston–Crewe (LNWR) line of the London Midland Region in March 1967. Bearing in mind also that the old GW route north of Banbury had been under LMR control since September 1963, there was very little incentive for the new 'powers that be' to maintain an express through route which had become less and less competitive time-wise as the electrification had become live on the Euston line. The publisher Ian Allan Ltd. ran two 'Castle'-hailed specials on Saturday 4th March 1967 – No.4079 *Pendennis Castle* from Didcot



Built by Sir William Arrol & Co. in 1932, 'E' Bridge seen in January 2016. (Author)

and No.7029 *Clun Castle* from Banbury – to Chester which were taken on to Birkenhead by BR Standard Class 5s. The next day two Stephenson Locomotive Society specials ran from Birmingham and *Clun Castle* worked through to Birkenhead with its train, so laying claim to be the last GW locomotive to enter Woodside station. The locomotive was serviced and turned at Birkenhead shed before returning south.

Preserved 'Castle' 4-6-0 No.7029 *Clun Castle* rolls into Platform 1 at Birkenhead Woodside station on 5th March 1967, the last GW engine to work into the station which was demolished later that year. (Bevan Price, courtesy of Disused Stations website)



Acknowledgements

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Baldwin 2-8-2 No.46224 at the Open Air Steam Locomotive Museum, Ankara, Turkey. Works No.64511 of 1942.

COLONEL HOWARD G. HILL AND HIS TWO LOCOMOTIVES

BY DAVID HARRIS

It is a popular misconception amongst British railway enthusiasts that the World War II Baldwin 2-8-2 and USA 0-6-0 tank locomotives were designed and procured by the United States Army Transportation Corps. This is not so. The procurement was done by the Chief of Engineers, US Army, by the personnel of the Railway Branch, Office.

Major Lewis T. Ross was Chief Engineer, assisted by Reserve Officer Captain Howard G. Hill, Chief of Branch Walker Redmon (a civilian and long-term member since before 1926) and a young stenographer, Raymond Baxter. It was Captain Hill who designed the Baldwin 2-8-2s and 0-6-0 tank locomotives.

It was on 29th July 1940 that H. G. Hill was ordered to active duty as a reservist to the Railway Branch, Office, Chief of Engineers, US Army, Washington, DC. He was the first reserve officer at that time to be ordered to active duty from railroad work. He was commissioned a First Lieutenant in the Reserve on 1st May 1923 because he had previous railroad experience: he started his career as an apprentice machinist in the workshops of the Texas & New Orleans Railroad and after five years became a mechanical engineer.

The Railway Branch occupied one large wing on the first floor of the new War Department building at 23rd Street and Virginia Avenue, NW (North West quadrant of Washington DC). One of the first jobs Major Ross asked Hill to undertake was to study the design of a 2-8-0 steam locomotive and six types of freight wagon, all intended for military railway use. This equipment had been undergoing development, designs and detailed drawings having been produced for about fifteen years! The drawings were examined carefully by Hill, who gave his opinion to Major Ross that considerable revision was required to make them suitable for use on

rough military railroads.

However, no action was taken at the time. It was a few months later that 24 of the wagons in their original design form were delivered to Claiborne-Polk Military Railway, this being a training facility in central Louisiana. There they were tested in conditions that might be found in active service, on poor track. Each wagon had four semi-elliptical springs which were so inflexible that derailments were frequent. So unsuitable were they that they were placed on a length of isolated track and used as static storage units, with no more being built.

In March 1941 Captain Hill was promoted to the rank of Major and he frequently acted as Chief of the Railway Branch. In April 1941 Ross, now a Lieutenant-Colonel, instructed Major Hill to prepare a requisition for the purchase of eight 2-8-0 steam locomotives "to use up available funds before the end of the fiscal year". The requisition was processed and the locomotives were built by the Lima Company to the design on the prepared drawings. These drawings were produced prior to July 1940 by the Corps of Engineers.

Another locomotive design had been prepared, also by the Corps of Engineers. This was an internal combustion mechanical transmission 0-4-0 with jackshaft drive to the four coupled wheels. The pneumatic clutch was a new and untried design. Again, no thought had been given to military service conditions of working on poor track. A quill-type drive was needed (but not fitted) for absorbing the shocks from the driving rods. Only one locomotive was built for trial purposes but its preliminary trials showed it to have an

unsatisfactory performance – it disappeared quickly and was never seen again!

On 13th September 1941 while Major Hill was acting as Chief in the absence of Lieutenant-Colonel Ross, Major R. Hart-Davies, Royal Engineers, British Army staff, came into the office. He presented a Lend-Lease requisition for 50 Pershing 2-8-0s for use by the British Army in the Middle East. Their primary use was to be on the Iranian State Railway which railway ran from Bandar Shahpur at the head of the Persian Gulf northwards through Tehran to the Caspian Sea port of Bandar Shah. A large amount of supplies for the Russian Army was carried by this route. This was a line with rails weighing between 67–75lb per yard only, with severe gradients and curves and with a maximum height above sea level of 6,800ft. Bridge loadings were low and the ambient temperature reached 133 degrees Fahrenheit. The feed water in tender tanks became hot and required special injectors, while in addition the atmosphere was dust and sand laden, meaning bearings would need maximum protection.

Major Hart-Davies said of the Pershing 2-8-0s, "these were jolly good locomotives". Major Hill commented that the Pershings were good First World War locomotives, but for World War II a new design with modern improvements was required. He stated that he would not approve an order for obsolete locomotives. He suggested a lightweight locomotive with a wide firebox over a trailing truck in order to provide greater boiler capacity – very necessary on the long Iranian gradients. Major Hart-Davies objected, saying "We do not use trailing trucks in England." Major Hill then reached a book from the shelf,



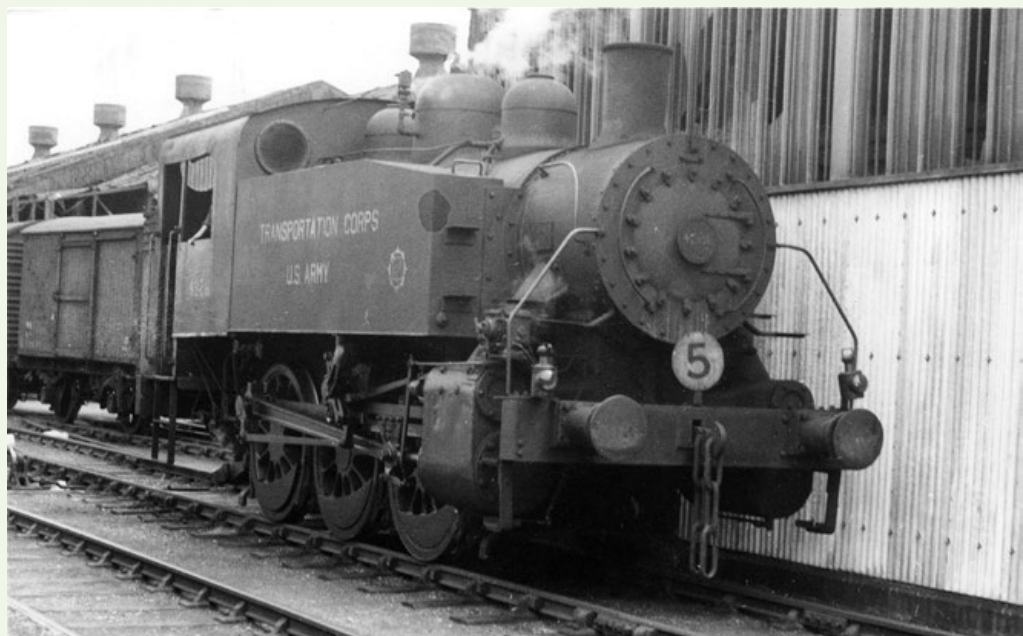
British Locomotive Types, published in 1937. This showed locomotives of the four British companies with either two- or four-wheeled trailing trucks!

As there was a great degree of urgency with the assignment Major Hill suggested they visit the principal locomotive builders in order to find out if they had recently built a 2-8-0 type of suitable weight and size for which drawings, patterns and templates were available to permit rapid production. Major Hart-Davies approved of this and travel orders were obtained and seats booked on the Pennsylvania train that night. It was Major Hart-Davies's third night in the USA and the journey in the Pullman dining car was an eye-opener for him. After British wartime rations the Pullman dinner was marvellous, while he was impressed by the size and speed of the locomotives.

Next morning they visited the Lima Company where they were met by the Vice-President of Engineering who, upon hearing their requirements, took them to the Drawing Office. He showed them drawings of the 2-8-0 from the April 1941 requisition, but it needed the boiler moving to improve the centre of gravity. The cylinders needed redesigning, plus other modifications, in order to produce a satisfactory locomotive. Eight redesigned locomotives were built by Lima, but they only did yard work!

It was an inescapable conclusion that the fifteen years of design works prior to 1940 had only produced one unsatisfactory 2-8-0, one useless petrol-mechanical 0-4-0 and six types of freight wagon which derailed easily! Therefore before any rolling stock and locomotives could be built for World War II use, new designs would have to be proposed and this duty was assigned to Major Hill, who considered it a privilege.

The Lima Company had nothing suitable so the two men went on to the American Locomotive Co., Schenectady, NY; again there was nothing suitable for the Middle East. They continued down to Eddystone to see if the Baldwin Locomotive



0-6-0T No.4326 at Southampton Docks on 30th June 1948. Built by the Vulcan Iron Works of Wilkes-Barre, Pennsylvania, in 1943, it was purchased by the Southern Railway in 1946 and later became BR No.30074. (T. J. Edgington)

Co. could help but it too had no suitable 2-8-0 design. Major Hill asked Charles Krause, one of its design engineers, about suitable 2-8-2 designs. Krause first produced a photograph and then a drawing of a lightweight 2-8-2, only two of which had been built in 1924 for the Montana, Wyoming & Southern Railroad. These two locomotives were mainly used for hauling coal. They had 56in diameter driving wheels, 22in x 28in cylinders, 185psi boiler pressure giving 38,000lb of tractive effort and weight on driving wheels of 153,760lb. So close was this design to what Major Hill had in mind that he telephoned the master mechanic of the Montana, Wyoming & Southern and enquired about performance and reliability and learned that they were satisfactory in every respect.

