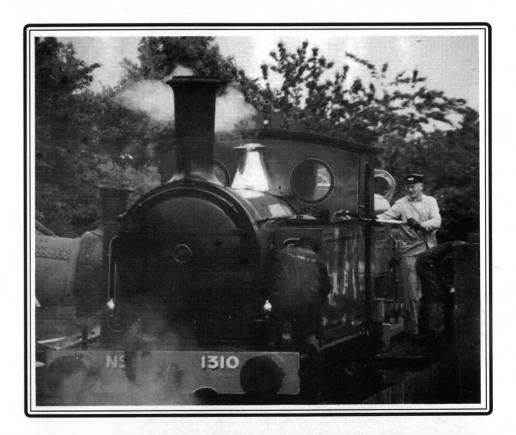
THE OLD RUN

JOURNAL OF THE MIDDLETON RAILWAY TRUST



No.165

SUMMER 1999

THE OLD RUN

No. 165 SUMMER 1999

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Opinions expressed in the magazine do not necessarily reflect those of the Middleton Railway Trust Ltd., Middleton Railway Association, or the Editor. Many thanks to the members who provided articles, reports, letters and photos for this issue.

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Cover picture: Coaling up 1310, 31.5.99.

Photo: Keith Hartley

EDITORIAL

JOHN BRIDGE

Welcome to the Summer edition of THE OLD RUN. This will be my first attempt at editing a magazine of any kind but I hope I am able to rise to the challenge. I have taken over the role as Editor (temporarily at least) from Sheila Bye who will still continue to be Historian and Archivist. I would appreciate any feedback that readers may have in order to attempt to improve the layout, content or any other aspect of the magazine.

My interest in Railways goes back to the late 1950's when as a 10 year old I sat on Knowsley Street Railway Station in Bury with my 'Ian Allan Combined' waiting for something more exciting than the local three coach Rochdale to Wigan stopping train to show up. Grammar School opened up a whole new world as the Railway Society organised many trips to long gone places such as the rolling road at Rugby, Horwich Works and numerous engine sheds and works all over the country.

All this sadly came to an end along with my school days. Work, career and family life took over for the next 30 years until this year when I was introduced to The Trust and volunteered to give the editorship of this magazine my best shot. I hope you enjoy this edition.

ARTICLES for the Autumn issue should be sent to the Editor by e-mail or post (see head of col.1 for addresses).

PHOTOS SHOULD STILL BE SENT TO:

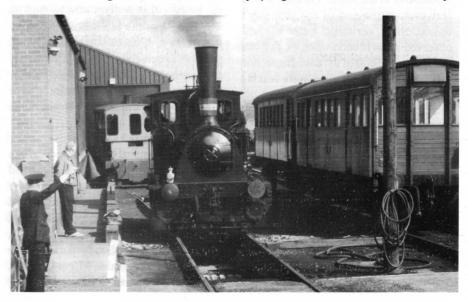
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sbye@leylands.free-online.co.uk



Above: The Moor Road platform heaves under the number of visitors to this year's first "Thomas" event 24.4.99. Photo: Howard Bishop

Below: 385 running round the train in the early spring sunshine. Photo: Keith Hartley



LOCO NOTES

STEVE ROBERTS

There was a time, not so long ago, when we considered that we were in an enviable position with regard to loco availability if we had three steam locos available for traffic. How times change! Nowadays, if we are down to three serviceable locos we consider it a minimum desirable state. When we get down to two locos, contingency plans are the order of the day. One loco and its panic stations! Well not quite. When we did reach one loco status a couple of months ago, we didn't panic but we sure had our fingers crossed!

385

385 started the season and ran quite satisfactorily over the Easter period. It was choice engine for the other locomotive at the April 'Thomas' event. However, at the end of the first day's operations a veritable waterfall was observed in the firebox when the fire was dropped at the end of the day. Inspection revealed that several tubes were leaking and the loco was immediately taken out of traffic. Subsequently, it was decided that replacement of these leaking tubes could not be justified in view of the known condition of the remainder and the fact that the ten year boiler life would expire in November, in any case. Sadly, therefore, 385 has worked its last train for some time to come. The future for the loco is positive, however. It has been a firm favourite with loco crews for many years and its overhaul is likely to be sooner, rather than later. Much work will require to be done to the boiler, as well as a mechanical overhaul. It is known that, besides a retube, the crown stays require replacement and there is wastage of the copper firebox to consider. A meeting with the locos owners, The Steam Power Trust, is being arranged to discuss the best way forward.