Before leaving the works Major Hill made some swift calculations and asked Krause to produce a line diagram for a 2-8-2. It was to be similar to the one just studied, but to embody

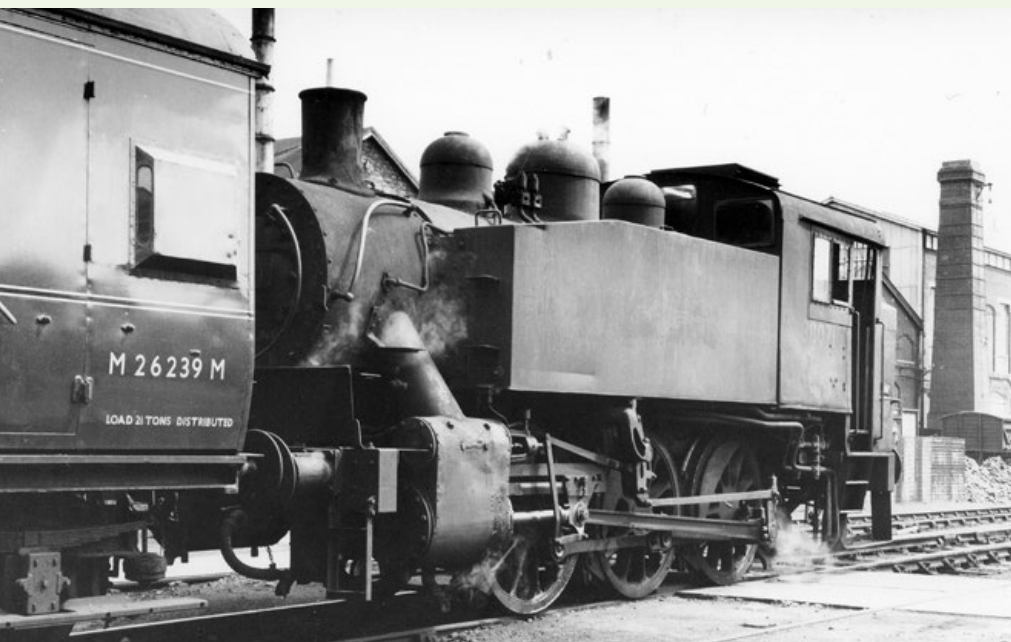
the necessary changes to meet Middle East requirements. Larger diameter driving wheels would be needed than those on the base model – as well as giving a slower piston speed to reduce wear, on certain railways (Turkish for example) lineside objects could be hit by the back end of the main driving rod. This would not be provided by 56in diameter driving wheels – therefore 60in was specified. Boiler pressure was 200psi; axle load was limited to 36,000lb. Major Hill received the diagram from Baldwin Company on 17th September 1941.

In different operating conditions this would have been a fine machine. It had cylinders 21in x 28in, driving wheels 60in diameter, a conical boiler and a combustion chamber 33in long. Boiler pressure was 220psi which at 85% Mean Effective Pressure gave a tractive effort of 38,500lb. However, the weight on the driving wheels was estimated to be 160,000lb and this weight would exceed the bridge loading limits. Major Hill rejected this submitted design owing to the weight of the locomotive plus the inclusion of a combustion chamber, which would make maintenance difficult in the field where workshop facilities were limited.

On 21st September 1941 a new diagram arrived from Baldwin, upon which Major Hill exclaimed "Just what the doctor ordered!" The general dimensions were the same, but now the boiler was a 'straight-top' of 200psi pressure, no combustion chamber and a tractive effort of 35,000lb at 85% MEP. The weight on the driving wheels was estimated at 144,000lb which was within the prescribed limits. A copy of this diagram was sent promptly to the Ministry of Supply in London where the design was quickly approved. Meanwhile, Major Hart-Davies submitted a requisition for a further 150 locomotives to that design to be built on this order, making a total of 200 locomotives.

Immediately the diagram was approved Colonel Ross ordered Major Hill to concentrate on the preparation of design details and complete the specification for the locomotives.

'USA' tank as Southern Region No.30071 shunting stock at Eastleigh on 9th May 1964. (T. J. Edgington)



This would include types and makes of all the ancillary equipment, such as injectors, lubrication pumps, valves etc. However, as soon as word got out that the Baldwin Company had received this large order, all the sales representatives from the equipment companies descended on the Railway Branch, Office. The office was a large open room and screens were erected around Major Hill's desk to 'insulate' him from the sales representatives. Another officer at a nearby desk interviewed the salesmen – some of whom pounded on his desk and insisted on seeing Major Hill – but to no avail.

When Major Hill prepared his specifications he referred to special equipment and ancillaries by brand or manufacturer's name. The items were selected for their suitability, not to give any one manufacturer the business. However, salesmen or company executives threatened to contact their congressman or the Chief of Engineers. Colonel Ross and Major Hill had to go over the specifications with a Colonel Supply Officer who read back to them every detail of every item; when he came to the Hennessy Mechanical Journal Lubricator he insinuated that a lot of business was going to the Hennessy Company. Colonel Ross spoke quickly and forcefully, saying "You should not have made that statement, Colonel! It was entirely uncalled for!"

The subsequent decision not to name parts by the manufacturer resulted in extra work in producing the specification orders. A detailed technical description had to be written omitting brand or manufacturer's name. By specifying mode of construction and method of working only, each item could be identified as coming from a specific manufacturer. The revised specification consisted of 40 single-spaced typewritten pages and, when completed, was sent to the Supply Branch for purchase orders to be prepared.

The Baldwin Company was asked to build thirteen coal burners and 57 oil burners, making 70 in total. The American Loco Co. was asked for fifteen coal burners and 45 oil burners, making 60 in total, while the Lima Co. built six coal burners and 64 oil burners, totalling 70 – thus making the grand total of 200 locomotives. All the coal burners were for Egypt.

A great regret of Major Hill was that *he never saw one* of these 2-8-2s before they were shipped to the Middle East! He had planned to go to Eddystone on Sunday 29th March 1942 to see one being test run in the yard at Baldwin's – but was marooned in Alexandria, Virginia, by 20in of snowfall. The next day he had to leave for Mexico City on a new assignment as Chief, US Mission on Mexican Railways.

In the early part of 1943 excellent reports of the capabilities of these locomotives were sent back from the field of operation. 584 2-8-2s were built for Indian Railways during the years 1943, 1945 and 1948 to the 5ft 6in gauge, thus making a class total of 784 locomotives.

Major Hart-Davies visited the Railway Branch, Office, on Friday 7th November 1941, bringing a Lend-Lease requisition for 50 Baldwin World War I shunting locomotives (switchers) of 0-6-0 notation. At a meeting with Colonel Ross later that same day Major Hill stated that he thought a new design would be better. The requisition also contained a request for several

Late in their careers several 'USA' tanks received Southern-style malachite green livery for their roles as works shunters. Departmental Stock No.DS236 (formerly No.30074) was photographed at Lancing Carriage Works on 21st August 1963.
(Roy Hobbs)

thousand freight wagons of four- and eight-wheel design and Colonel Ross ordered Major Hill to give priority to this requisition.

The 0-6-0 shunting tank had to be rugged, simple and easy to maintain and repair in the field, so special materials and economy devices were sacrificed to achieve this. The locomotive was designed in a few hours by Major Hill. For the freight wagons he decided that the eight-wheeled ones should conform to the Association of American Railroads and Interstate Commerce Commission standards. The brakes, coupling gear, buffers etc were designed to British/Continental standards, as was the loading gauge. The four-wheeled ones were treated similarly.

Nearly 450 0-6-0 shunters were built by the Porter Company, the Vulcan Company and the Davenport-Besler Company, seeing service in Great Britain, the continent of Europe and in North Africa. At a later date Major Hill was promoted to Colonel.

In 1957 H. C. Casserley produced a book entitled *The Observer's Book of Railway Locomotives of Britain* in which he attributes the 0-6-0 design to the US Army Transportation Corps. The writer of this article has a personal letter dated 24th December 1969 from Colonel Hill to the writer's late friend L. C. Brooks, in which Colonel Hill says he is somewhat disturbed by a leaflet that Brooks had sent him about a new preserved railway in England where they were perpetuating the myth by calling them '0-6-0 USATC' locomotives! In his letter Colonel Hill explains that The Transportation Corps was set up by US War Department General Order No.38, dated 31st July 1942. The personnel of the Railway Branch, Office, Chief of Engineers, were not transferred to the new organisation until 23rd November 1942. By this time most of the two types of locomotive had already been built and shipped overseas!



The interior of an LNER Tourist open vehicle as restored by the Severn Valley Railway. (Author)

Before the advent of the railways it was only the well-heeled who could afford to have a means of transport other than using their own two feet and this would be either on horse-back or in a carriage. In the eighteenth century sedan chairs had been an alternative over relatively short distances and tended to be used to avoid the mud and other filth which coated the streets of the towns and villages. It was therefore unsurprising that when the passenger-carrying railway came along these better-off people opted to occupy different, and generally superior, categories of accommodation to those whom they considered to be their inferiors. Nevertheless so long as they could find the wherewithal this would be the first time for many of 'the poor' to be able to travel more than a few miles from their homes. Although they might all be part of the same train and start and arrive at the same time, it was the quality, or lack of it, of the accommodation which distinguished the various categories of traveller. This is not intended to be a full treatise on the development of the railway carriage, which has been done in a number of books by those who have specialised in the subject and also in *Backtrack* for April 2015, but simply a few observations noted over the years.

There were inevitably many trains which catered for first and second class passengers and the standard of their accommodation proved to be very different. The earliest first class vehicles had bodies of timber with ornate mouldings covering the joints between the panels while seats were padded with arm and head rests; the insides of the bodywork and door were often padded with upholstered panels. For the middling sort of passenger (the terms upper, middle and lower class were not generally in use then) the second class coach had to suffice – these had box-like wooden bodies and windows might be glazed though they could just be an open space in the door; they were sometimes, but not always, divided into compartments by partitions. If the occupants were lucky there might be a little padding on the seats. There would, of course, have been no form of heating in either class.

The poorest were expected to travel in 'carriages' which were, in effect, no better than open goods wagons and sometimes with little more than sides and ends a couple of feet high, particularly on the Great Western Railway. It was not unknown for passengers to fall out of them and seating, where any was provided, would be nothing more than wooden benches and mostly there would be no cover whatsoever; holes in the floor were to allow rainwater to drain away but of course these also allowed draughts to rise. In winter these poor unfortunates would suffer badly and in a case on the GWR in 1841 one such passenger had literally frozen to death by the time he reached Bath. All this was little better than travelling outside on a stagecoach and many railways refused to provide any third class accommodation. It is interesting and instructive to read about many railway companies' attitude to third class passengers in George May's article about sleeping cars in *Backtrack* for February 2015.