<u>1310</u>

Although technically serviceable, the Y7 did not see use during the first few weeks of the season and remained winterised whilst various minor jobs were carried out. The injector cones have been acid cleaned to remove scale build up and modifications have been made to the steam brake lubrication. During its last overhaul, a mechanical lubricator was fitted which, amongst other things, lubricated the steam brake cylinder. This had not proved a success and steam from the brake cylinder continued to find its way back into the lubricator oil despite the presence of check valves and several attempts to cure the problem. This supply has now been disconnected and oil is now fed into the brake cylinder via a lubrication pot fitted to the steam brake valve.

Following its annual boiler inspection, the loco was put back into service at the end of May. As previously mentioned, the East Anglian Railway Museum had requested the loan of the loco for a short period over June/July this year and, although we had already suffered the premature withdrawal of Mirvale & 385, we agreed to honour this request and

Allely's low loader duly transported 1310 to Chappel at the beginning of June.

The visit to the E.A.R.M. has been very successful, according to reports, and the loco has performed faultlessly during its 'holiday'. It returned to Middleton metals on July 8 and, after a boiler washout, is due to operate services over the coming weeks.

1625

This gallant little loco has proved to be a very useful asset over the last few months. Indeed, on one brief occasion it was the only loco available for traffic following the departure of 1310, the need for repairs to Sir Berkeley and the delayed entry into traffic of 2103. Despite its small size it has proved eminently capable of working the service and is becoming more popular with crews as time passes. Its only real drawback is the noise that is created by the vacuum ejector. If we can silence this we will have achieved quite a turnaround from the loco that first arrived a few years ago. In those now distant days the sceptics said that it would never be capable of working any train unaided.

<u>67</u>

Work on the Ship Canal tank has slowed recently mainly due to the push to complete 2103 and the need to operate the passenger service. However, some useful progress has been made. The cab coal bunker has now been completed and fitted, along with the right hand side tank. Repairs to the left hand tank are now

completed and this currently awaits the application of the first of several coats of paint. New oil pots have been made to feed the axleboxes and these await fitting as labour permits. Next in line for work to commence is the boiler. Some minor repairs are required to the smokebox tubeplate but nothing else is currently expected other than a retube to bring the boiler up to scratch. The only other major task is refurbishment of the cab roof and. to be truthful, shortage of shed space is preventing progress on this item which remains at the top end of the vard. Progress on 67 should speed up considerably once the Peckett is completed and in service.

1601

It would have been great to report positive progress with this loco's new boiler but, in truth, it has been one step forward and two steps backward. Our application for a Science Museum PRISM grant was turned down on the principle that a new boiler was not conservation. A resubmission to the Science Museum for money towards repairing the old boiler was then turned down on the premise that the most sensible route for us to take would be to obtain a new boiler! We hear of so many successful grant applications, such as for the Furness Railway Loco Project that we just don't know why we cannot find similar favour.

2387 BROOKES No.1

The owner continues to make steady, even spectacular, progress with the overhaul.

The chassis is now all but complete and only minor works need to be done. A new rear drawbar has been fitted to replace the bent and corroded original. New side tanks have been made in place of the original saddletank, which remains in store. Painting of these side tanks and the wheels in bright blue livery give a broad hint as to the locos immediate future! A new coal bunker has also been fabricated. All these items await fitting once the new boiler is in position. Alas, problems with manufacture of the boiler has meant that it is several months behind schedule. It is now hoped to deliver this to site during August, following which it will be immediately fitted into the frames and reassembly can begin in earnest. The owner has a target steaming date of the September Gala and it is pencilled in to be a star attraction at our Autumn Thomas event.

2103

This little Peckett has seen the brunt of the volunteer effort over the last few months. What we thought would be a relatively simple job to bring the loco into service has become a bit of a marathon. Following rather lengthy discussions with our Insurance Company we reached agreement on the level of stripping down and inspection required to obtain a further five year boiler life. This entailed us in stripping all the boiler cladding off and exposing all the external areas of the boiler. Fortunately, the firebox on this loco is fairly narrow and there is an adequate gap between the firebox sides and the frames to enable a satisfactory

examination without lifting the boiler from the frames. Having prepared the boiler, our local Inspector, together with one from head office, spent a whole day closely examining every aspect of its construction. Some concern was expressed at an area of the copper firebox that had become somewhat thin and there was much discussion on this and other aspects of construction. One problem facing us at the end of the millennium is that loco boilers were invariably built to empirical formulae derived from years of experience and when you apply modern design concepts and calculations you do not get sensible answers (or at least, those you require!) even on parts which are as good as new. However, in the end, the boiler has been given a clean bill of health and declared fit for service. The visual inspection was followed by an hydraulic test to 1 times working pressure, again without problem.

Once the boiler inspections were out of the way, reassembly could begin in earnest. New insulation has been fitted and new lagging plates made to cover the area around the firebox. The tank has been cleaned down, repainted and refitted. Many hours have been spent on painting, sanding down and yet more painting. At long last the top coats have been applied and lining out is progressing rapidly.