SOME THOUGHTS ON PASS

BY ALISTAIR F. NISBET

The GWR's third class vehicles were generally run with goods and cattle wagons – formed into 'luggage trains' as the nineteenth century press was wont to term them – with no guarantee of when or even if they might reach their destination. This company was not the only one that practised such discrimination for the London & South Western Railway and London & Birmingham were known to do likewise; on these lines it was not unknown for third class passengers to be turned out of a train when it was decided that it would go no further that day, no matter that they had paid a fare to be conveyed to their destination. Installation of springs and spring buffers contributed to ride quality but again some lines, including the GWR, resisted this move for all classes, claiming such refinements would weaken the frames.

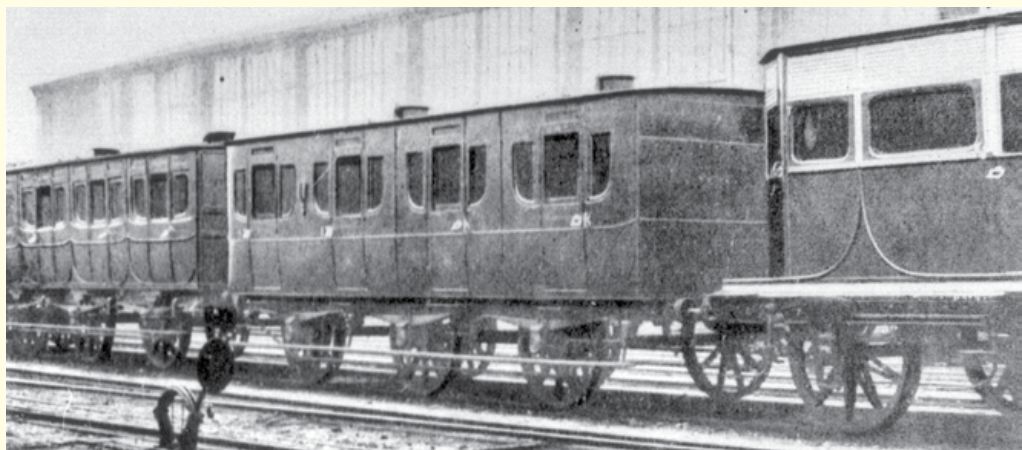
When a Select Committee of Parliament was set up to inquire into railway safety it called the GWR's Brunel to give evidence but he was somewhat off-hand in his consideration of how third class passengers should be conveyed, saying all passengers should be

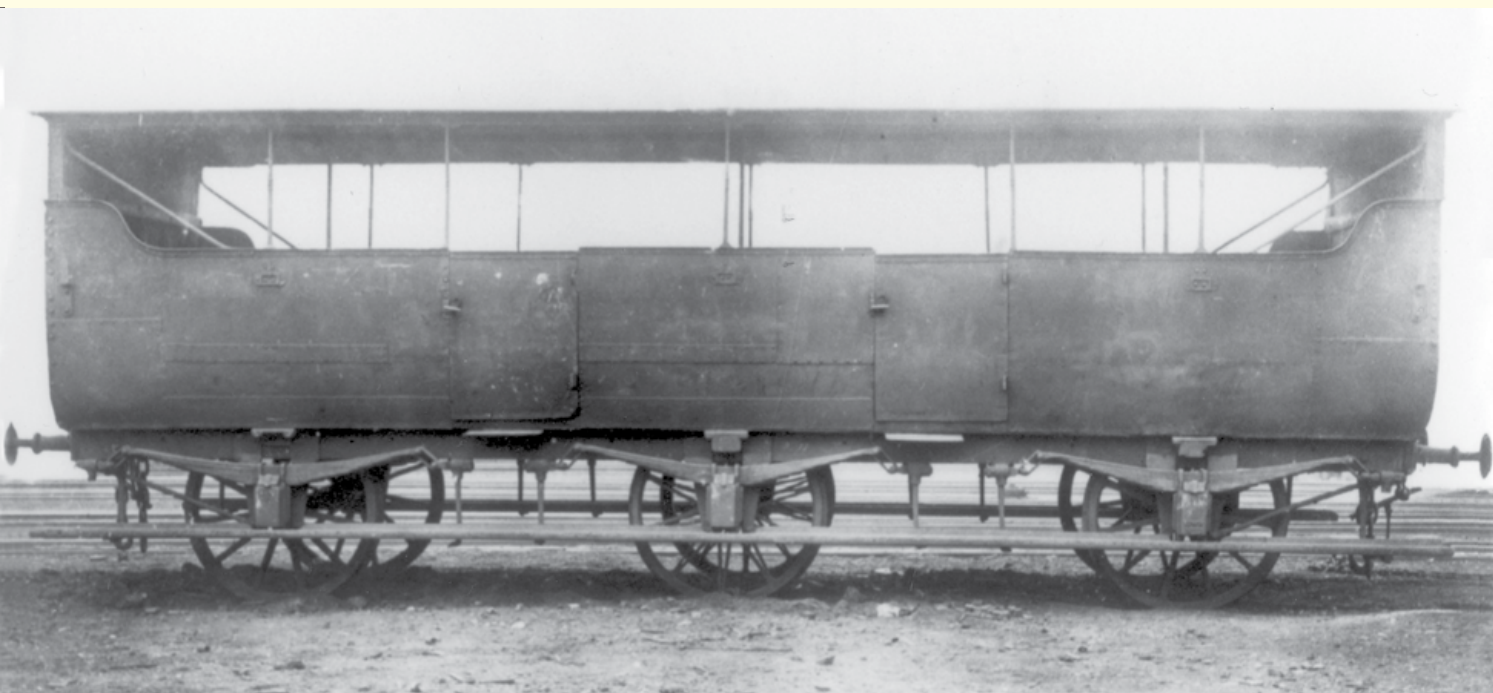
seated with their back to the engine with cushions behind them but on no account should cushions be provided for the third class. His words came back to haunt him after the Great Western's Sonning Cutting derailment on Christmas Eve 1841, which was caused by an earth slip. This caused an outcry to be raised when it became known that nine passengers had been killed and another seventeen seriously injured, all of whom had been travelling in open third class vehicles attached to a goods train. The Board of Trade (BoT) therefore wrote on 1st January 1842 to all the railway companies thus: "...the Lords of the Committee of Privy Council for Trade have thought it their duty to ascertain whether proper precautions are taken to ensure the safety of the poorer class of passenger upon Railways generally".

Each company was then asked to state:

1. By how many and what description of Trains in the course of the 24 hours are Third-class passengers taken?
2. At what hours do such Trains start, at what speed do they travel, and how long do they take to perform the Journey?
3. What is the construction of Third-class

A later period GWR six-wheel third class vehicle – covered and with glass in the windows by now. (Historical Model Railway Society)





ENGER ACCOMMODATION

carriages specifying

a) whether provided with Springs and Sprung Buffers the same as other Passenger carriages?

b) Whether closed, partly closed or open?

c) Height of Framing or Panelling at ends and sides?

4. Whether any partitions in the body of the Carriages and if so their height and position?

5. How many Passengers each Carriage is constructed to carry?

6. Whether there are seats for the Passengers and if so how arranged?

7. Whether Third-class or other Passenger Carriages go with Trains partly composed of Luggage Waggon; are such carriages placed before or behind the Luggage Waggon and is such position invariably presented or is it altered according to the weight of the Train and other circumstances?

Not many of the companies' responses have survived but it is interesting to read the one from the Arbroath & Forfar Railway: "Four trains take 3rd class passengers as well as goods and all classes of passengers from Arbroath at 8.30, 11.45am, 3.0, 5.30pm. Also from Arbroath goods trains run at 15mph at

11.45 and 5.30pm. The other two are passenger trains and run at 20mph. The goods take 1 ¼ hours and the passengers one hour.

"Most 3rd class vehicles have springs and spring buffers and those without are being altered. Some are open, some closed. In open ones the panelling at the ends and sides is 3 ½ feet above the floor. Each can carry 30 passengers, sitting back to back. 3rd class vehicles always go behind the luggage wagon. The comfort of the 3rd class passengers is always an object of particular attention. There are two covered 3rd class vehicles for winter or bad weather."

All this eventually led to the passing of Mr. Gladstone's 1844 Regulation of Railways Act which not only established the principle of third class passengers being conveyed in covered carriages at not less than 12mph and at a fare not more than 1d a mile but imposed requirements on all railway companies to provide at least one such service every day on every line – the Parliamentary Train.

These trains were distinguished as such in some timetables while others simply said that a particular train conveyed passengers at Parliamentary fares. Once these trains and

An early example of a GWR broad gauge third class coach, covered and with higher sides than heretofore but still open to the weather.
(Historical Model Railway Society)

fares were mandated it was noted that some 'superior persons' were 'trading down' to travel thus and save money and it was rumoured, though never proven, that various tactics were used to discourage them including putting chimney sweeps in the same compartments or, failing that, sheep and pigs.

An article published in *The Railway Magazine* in January 1942 discussed the quality of passenger vehicles and in particular third class ones on the North British Railway (NBR) in the mid-1860s – they were described as four-wheelers 18 ½ft over headstocks and 7 ½ft wide with five compartments having plain wooden seats accommodating 50 passengers. The carriage was of the open type (presumably as to internal layout rather than roofless) and was lit by two oil lamps. The author suggested that fourth class might have been more hygienic. According to Rixon Bucknall, at one time the NBR had a reputation for smelly coaches, rather dilapidated stations and a disregard of punctuality – particularly in the Borders area where there were many odious comparisons to be made with the nearby North Eastern Railway.

The mid-Victorian view of how the third class passenger was expected to travel.
(Author's Collection)



Railway Passenger Duty

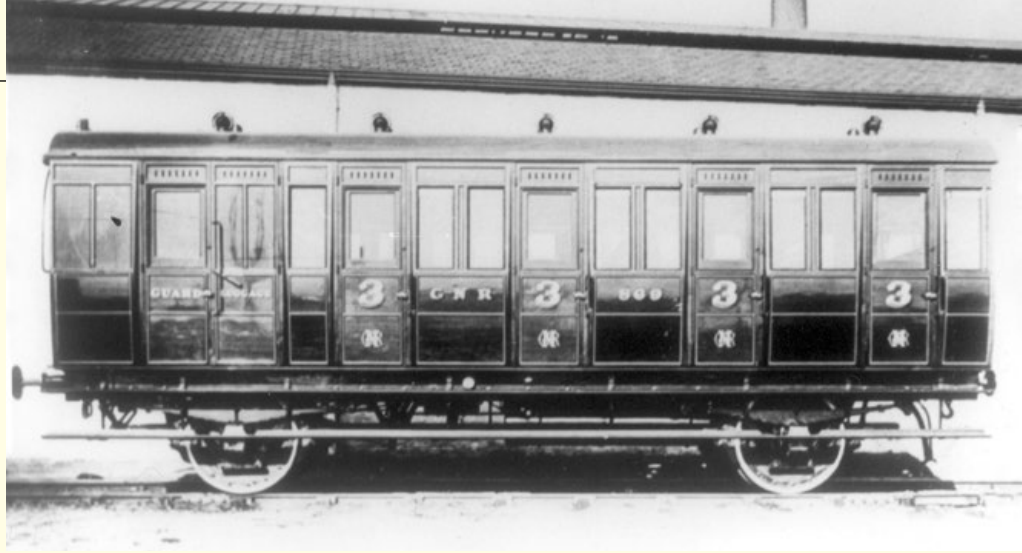
Various Acts had imposed duties on stage carriages and horses and the Stamp Act of 1842 had likewise imposed a duty of 5% in respect of all passengers carried on railways. Besides introducing Parliamentary fares, the 1844 Act had in effect exempted the companies from some of that tax by ensuring that it did not apply to fares of 1d per mile on such trains. The BoT had since then approved some amendments to the limit of one train calling at all stations each day, this being permitted in order to provide for quicker transit by running more than one train, each of which called at a proportion of all the stations. By 1872 the practice had developed so that Parliamentary passengers were carried by all but the fastest

expresses. However, this did not meet with universal approval within Government for, since 1869, the Board of Inland Revenue (IR) had insisted that the BoT did not have powers to exempt these trains and had therefore started to harass the companies. Accordingly on 12th December 1872 representatives of the companies met the Prime Minister, Mr. Gladstone, and the Chancellor of the Exchequer to put the case against the Inland Revenue – this had come about after an action had been raised by the Attorney General against the North London Railway, which did not have third class vehicles but carried its Parliamentary passengers in second class. The Chancellor supported the IR in how it applied the law. At the close of the meeting the PM said their arguments would be considered very carefully.

The same day *The Times* carried a lengthy editorial in which it was claimed that "...the poorer classes had on the whole gained far more by Railways than the rich and have made more use of their opportunities". It was not merely "...Third Class carriages but excursion trains, market trains, holiday tickets and workmen's trains which bear witness to the immense facilities this afforded".

There was much room for question as to whether such a tax should be maintained, particularly as it had already been removed from hackney carriages. It remained in force for around another ten years, eventually being abolished by the Cheap Trains Act 1883 which, *inter alia*, established workmen's trains and appropriate fares for them.

An LMS brake third No.26966 as restored by the Severn Valley Railway. The locomotive is the restored LNWR 0-6-2T 'Coal Tank' LMS No.7799 which was visiting for a gala weekend. (Author)



A Great Northern Railway third class four-wheel carriage of 1875.
(Historical Model Railway Society)

Second Class is respectable

Second class had become respectable in the 1850s when it was "favoured with severely stiffed seats and backs of shiny leather", all part of the new Victorian middle class. The well-known nineteenth century chronicler E. L. Ahrons apparently referred to London, Chatham & Dover Railway carriages as "poverty stricken rabbit hutches" for they had been without even brakes until 1890 and with only oil lighting until the end of the century. The Lancashire & Yorkshire Railway, by way of contrast, had all its trains, including those inherited from the East Lancashire, fitted with a continuous braking system. The down-side of this was that no lighting or heating of any sort was available in third class and neither was there any upholstery or cloth on the seats. Its excursionists in 1860 could expect to be transported in cattle wagons fitted with portable roofs and seats – presumably a tarpaulin and benches. Not all

railway companies had kept the three classes of vehicle for the Caledonian abolished it as from 1st May 1886 except on those routes where the London & North Western's through coaches ran.

In October 1893 the periodical *Engineering* was, according to the *Dundee Advertiser*, making "a plea for the 2nd class passenger". This was in the course of a discussion of the classification of Railway Passengers with the journal saying that recent 'improvements' in third class vehicles had resulted in their occupants "having practically all the advantages of Second Class without paying the extra fare".

The author was of the opinion that if second class was abolished on all lines this was unlikely to run into any opposition from season ticket holders. However, it was noted that in London, where short distance travel led to small differences in fares, many folk travelled first or second class "to obviate the



chance of associating with a sailor who has just landed at the docks and who regards it as necessary to maintain the tradition of Jack ashore”.

Presumably this was a barbed implied reference to the alleged propensity of mariners to “spend all their tin on ladies and drinking gin” as one folk song has it. Likewise the ordinary working man was “not the most acceptable fellow-passenger when he has his working, perhaps oily, garments on”.

According to the author Cuthbert Hamilton Ellis some railways never had second class – in the case of the Great North of Scotland he contended that this was because it served an area where people watched their pennies very closely. Second class was abolished on the Midland Railway from 1st January 1875 when the company began upgrading its third class vehicles to a standard which was, in effect, second class anyway. Ellis lived close to the LSWR and records that prior to 1918 its corridor first class vehicles had two-a-side seating, second had three and third four-a-side while in non-corridors the standards were three, four and five respectively. Even a non-corridor second was “lavishly upholstered, ceilings and partition panels were, apart from the fascias with their pictures, “covered with rather ornate lincrusta-walton and the mouldings were picked out in gold paint”.

He was less generous in his description of the South Eastern & Chatham Railway’s third class, regarding it as “often so mean” but its second class was the best in the country. The London, Brighton & South Coast’s second came nowhere by comparison, even though it was far better than the Great Northern’s. CHE concluded that we may “bask in the belief that it is possible to be first class, rich and vulgar or second class, poor and intellectual”.

Third Class evolves

The traditional third class compartment coach gradually evolved to have a sliding door to a side corridor with three-a-side seating or four if the armrests were raised. The seat stuffing material could be horsehair which occasionally made its way through the covering to scratch against short-trousered legs. Later this was replaced by coil springs which after some years began to reveal their age when bottoms were lowered on to them. Above the seat backs the dividing walls tended to feature pictures of interesting places served by the owning company – frequently these were reproductions of watercolour paintings but in some cases there were black and white photographs or maps of the company’s routes. Some compartments featured individual reading lamps above the three seating positions plus a ceiling-mounted one – sometimes complete with a lampshade. These were not, of course, confined to third class.

Earlier compartments had an external door but these were later replaced with large picture windows and doors were only at vehicle ends and occasionally at a midpoint transverse passage. First class was similar but compartments were wider and seats were deeper and featured more comfortable



One could not always be sure of obtaining one’s fair share of seating space as this Victorian sketch illustrates.
(Historical Model Railway Society)

upholstery.

By the 1930s there were the first signs of how future coaches would be laid out with the advent of the London & North Eastern Railway’s Tourist Stock – in essence an open vehicle divided into bays. This became the standard layout for the Southern Railway (and later Region) suburban trains although until the 1960s there was usually one compartment coach per four-car set. The motor coaches on the 4-COR units built for the Portsmouth Direct electrification also had this layout. Starting with the experimental XP64 set, which led to the MkII stock, virtually all new vehicles thereafter were of the open type and this has been continued into the privatisation age. One notable exception was the MKIII-based 5-WES sets built for the Bournemouth line which contained some compartments for first class passengers – in spite of many commentators saying it was not practicable. Nowadays some of the current Train Operating Companies, notably first Great Western, have removed virtually all tables and bays from their vehicles to leave only airline-style seating so that as many rush hour passengers from Didcot and Reading to London as possible may be squeezed in.

No more Third Class

First class was abolished on London’s suburban lines during World War II and passengers soon became used to having to travel in crowded cramped conditions. When the British Transport Commission announced the national abolition of third class the *Manchester Guardian* noted, on 1st December 1955, that it had “...seldom been loved, often resented and sometimes bitterly hated”.

The editorial considered that when third disappeared only the lonely firsts would be marked, all others being non-class-distinguished. The newspaper quoted Hamilton Ellis’s *British Railway History* as

saying that “First class was high caste, second class as low caste and third class was outcast.” The writer said he had been told in childhood by a socially impeccable aunt “You may travel first if you can afford it and third if you can’t. Second class means lady’s maids and footmen.”

It was also claimed that the abolition was to appease travellers from the Continent. In response to the BR announcement Ellis penned an article for *Trains Illustrated* suggesting, *inter alia*, that third would soon become second and second become first. According to his reasoning the GWR had for a time been a “four class railway – first, second open, second closed and common wagons”. He contended that second class was originally intended for the Lower Orders but soon became “elevated into a provision for bagmen, junior clerks, virtuous widows in straitened circumstances and other people who could scrape half-crowns together but who did not carry sovereigns loose in the pocket”.

Letter to the Editor

As was so often the case the editor of *The Times* received numerous letters pointing out how the various companies regarded the different classes of carriage. The Great Western received more adverse publicity when a correspondent signing himself ‘X’ complained on 25th September 1873 that when he and his wife had recently travelled by that company from High Wycombe they were invaded by two drunken labourers and their families who used “the most abominable and obscene language” all the way to London. He said that “people of small income like myself travel by one of the superior classes in the hope of securing decent companions rather than for the sake of more comfortable carriages”.

Frozen First Class feet

In a literary piece in the *Bradford Observer* for 8th August 1850 the writer suggested “In winter, even in an English First Class carriage, there is no protection against frost and damp; but in nearly all the foreign railways no sooner does the winter set in than the first class traveller finds the bottom of his carriage provided with a long tin full of hot water. In the cold months masses of woollen cloth and railway wrappers are seen shaking in the corners of the first class English carriages with shivering comfortless, human beings inside them, despairing of any sort of warmth whatever”.