The loco came to Middleton lacking a boiler clack valve. Attempts to locate a replacement proved fruitless and we have had to resort to having to manufacture a wooden pattern, have one cast from this and machined. This task, apart from the actual casting, we have completed within house. Completion is now well within sight, if somewhat behind our original June plans. Subject to a successful steam trial, the loco will see service before the end of the season.

<u>54</u>

Work progresses, albeit slowly, on the overhaul of our Sentinel at the Buckinghamshire Railway Centre.

1210 SIR BERKELEY

We have been fortunate to have this loco available throughout this season although we are restricted in the number of times we are allowed to steam it. With our present somewhat precarious loco availability it has been a very useful asset. Sir Berkeley did, unfortunately fail in service with a holed main steam pipe elbow. However, a replacement was soon made and fitted enabling the loco to make a speedy return to service.

7401

This favourite diesel unfortunately suffered from a bout of vandalism during the early part of the season when cab windows were broken and the various cab gauges and pipework smashed. Repairs have now been effected and the loco is now back in service.

91, D631, D577, 138C Rowntree No.3 and 1786 are all serviceable and are used as required. All other locos remain stored, awaiting repair.

NOTES & NEWS

STEVE ROBERTS

MIDDLETON PARK EXTENSION

Much behind the scenes work is continuing and we are hopeful that a positive announcement will be forthcoming before the end of 1999. Leeds City Council are now looking at a variation of the proposed route which will, if feasible, have several benefits. This route was, in fact, considered in the early days of the scheme and rejected, ironically for one of the very reasons it is now finding favour! The route skirts the area that was once the baled waste tip. The presence of this tip has been a major problem in our attempts to progress the extension as the contents of the tip are not properly know and the future settlement cannot be accurately quantified. The revised plan, skirting the tip, was originally declared unsuitable as it required a significant embankment and recontouring of the land. Times change and now Leeds Council have a considerable amount of fill locally which they are looking to get rid of. An embankment would solve this problem and result in the trackbed being built at no effective cost.

WEEDKILLING

An annual task is the operation of a weedkilling train to control the weed growth along the track. As usual Nomix Chipman supplied the Dexuron weedkiller and the train was run during the early part of June.

MOOR ROAD CROSSING

This crossing has been giving concern for several years as the track gauge had spread considerably at the eastern (Balm Road) end. We did not know the construction of the crossing so the reason for the track spreading, and its overall condition, was subject to much conjecture. Thanks to help from Leeds City Council, we carried out remedial repairs at the beginning of July. The council excavated the tarmac around the rails enabling us to carry out the necessary repairs. It was discovered that the rails were only held to gauge by tie bars at about twelve foot intervals and those at the eastern end had fractured through allowing the rails to spread. The rails themselves were supported on a variety of non descript materials, ranging from fishplates to chairplates and a minimal amount of concrete. We were pleasantly surprised to find that the rails themselves were in very good condition, fit for many more years service. The corroded tiebars were removed and new ones fitted in their place, together with an additional one to reduce the distance between support. Having completed the remedial works, the Council concreted the rails and finished of with a new layer of tarmac to leave a neat, sound piece of work.

MUSEUM

Some, albeit minor, progress has been made with conversion of the shed to a museum. The building is now essentially cleared, other than the lock up steel cupboard and assorted steel sections

along the track. Mirvale has been placed in the shed, along with No.6. The photographic display boards have been erected and two stationary engines have appeared as temporary exhibits. Work has started on erecting the partition wall to divide the remaining storage area from the exhibition area. Old habits die hard, though, and it is still very difficult to stop people leaving equipment in this shed as it still makes a good 'dumping ground!'

FROM THE MARKETING OFFICERS DESK......

The 1999 operating season has got off to a promising start.

The Easter weekend saw good numbers of visitors. Although it was not a Special Events weekend for the Railway we did advertise in local papers for children to bring their Easter Bunnies and receive an Easter Egg, supported by 2 for 1 vouchers, and this appears to have worked well.

The two April Friends of "Thomas" the Tank Engine weekends were a huge success with some of the highest numbers being recorded for such an event, again thanks to the appropriate publicity. There is no doubt that "Thomas" events capture the imagination of the young children and their families.

Then there was the recent Postman Pat Special event! Again good numbers of visitors were recorded, with numbers and fares taken in the one day almost equalling those of the two days last year. Fortunately the weather on the day was much better than the forecast had promised, although it did get wet later on.