Another instance came on 8th January 1885 when ‘A MYSTIFIED ONE’ complained that he had been unable to obtain at Victoria a hot water tin (ie a footwarmer) for a lady friend in a third class compartment for Eastbourne – these apparently were only permitted for those passengers going to Hastings and an appeal to the guard had been unsuccessful, even though most of the hot footwarmers remained unclaimed. This brought forth a number of other letters in a similar vein including one from ‘F B E’ who said that Hastings passengers had the choice of South Eastern or LBSC trains, hence the Brighton company’s



The interior of a London & North Western Railway first class compartment with its comfortable-looking seats and large armrests. (Historical Model Railway Society)

favourable treatment of them. There was, however, no competition to Eastbourne and therefore no incentive to treat these passengers any better so they just had to suffer.

Interestingly the LBSCR's public timetable dated May 1899 informs its users that footwarmers are available for first and second class passengers at no cost – one should apply to the station master. There was no mention of only being available on certain routes. Epsom was another place served by two companies and here the Brighton provided footwarmers as a matter of course, yet 'CONDEMNED TO TRAVEL ON THE SOUTH WESTERN' said the LSWR never provided them unless requested by a "purse-jingling passenger". The class of travel was not mentioned but first can probably be assumed. Many other companies provided footwarmers, of course, and they were usually mentioned in their public timetables. Their Working Timetables and/or Appendices generally gave the staff details of

where such warmers were to be provided and who was to be responsible for ensuring they were.

Some paragraphs in the North British Railway's General Appendix dated May 1901 list the points between which footwarmers were to be supplied and which class of passenger was to receive them – on the majority of the main lines both first and third could have them and it tended to be only on secondary routes or short branches that they were limited to first class. Not every station on the route could supply them though, it being mainly the termini which did. It was the station master's duty to ensure that they were available and that cold pans were to be replaced with hot ones "as often as may be necessary". Once they had been taken from the boiler they were to be rubbed over with an oily cloth and at no time must they be placed before a fire. When being removed from the carriages they were not to be thrown down on to the platform but

The working man who has dared to enter a first class compartment seems to be the subject of the beady eye of the railway official outside. (Author's Collection)



laid carefully aside until again required. If any belonging to other companies were found they were to be returned immediately.

The Bishop-Coadjutor of London for North and Central Europe was moved to write at great length to *The Times* from the Austrian Tyrol, comparing travelling conditions in England somewhat unfavourably with those found in France and Germany. His letter was duly published on 6th June 1892 and in this missive he claimed that in the latter country the guard made his way along the outside of the train every twenty miles or so to check that all was well in the carriages. It was hardly a safe procedure to recommend for adoption unless the good Bishop-Coadjutor thought a side corridor was outside the vehicle. He considered that although speeds here were greater than elsewhere, in comfort, convenience and the protection of passengers this country was far behind the Continent, painting a rather bleak picture when he claimed that "women are assaulted in railway carriages and travellers are found wounded, and sometimes dead". Provision of ladies' carriages ought to be strictly enforced on all trains but these were "the eccentric exception rather than the rule".

So far as heating was concerned he scorned the hot water tins of the UK and instanced how in Germany "an artificial fuel is inserted from without and regulated from warm through temperate to cool by a handle fixed in each compartment". Could he have been referring to steam heating pipes?

Press comment

As always *Punch* had somewhat sardonic views on the different classes of traveller, some of which appeared in editions of *Mr. Punch's Railway Book*; for instance, there was the chapter entitled 'The Rough's Railway Guide' in which the 'ready rough' was encouraged to regard a third class carriage as a sort of travelling Alsatia where brutal blackguards could find sanctuary – "no third class carriage is ever full so long as one more brawny brute can violently force his way into it".

A letter in the *Carlisle Journal* of 22nd June 1860 complained about Sunday School teachers in an excursion train who had travelled first class while their charges were left to their own devices in third class.

Over 30 years later the *Dundee Evening Telegraph* for 28th July 1894 carried a paragraph in which it claimed that there was a simple way of distinguishing between the different classes of carriage. To back this up it related how two people had a 'misunderstanding' over opening a window in a second class compartment – the lady had cuttingly said to the other traveller "You don't appear to know the difference between second and third class". The gentleman responded by saying "Oh madam, I am an old railway traveller; I know all the class distinctions. In the first class the passengers behave rudely to the guard, in third the guards behave rudely towards the passengers while in second the passengers behave rudely to each other." The paper then invited anyone to dare to contradict the truth of the matter.

According to the *Daily Mail* of 11th January 1905 the North Eastern was experimenting with abolishing first class travel on (an unspecified) part of its line – the Duke of Northumberland had presided over a





Excursion passengers who were squeezed into first class carriages were often the subject of letters of complaint to the editor of *The Times* and other newspapers.
(Author's Collection)

protest meeting the day before. The paper's resident 'expert' noted that already the Tube railways offered only one class as did the main line companies where they used railmotors.

A paragraph in the *Dundee Advertiser* dated 10th April 1920 noted that it was now possible to reserve a seat beforehand on one of the English railways. The writer thought it was a tip which the "Great Railway Companies" might adopt on such journeys as Scotland to London. He claimed that if one wanted to secure a decent, or even any, seat (and especially one in third class) it was necessary to go to the terminus at least an hour before the train was due to start, there to seize a place in a compartment "and hold to it with that tenacity which comes of a belief in possession being nine points of the law".

Perhaps something of an exaggeration but nevertheless mostly true. A few months later the same newspaper carried a few paragraphs, this time on 15th September, on the subject of the first class carriage and its future, or

possibly lack of one, saying it was rare to find the manager of a great railway company seriously considering the abolition of first class travel. The development of the motor car and the advancement of proletarian politics were cited as the likely causes of its eventual demise.

This had come about because the Great Eastern's Sir Henry Thornton had been reported as suggesting that one standard type of carriage was coming, mitigated by an arrangement in virtue of which "certain additional comforts" would be provided for those willing to pay for them. The additional comfort that was really wanted was a seat or the guarantee of one and it would be a great reform if, for an additional fee, the railways were to guarantee that the seats they sell would actually be available to the purchasers. No doubt the railway companies would have responded to those comments about seats by saying that legally they were only obliged to convey the passengers and not to provide a

seat as well. Such sentiments about finding a seat are often expressed nowadays, not only in respect of commuter travel but also about the abysmally short trains operated over long distances by such operators as CrossCountry.

Many newspapers reprint small selections from their earlier editions and the *Glasgow Herald* was no exception for on 20th February 1948 it had a bit from 100 years previously. "It is remarked that the 1st and 2nd class carriages of the Caledonian Railway are very comfortable. The 1st class ones are fitted up with most beautiful patent rugs for the feet, manufactured by Mr. Taylor of Lochwinnoch, the patentee. The 2nd class carriages have stuffed seats and are partly stuffed at the backs. The 3rd class ones are barbarous and ought to be immediately put to rights. They have no glass windows but a board to shut against the weather." This was apparently a direct lift from the *Railway & Shipping Journal*, a common practice then.

Advent of the no-smuts train

Every newly-recruited newspaper reporter seems to find it a necessary rite of passage to have published a derogatory article about the country's railways so it is something of a surprise to see the *Dundee Courier's* 1956 description of how there was a "Rush to be first on the no-smuts train".

This was a report on the introduction of Metro-Cammell diesel multiple units on the Gleneagles to Crieff and Comrie service and included the names of various people who had apparently left home early to be on the 7.58am from Comrie. The absence of the guard's green flag was noted, the exchange of buzzers being just like a conductress belling the bus driver".

The compartments were "wide and spacious with fresh beige upholstery [some-what impractical-sounding], air conditioned, calculated to be cool in summer and warm in winter. Windows were large with none of those dangling leather straps with holes that never seemed to be in the right place".

Instead the long narrow windows were made to slide apart – presumably the source of the 'air conditioning'. It seems possible that the

A GWR composite carriage, No.6622, built to Diagram E.151 in 1936.
(Historical Model Railway Society)





The interior of a BR Mk1 third class compartment – four a side and no armrests but a central mirror on both walls. (Historical Model Railway Society)

writer had never been on a train previously for many open vehicles had such sliding windows by that date, complete with the wee notice telling passengers not to open them wider than the downward pointing arrows to avoid a draught. It was also reported that members of Crieff Town Council were to make a trip to Gleneagles on 22nd June to “give a lead to the townspeople and encourage them to use the new means of transport”. They were even prepared to pay their own fares! No doubt the ratepayers raised a cheer at that news.

For the record the reporter mentioned that this was not the first diesel car to run in public service in Scotland for that honour had gone 46 minutes earlier to the 7.12am from Galashiels to Peebles and Edinburgh the same day.

Rainbow rolling stock

In the mid-1870s the LYR had gained a reputation for having particularly poor standards of cleanliness and general discomfort in its carriages. It therefore came as something of a surprise to the editor of the *Northern Echo* on 27th January 1876 when he noted that the company intended to change the colour of both tickets and vehicles to reflect their class – first was to be yellow, second to be brown and third was blue. Composite carriages would henceforth be painted in the separate areas according to their class.

Lighting

At first there was no lighting in any class of vehicle although later on oil-lit lamps were provided – in many instances these were dropped through a hole in the vehicle roof by an employee walking along the length of the train. These lamps could be somewhat smoky and the presence of the hole added to the potential for draughts. Later still gas lighting was introduced, the gas being stored in a bottle or reservoir beneath the vehicle although after some disastrous accidents in which the gas ignited there were moves to discourage this.

According to the *Dundee Advertiser* dated 17th October 1883 a new method of lighting

carriages was now in use in certain parts of the country – electricity. A scheme patented by a Mr. Cheesewright had just been introduced to the LSWR and used a battery which did away with the use of steam engines and dynamos. The same method was also in use on a dining room carriage of Leeds trains and the South Eastern Railway’s Continental trains. The GER was also known to be using something similar.

Labelling

It was, of course, necessary to be able to distinguish from the outside of the vehicle where the various classes were accommodated and at first this tended to be by marking on the carriage doors the class – this in fact continued until early British Railways days but only in

so far as first class was distinguished by the figure ‘1’. In the 1960s there was a gradual change from this to the yellow line at cantrail level which was said to be inspired by European practice. The LNER and some of its predecessor companies had used lettering on the doors, particularly on teak stock and examples of this may be seen on some of our heritage lines, notably the Severn Valley.

In the early days of BR much discussion took place about how the new Mk1 coaches should be distinguished and the use of permanently attached labels was decided on as well as the ‘1’ on the doors. The responsibility for the placement of the labels was also the subject of correspondence and it was eventually decided in August 1950 that it would be devolved to the Carriage & Wagon Dept. Outdoor Staff. A lengthy document was issued on the 30th showing exactly where and how labels were to be placed. It also gave guidance on how to decide whether replacements were needed. On older stock it was decreed that ‘NO SMOKING’ labels did not need to be given a coat of varnish although newer ones had to conform. Defaced ‘SMOKING’ labels were not to be replaced but simply removed. Labels for first class were to be 10½in long and coloured blue and white, those for ‘LADIES ONLY’ were to be 9in long in green and white whilst ‘NO SMOKING’ was to be triangular in red and white. All were double sided.

Banned

The Peter Simple column in the *Daily Telegraph* of 3rd December 1968 noted that second class passengers between Liverpool and Birmingham and between Birmingham and London had been refused admission to the first class restaurant cars, allegedly on the grounds that they ate too slowly with the result that passengers holding first class tickets were unable to obtain a seat in said cars and therefore could obtain nothing to eat. Presumably the buffet cars were insufficiently grand for these personages.

The BR Mk1 era as seen post-privatisation – first class compartments on a 4-VEP unit in Network SouthEast livery plus additional Stagecoach embellishments. The window stickers are pure BR. (Author)



WESTERN RED

The Western Region's diesel-hydraulic 'Western' Class locomotives, after a few experimental colours and a dalliance with British Railways green, settled on a maroon livery akin to that used on main line carriage stock. They looked rather good in it, as these photographs by **DAVID CABLE** show.

TOP: **No.D1024 Western Huntsman** approaches Hemerdon Summit with a Penzance to Paddington express in August 1964.

MIDDLE: **No.D1006 Western Stalwart** heads west near Ivybridge in September 1966 with a Paddington to Plymouth express. The circular maritime windscreen wiper is obvious, this being an experimental, short-lived, fitting used only on this locomotive and No.D1039.

BOTTOM: Climbing Hemerdon bank in August 1964 is No.D1039 **Western King** with a fourteen-coach Falmouth to Paddington express, augmented with extra coaches at Plymouth. Note the restaurant car close to the locomotive – not very helpful for the Falmouth passengers! Note the maritime windscreen wiper, better seen in the previous picture.





Right to left. 'Young' Jim Jarvis, brother Ron, John Adams and Ron's work colleague Frank Carrier pause for lunch in South Wales while on a photographic expedition, Easter 1936. (The Jarvis Family Collection)

A SUFFOLK TRAGEDY

After closure in 1929 the 3ft gauge Southwold Railway remained virtually intact for twelve years. **JOHN D. MANN** recalls a visit in 1936 by three notable enthusiasts who were searching out historic locomotives.

During the Southwold Railway's 'dereliction' period, 1929–41, a few adventurers came to inspect the decaying remains. On a sultry July day in 1936, a Standard Swallow rumbled into Halesworth in Suffolk, carrying brothers R. G. and J. M. Jarvis and J. H. L. Adams, who had obtained permission from local councils to open the two locomotive sheds and hopefully push out the stored occupants for photography. To assist them in this exercise a call was made en route from Hertfordshire at St. Albans MPD to borrow a 'pinchbar'.

They found it was possible to move *Blyth*, a 2-4-0T supplied by Sharp Stewart in 1879, at Halesworth, although more than a few anxious moments were encountered negotiating the ash pit where rails had become somewhat

Having been 'pinchbarred' out of the shed, Southwold Railway No.3 *Blyth* poses for the camera at Halesworth in July 1936.

(R. G. Jarvis – The Jarvis Family Collection)

precarious. The next three hours were spent cleaning it with car polish until the sun moved round. With photographs duly taken, *Blyth* was gingerly returned to the shed.

The party moved on to Southwold and disappointment. The other two locomotives – *Halesworth*, a 2-4-0T from Sharp Stewart in 1879, and *Wenhaston*, an 0-6-2T supplied by Manning Wardle in 1914 – would not budge; no doubt their cylinders had rusted. After a swim in the sea, our intrepid trio returned to Hertfordshire... But who were they?

R. G. 'RON' JARVIS, gained an apprenticeship at Derby Loco Works in 1928 under H. G. Ivatt, a springboard for his fascinating railway career taking him from Sir W. A. Stanier's design team to wartime supervision of Class 8F assembly in Turkey. Ron succeeded O. V. S. Bulleid on the Southern Railway redesigning express classes, before being closely involved with the development of several BR 'Standard' locomotives under Robert Riddles. During his later career he designed mechanical parts for

the prototype High Speed Train.

Retirement to Wales, where he died in 1994, saw Ron actively involved with Festiniog Railway coach renovation. A shared interest in photography with boyhood friend John Adams resulted in many expeditions at home and abroad, seeking out unusual and historic locomotives. By 1936 younger brother Jim frequently joined the party.

J. M. 'JIM' JARVIS, just fourteen on the Suffolk trip, also enjoyed a railway career, initially with the LMS and later with BR locomotive design. He spent two years at Illinois University, gaining an MSc. This involved working at the Norfolk and Western Roanoke works. His considerable experience gained in North America enabled Jim to devise a dynamic balancing system for the Class 9Fs, some of which are still in service on our preserved lines. Inspired by brother Ron, Jim travelled the world photographing steam. He died aged 90 in 2012.

JOHN H. L. ADAMS, author, photographer, film maker and Ron's lifelong friend, who became an early pioneer on the Tallylyn Railway, where he met Patrick Whitehouse in 1951. A partnership was forged resulting in a prolific output of railway books. Together they filmed and presented 50 TV episodes of 'Railway Roundabout' during the 1950s and '60s, still popular today on DVD. John died in 1997.

The Southwold Railway spent a further five years in limbo before a wartime scrap drive saw rolling stock and locomotives unceremoniously cut up where they stood.

Acknowledgements

The late P. B. Whitehouse. The late J. H. L. Adams. Mike Peters, Jarvis Homes. The Jarvis family collection.

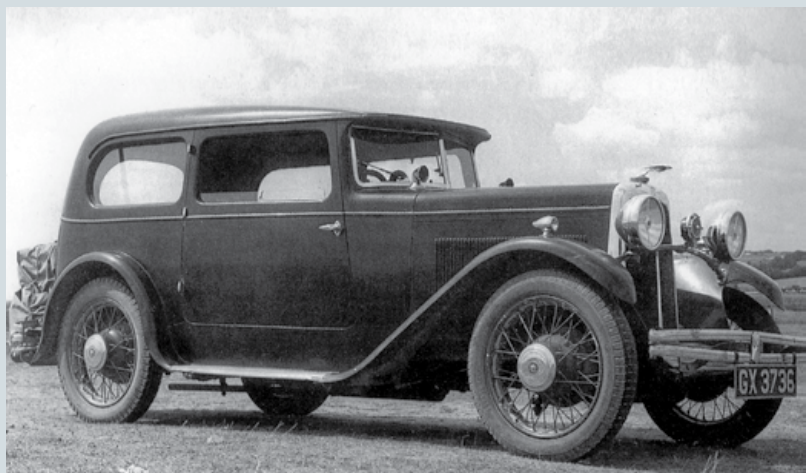
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Ron's Standard Swallow, used for twenty years at home and overseas.

(R. G. Jarvis – The Jarvis Family Collection)



Readers' Forum

Letters intended for publication should ideally add extra detail to our articles (or offer corrections of course!) and not be too long, consistent with the detail they offer. As always, we are sorry that space and time prevent us from printing them all or sending personal replies. ED.

Aldgate to Glyncorrwg

I refer to your article in the April edition, thanking your writer for an interesting story. Might I point out, however, that there is more to the tale, in that the two coaches did not transfer directly to Didcot but spent a number of years at the Severn Valley Railway. This is an important point as the coaches were among the very early arrivals, delivered via Stourbridge Junction, behind GWR No.3205, before being present on the first day of operation out of Bridgnorth. Coincidentally with your article is an image, published in the SVR Working Members Newsletter, showing the scene at Bridgnorth on that day 50 years ago, with the two coaches and another pair coupled behind. There is also in existence a YouTube video of the journey from Stourbridge Junction.

Inevitably I suppose with the arrival of more comfortable stock there was little work for the two 'Glyncorrwgs' and in the mid-1970s they joined a considerable cavalcade of vehicles to Didcot. It seems rather sad that they seem not to appear in publicity there or within the VCT survey.

Stewart Clark, by email

Coal to the Sea - The Lothian Lines

Yet again the Lothian Lines defy the map-maker. Accompanying my article 'Coal to the Sea' in the May issue, the map on p340 omits the line which ran from Niddrie North (upper level) down to Niddrie South on the Waverley Route. It is actually illustrated at the bottom of the lower picture on p341. This line is also missing in the book *The Castle and the Bear*, so my apologies also to Stenlake Publishing as well as *Backtrack* readers.

A. J. Mullay, Edinburgh

The Great Western in Wirral

As a long-term resident of Port Sunlight (although now in Bridgnorth) I enjoyed Tony Robinson's article on the Wirral in the May issue. On p301 the overnight express goods Morpeth Dock to Paddington Goods 'The General' was the 7.45pm not the 8.45pm. The balancing working was the 9.10pm Paddington Goods to Morpeth Dock. Birkenhead men worked to and from Cotton Hill Yard where Shrewsbury men worked double home to London and back. In the WR days '47X'X locomotives were the mainstay but when one was not available as in the picture on p301 Old Oak Common usually sent one of its 'Modified Halls'. No.6990, now preserved, was one example. OOC 'Halls' were always well turned out. 'Castles' also featured when a '47XX' was unavailable.

When the shed was merged the former GWR staff considered themselves superior to their Midland colleagues and were known by some of them as 'The Western Gentlemen.'

GWR Birkenhead driver Dennis Williams said of the '47XX' locomotives: "They were masters of any task." He described Birkenhead's '14XX' tanks Nos.1417/1457 as the Mini Coopers of the GWR. Such was his loyalty to the GWR whilst at Birkenhead where he started his footplate career that he was known as 'Western Dennis'.

Up to 1960 there was a Grand National Special from Paddington to Woodside, always OOC 'Castle'-hailed which worked throughout. However, for some reason 'Halls' were used on the final two workings in 1959 and 1960.

As the editor of a serious historical publication you will find the following hard to believe although true. The last 'regular' workings of GWR locomotives to Birkenhead were the 1965 Whit and August Bank Holiday Mondays Wrexham to New Brighton trains. Three of the diesel railcar trains on the line were made steam with Croes Newydd MPD's panniers hauling five non-corridor coaches. On the 17.56 New Brighton to Wrexham train on August Monday pannier No.4683 was used with Driver Stokes of CN MPD in charge. Being the travelling tea trolley man, I was able to promise Driver Stokes and his fireman drinks of free high quality BR tea if they 'had a go' between Neston and Hawarden Bridge. No.4683 with its five non-corridors averaged 42mph start to stop with speed reaching for a brief moment over 60mph so the crew got their promised reward. How a tea trolley service was provided on a non-corridor train is another story for another day.

Up to the end of the Paddington to Woodside trains in 1967 both Paddington and Woodside guards and sleeping car attendants worked throughout, continuing a GWR tradition. Many journals say the Paddington to Woodside trains finished on Sunday 5th March 1967. However, the 21.40 Sunday Woodside to Paddington did not officially complete its journey until Monday morning 6th March.

Chris Magner, Bridgnorth

I enjoyed reading Tony Robinson's article and look forward to the next episode. There are, however, some corrections to be made with regard to the early history of these lines. The Birkenhead, Lancashire & Cheshire Junction Railway (p301) was authorised under this name in 1846 as an independent company intended to connect Chester (and Hooton) with Manchester and was only cut back to Warrington during the post-Mania slump. The Chester & Birkenhead Railway was built as a double track line but was opened, on 22nd September 1840, in an unfinished - with one or two sections lacking the second track. This was very likely done to avoid the need for a BoT inspection, the Act introducing this requirement coming into effect on 10th October following. The second track was completed within a few weeks. I think it should be made clear that Morpeth Dock, mentioned on p303, belonged to the Mersey Docks & Harbour Board; the GWR had access to it, but that was all. Also, the GWR had a couple more dock depots on the Liverpool side - Langton and Stanley Docks, both opened in 1914.

I see from a review on p318 that photographs of the 'Turbomotive' at Edge Hill or Lime Street are non-existent. May I refer enquirers to a very nice Treacy view of this engine at Lime Street that appeared in the January 2008 issue of *Backtrack*. Admittedly, I have not seen this reproduced anywhere else.

John C. Hughes, Liverpool

Scottish Signal Variety

The location of the caption to the signal gantry on p307 (May) is not Gourrock, but Greenock Princes Pier. Gourrock, opened in 1889, was Caledonian Railway and the bracket starting signals at Gourrock's platform end were quite different from Greenock Princes Pier, built by the Glasgow & South Western Railway and opened in 1893. The two termini are now sometimes confused by people who are strangers to the area, possibly

partly because the LMS merged allocations of engines in the 1930s to the respective sheds for each line, both in Greenock; Ladyburn on the Caledonian and Princes Pier on the Glasgow & South Western, with Princes Pier becoming a sub-shed. However, the routes and termini buildings were entirely different, with the Gourrock line being much flatter. The name Princes Pier applies only to Greenock. The towns were distinct local authorities up to 1975.

Stuart Rankin,
G&SWR Association

South of the Solway

To one who knew the Silloth line well, David Joy's article in Vol.31 No.5 was a delight. My memories go back to the early 1930s, when in all but name it was still very much NBR in style with passenger work virtually monopolised by ancient members of the D31 Class and freight by the J36; at busy periods there might be an odd incursion by a GNR 'Pony' or NER D17 but very rarely, while stock was initially gas lit and air braked although superseded later in the decade by something slightly more 'modern'. The wayside stations, their neat gardens with well-kept flower beds sometimes containing the station name picked out in white stones or maybe sea shells, were a particular pleasure while Silloth had a unique character all of its own.

Two small points: on p286, as the Dandy is facing north it has surely arrived at Port Carlisle, while I suspect the colour photograph on the next page was taken near Kirkcubright where the track had a number of sharp curves but at Kirkcubright was virtually dead straight for several miles.

Harry Liddell, by email

Railway Excursion Traffic

Near the foot of p313 of the May issue, I fear Jeffrey Wells has been misled, probably by Wikipedia, in stating that the Falls of Lanark (or Clyde) "is the home of Scotland's first hydro-electric power station, opened in 1927." Even as early as 1902, the nineteenth century water turbine generated supply to the village of Strathpeffer was supplemented by larger plant, while in 1926 the Ross-shire Electricity Supply Co.Ltd. built a power station on Loch Luichart, and I am not claiming that any of these were the first in Scotland. See *The Dingwall & Skye Railway*, published by Crecy in 2016, p51.

Peter Tatlow, by email

Whitmore

Having recently rediscovered an NRM I1in by 7.5in print of CR D73, the view of the 10.25 ex-Euston reproduced on page211 of the April issue, I thought you may be interested in a bit of extra information. A high resolution scan revealed that the engine concerned is No.1915 *Implacable*, built at Crewe in July 1899 and stationed at Camden. In addition to the date, the back of the print also bears the following handwritten note: "woodwork on top of cutting to test paint samples from Crewe Works". The structure concerned can be seen just inside the boundary fence and appears to consist of five sections of framework holding six large painted panels. The location was presumably chosen for its position exposed to the elements. Whereas the fast lines had been recently been relaid with 95lb rails on 23 sleepers (the later standard was 24) per 60ft panel, the slow lines still consist of 85lb rails on ten sleepers per 30ft length.

With regard to the two Pilcher photos on

p212, the upper one (of the two up trains) was taken on 8th August 1901 and the lower one, the double-header, about a year later. In the latter view, one of the engines, probably the 'Experiment', is working back home 'ALNR' (assisting locomotive not required) to save occupying a path. *Jeanie Deans* had left Camden shed by that time and was allocated to Rugby. By 1904 both these engines had moved to Coleham shed, Shrewsbury.

Peter Davis, Bristol

District Railway Electrics

In this interesting article (May issue) the author refers to the original headlamp and top marker lights, American-style, of the 'A' stock (caption, p293). The 'headlight' mentioned in the caption to the top photograph on p294 is, however, not a headlight to illuminate the track ahead but a marker light for route-indicating purposes, necessary in the days of manually-operated signalling. In this photograph the hinged cover for this light and that below roof level can be seen swung back, while similar covers for the lamp above it and at corresponding lower locations at the other side are positioned so as to obscure the lamps. Various route codes are shown in the other photographs. With the introduction of the 'K' stock the route-indicating arrangements were tidied up as shown on p299 (lower) and on the Q38 and subsequent stocks the unused position at top right of the display was fitted with a ruby lens as a rear light, although until recent years an oil tail lamp was also obligatory, the lamp iron for this being provided on, or adjacent to, the cab end door.

Roue indicator lamps on the London Underground were gradually phased out with the introduction from the 1950s of automated programming machines and the Metropolitan A60/62 stock and 1959/62 Tube stock carried instead a pair of marker lights. Only with the introduction of the 1967 Victoria Line Tube stock and C69 stock for the Circle Line, part of which shared District Line tracks, were headlights as such provided. They have been a feature of subsequent stocks and the A60/A62 stock was later so equipped.

George Moon, Burnham-on Sea

The '2251' Class

Thank you very much for this feature in the June issue and for including Trevor Owen's picture of a '2251' at Cogan Junction. The number 51 pasted to a target disc and mounted precariously in front of the chimney indicates that, rather than being a Penarth line train, it is the 10.00am from Newport to Barry Island. Hot on its heels would have been the 9.33am excursion from Aberbeeg (runs as required) and the 9.10am excursion from Blaina, numbered 52 and 53 respectively. Within the hour would come the 9.30am from Blaenavon (57), the 10.55am from Newport (55, runs as required) and the 9.45am excursion from Abergavenny (58). The service to and via Penarth at this time of day was in the hands of diesel multiple units. Trevor may not have deemed these quite so photogenic.

Chris Foren, Bedford

BackTracks For Sale

A complete set of *Backtrack* from Vol.1 Issue 1 to Vol.30 Issue 12 is available for sale. Please contact Alistair Wasey for further details at 58 Melville Road, Churchdown, GL3 2RG, or via email: alistair.wasey@googlemail.com



The Railway Goods Shed and Warehouse in England

by John Minnis with Simon Hickman. Published by Historic England, 128pp. ISBN 978 84802 328 4 (paperback; also available as an e-book). £14.99. Available on line from <https://retail.historicenglandservices.org.uk>. It is seldom enough that a new railway book breaks wholly new ground and brings to full attention for the first time an important aspect of our railways. Despite being called *Railway Architecture*, for instance, Christian Barman's pioneering work (1950) barely moved beyond passenger buildings and in many more recent books goods facilities are often all but ignored. Given the monumental nature of some of the structures, and the overwhelming importance of goods traffic to almost all railways, this neglect is hard to understand.

So this highly professional and fluent work is largely pioneering and addresses its subject with the highest design and presentation standards, making it a pleasure to read and refer to. It is the latest of a series of popular publications by Historic England, a non-departmental public body responsible for the protection and documentation of historic buildings and environments. The complete eclipse of traditional methods of goods handling on our railways, and disregard of its architectural heritage, has made the task in this context urgent and overdue: only some 600 of many thousands of structures survive and only around 100 are 'listed'. The studies underlying this book therefore came just in time. The buildings covered are, of course, the direct descendants of similar structures associated with docks and inland waterways, but adapted in various ways to meet the particular technical requirements of railed vehicles – a process achieved remarkably quickly and well outlined here. In time the railway goods shed became ubiquitous and in its heyday must have been amongst the commonest of all secular building forms since almost every town and many villages were so equipped.

Seven successive sections deal with the purpose and operation of goods sheds, their origins in the infant days of national railways, the varying plans and design of sheds including individual company characteristics, the larger warehouses and structures in major railway centres, the refinement of the form in the last century and recent attempts at conservation of what is now a defunct building type. The book ends with a 24-page gazetteer of surviving structures and a useful bibliography. There is no index.

The examples studied start with the once-familiar general purpose shed at minor stations, operated by the station staff and providing secure, enclosed, under-cover space for goods awaiting the daily train or collection by the consignee. Then there were the larger structures at busier centres, often with dedicated staff and a wider variety of traffic. Specialised warehouse premises reflected the industrial activity of particular towns, such as textiles, beer, grain or potatoes. The daunting scale of these operations, and the torrent of paperwork which accompanied them, are vividly evoked. As illustrated here this specialised building type evolved over time in response to operating experience and the changing nature of traffic: even between the wars and after 1948 there was further development in some major centres, although now of a wholly utilitarian nature in contrast with the embellishments of traditional designs. The earthquake of change after the 1960s swept all this away, even the new structures at such places as Peterborough

and Hither Green. Whilst passenger facilities have latterly faced the conflicting demands of conservation and rapidly growing traffic, no such dilemma surrounded the goods shed and although in some cases adaptation for other uses has followed, the type is wholly redundant today.

The work is beautifully produced, with a wealth of colour illustration as well as awe-inspiring aerial views from the inter-war years showing the gigantic scale of urban goods yards. Specially produced diagrams and cutaways capture the functions and methodology of the goods shed and warehouse.

This is an introduction to a vast and overlooked topic, and rarely has your reviewer put down such a book longing for more.

★★★★★

GBS

The Settle–Carlisle Railway 1850–1990: The Building and Saving of a Great Railway

By Martin Pearson. Published by the author, 92pp, softback, ISBN 978 0 9955652 0 3. £13 including postage from J. M. Pearson, 23 Town Head, Settle, BD24 9JB, or on-line from www.foscl.org.uk/shop

There is nothing like an unsolved mystery. In popular fiction it can often remain unfathomable and is forgotten for many a year, only for the truth finally to be unpicked through the relentless zeal of a detective able to uncover new evidence. It might seem unlikely in the real world of railways, but such in essence is the theme of this new book on the Settle–Carlisle line that is like no other.

The detective is Martin Pearson. He devoted three years seeking the answer to one fundamental question that perplexed all those involved in the 1980s war of attrition to save the Settle–Carlisle. Why was the line suddenly repressed when the battle seemed lost and the Government was "minded to authorise closure"?

Attempting to find the answers involved sources that many a railway historian would dismiss as inaccessible. Not so this author, who resolved to use the Freedom of Information Act with remarkable results. Just as a reviewer should not spoil it for the reader by disclosing the solution reached by a fictional detective, so it would be wrong in this case to reveal all.

The way it was unravelled is itself fascinating. The 'dysfunctional' Cabinet Office was totally unhelpful and ignored letters, enquiries to the Attorney General's Office brought a negative response and only after threatening to go before a tribunal chaired by a judge were key documents produced by the Department of Transport. They reveal a state of affairs often far removed from radical decision-making and more akin to the classic television series *Yes Minister*. This is raw politics applied to railways that is both fascinating and alarming.

Many of those involved in the drama from Margaret Thatcher downwards are now gone but there are notable exceptions. They include Ron Cotton, appointed with a brief to close the line and instead securing a phenomenal increase in traffic. Above all, there is Michael Portillo who writes a foreword to the book, re-affirming that he regards saving the Settle–Carlisle as his greatest achievement but stressing he does not claim "sole ownership of the act". Yet as he puts it, "the decision bore my fingerprints".

The whole saga of the 1980s is set in the context of the line's past history, including protracted birth pains when the Midland

Railway tried to get out of obligations to build it in the first place. It should be stressed that this book started as a scholarly study of decision-making and the text is a step-by-step analysis rather than continuous narrative. This matters little as it is utterly compelling and an essential addition to Settle–Carlisle literature. ★★★★★ DJ

Great North of Scotland Railway Road Services

by Mike Mitchell. Published by the Great North of Scotland Railway Association. Softback, 128pp, 49 colour, 148 black and white photographs, 10 drawings and maps. £15. ISBN 978 0902343 29 0.

This book is a comprehensive account of all aspects of the GNSR's motor bus and lorry operation. As its sub-title 'Railway Buses in North East Scotland 1854-1930' indicates, it also covers the horse-drawn 'Coaches in Connection' to towns and villages not served by its stations. The Aberdeen-based company usually made a contract with a local operator for an exclusive service from the stations with railway control of the fares charged. In some cases the Great North owned the coaches used by the contractors.

Once motor vehicles became available the GNSR was quick to take advantage of them and was the first railway in Scotland, and the third in Britain, to operate motor buses to provide feeder services. It became second (jointly with the North Eastern) to the Great Western in the size of its road motor and steam lorry fleet.

Great North of Scotland Railway Road Services covers all aspects of the railway's bus operations including the routes, the fleet, the depots, accidents and financial results. The book is well illustrated with photographs and plans of the buses and of the tickets issued.

Two chapters cover the road goods services to GNSR stations and its motor and steam lorries. While much of the road cartage was carried out by contractors, particularly Wordie & Co., the Great North became a substantial steam lorry operator.

The GNSR bus services passed to the LNER who pruned the routes, which had mostly become unprofitable. Following the Railway (Road Transport) Act the services were taken over by W. Alexander & Sons. Many of the routes are now operated by Stagecoach, while Aberdeen is the headquarters of fellow railway franchise holder First Group, the successor to the City's Corporation Transport. It is ironic that while a century ago railway companies operated buses, now bus companies operate railways.

This book can be highly recommended, both because it shows how road feeder services served railways from their earliest day in North East Scotland and also because it throws much new light on one aspect of what had become by the 1900s a very enterprising railway.

★★★★★

NTS

Railway Guns: British and German guns at war

by John Goodwin, published by Pen and Sword Transport, hardback, 122 pages, £19.99. SBN 1473854 11 3

This is an intriguing book, the title of which possibly doesn't adequately convey what is contained within. The emphasis, to your reviewer's mind is rather on 'artillery' rather than 'railways' and the book contains a large selection of excellent pictures of railway guns and associated equipment both in action and 'at rest'.

The text seems to take a rather disjointed course. From the first working railway gun in

Britain – step forward the Sussex Artillery Volunteers and the LBSC – it is a short step to the Western Front and not simply British and German guns but those of our French and American allies as well. A chapter entitled 'Gunners and Sappers' gives an interesting outline of the training of troops in the operation of, and the organisation required for, the movement and deployment of rail-mounted guns.

Your reviewer found the second half of the book the more coherent and informative as this deals with the Second World War and the rail-mounted artillery which faced each other across the Straits of Dover from 1940 to 1944. On the British side there is a detailed account of operations in Kent and Sussex and this is mirrored by German activities in the Pas de Calais. The map showing the scope of Operation Sealion is fascinating.

Your reviewer couldn't quite see how the humble water column merited two full pages of illustration in a book of this nature and there seemed to be confusion on pp72 and 74 as to what actually constitutes a Dean Goods or an ex-Great Eastern 2-4-2T (LNER Class F4). But, as with many recent railway-related publications, this book follows another neglected branch line in the story and the author is to be applauded for bringing this to light. The book has a useful index and a comprehensive bibliography.

★★★

DWM

Armoured Trains - An Illustrated Encyclopaedia 1825-2016

by Paul Malmassari, published by Seaforth Publishing, hardback, 528 pages, £50. ISBN 978 1 84832 262 3

This is a truly weighty tome – in every sense of the word! First published, in French in 1989, this edition has been expertly translated by Roger Branfill-Cook, fully revised and updated.

The book comes in three distinct sections. There is an introduction which outlines the military rationale behind armoured trains. The principal content of the book is an encyclopaedic study of armoured trains world-wide by country travelling from Angola to Yugoslavia by way of, for example, the Confederate States of America, Lithuania and South Sudan.

Each of these 'chapters' contains an outline history, lavish illustrations and concludes with a sources section detailing further reading and references. The illustrations are remarkable, ranging from pictures of veritable 'Dreadnoughts' on rails – perhaps not surprisingly used in Russia – to contraptions which Corporal Jones and his colleagues would have been at home with had they been on active service in Argentina. And finally appendices cover armoured trains in art and propaganda (in colour) and there are selected works drawings of armoured trains and trolleys. There is a comprehensive index and, as mentioned, bibliographies and other sources are included in 'national' chapters.

Your reviewer was delighted to see the 1940 armoured train of the Romney, Hythe & Dymchurch included in the Great Britain section of the book – although dismayed to find the Romney's gauge misquoted as 40cm. Leaving a matter of centimetres aside your reviewer was delighted to be able to comment on a book produced by a graduate of the French military academy at St. Cyr. This is a truly remarkable work, elegantly produced and, as the dust jacket confidently asserts, 'remains the last word on the subject'.

★★★★★

DWM



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Volume 208

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Next, there is a visit to the Gloucester to Hereford line before covering the Gloucester to Stroud and Chalford push-pull (in some detail), Kemble, Trowbridge and Westbury (1962), Bristol, Swindon Works and the famous Crumlin Viaduct (1963). Then onwards to Shrewsbury for the Cambrian lines to Talerddig Bank, Machynlleth, Aberystwyth, Barmouth Bridge and Portmadoc.

Returning to the Cotswolds area, we visit Wootton Wawen, Stratford-upon-Avon, Honeybourne, Broadway, Laverton, Cheltenham (including the last day of the local service in March 1960), Leominster, Titley Junction, Kington, Presteign (in 1964 and witness its last ever in-bound freight), Worcester Shed, Worcester, Pershore, Evesham, Littleton & Badsey, Chipping Campden Bank, Moreton-in-Marsh and finally Ascott-under-Wychwood and Charlbury.

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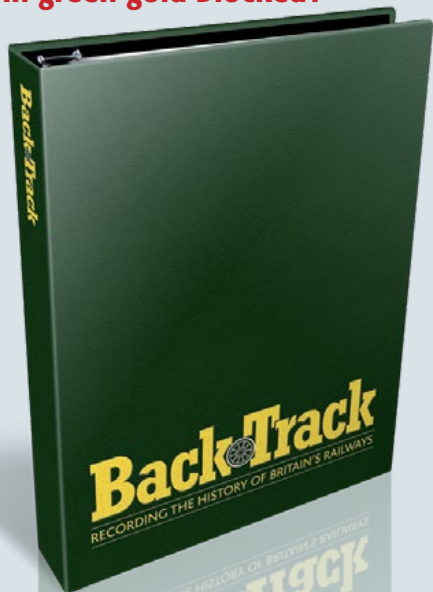
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ISLAND IN THE SUN

Isle of Man Railway 2-4-0T No.5 *Mona* leaves St. John's for Peel in the late 1950s. St. John's was the junction for the Ramsey line which was the track on the far side of the level crossing. A green Austin A40 van is at the front of the queue, followed by a Ford Popular with a Middlesex registration, probably a family holidaying on the island, with two 'railway children' enjoying the best view from the crossing gates.

(Colour-Rail.com 900011)

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