We are carrying out some serious customer surveys this year, and some interesting statistics have been thrown up by those taken at the "Thomas" and Postman Pat events. Asked how people heard of us, 42% found out from local newspapers, 37% from friends, teletext

and the Internet, 9% from our leaflets, 3% from radio and television, and 1% each from tourist centres and other centres.

When asked from where they had travelled to get to the Railway the following facts were discovered:-

	"Thomas"	
	%	%
Leeds	46.00	56.76
Wakefield	22.00	5.41
Kirklees/Calderdale	8.00	18.92
Bradford	1.00	5.45
South Yorkshire	10.00	8.11
Lancashire	3.00	0
North Yorkshire	7.00	4.00
Cleveland	0	1.35
Others	3.00	0

And 70.83% of the people visiting us for "Thomas" said they were visiting us for the first time.



Above: 1310 seen at Park Halt, 19.12.98. Photo: Ian Dobson

THE RAILWAYS OF PERU HOWARD BISHOP

Having had a lifelong ambition to travel some of the Great Railway Journeys of the World, this year saw us visiting Peru, to see the Lost City of the Incas and to meet the Amazonian Indians in the Primary Rainforests.

By pure coincidence, railways featured in our journeying! My wife swears I do it on purpose, which is probably true. Readers may remember seeing Michael Palin travelling the length of South America by train en route to Patagonia, and his train becoming derailed high in the Andes Mountains. Well we travelled the self-same journey, and more by luck than judgement the train actually stayed on the track -just!

Our first train journey was from Punto on Lake Titicaca, at 14,000 feet along the three mile high line to Cuzco (12,000 feet) along the three mile high single track line on the Andean Altiplano, a distance of 382 km and taking eleven and a half hours. Having risen at 4.30 a.m. to visit the floating reed islands inhabited by the Uros Indians on Lake Titicaca we just managed to board our train before departure at 0830 hours. A quick glance at the state of the track confirmed to me that we were to be in for a rough and bumpy ride - an understatement in the event. Though speeds never got above about 30 mph and the coaching stock in which we the tourists travelled was equal to good Mk 2 stock and built in the 1960s, the ride was unbelievable. Every 60ft joint saw us literally bouncing into the air and to walk the length of the coach was almost impossible! Imagine taking a meal or a drink in such conditions. The meals and refreshments provided more often ended on the floor or one's lap than being eaten! I seriously thought that we were about to be thrown off the track on several occasions.

The train runs on three days a week, stopping at all stations, just long enough for the exhausted tourists some of them panting or clutching their altitudeinduced headaches, to get out and take photographs of the scenery or the Indians, the adults selling home-woven sweaters. pullovers and caps of alpaca and the children who hope to make a couple of Sol by posing with their bedraggled animals - goats, lambs and a bored and resentful llama. On the train there is a club car, chicken and chips, coffee and candy are available. The packets of cocoa leaves which are made into a tea, or according to instructions, are wadded up twenty or so leaves at a time, placed in the cheek and allowed to dissolve. Its mild narcotic effect suppresses the appetite and alleviates altitude sickness. The taste is nothing to write home about, but it's better than the shortness of breath and pounding headaches that attack passengers at three miles high and force them to retreat to the medical car to lie down and have their blood pressure checked or gasp into the oxygen masks. The tidy toilets are solid zinc, although they empty directly onto the track below. Posters affixed to the wall warn of cholera.

Peru's National Railway system

seems to have suffered from a total lack of investment in the infrastructure. Sounds familiar? The track was overgrown and urgently needed a tamping machine to visit. The main Middleton Railway track is of HST125 standard in comparison! Stations, apart from three main ones, were generally just unmanned shells, but the trains stopped at them all and did good business. Because trains are such rare things, in each town along the way the track is used by the locals as a market place, with stalls and produce spread out along the track. There is much commotion as the diesel loco sounds its horn continually and the train lurches to an emergency halt before proceeding at less than walking pace as stalls are hastily pushed to one side to allow the train through! It was with great relief that we eventually arrived at Cuzco later that evening - one of those rare occasions when I was actually glad to get off a train!

Our second train journey was from Cuzco to Machu Picchu (8,000 feet) to visit the Lost City of the Incas. This 900 mm gauge line takes tourists and locals and is approx 100 km in length, traversing several "switches" or "zigzags" at various locations in order to gain or lose height through the mountainous terrain. This entailed another 4.30 a.m. rise to board the 0550 hours tourist train (one of three that morning) all eight-car DMUs, modern with full catering services and a ride of infinitely greater comfort than the previously described journey. The local train for local people consisted of older carriages hauled by a Spanish built DE locomotive. Much track renewal

was taking place along the whole of this line. I learned on returning home that both lines are up for privatisation, and that no less than the Orient Express are proposing putting in a bid for them. They are even proposing building a cable car to lift visitors from the railway station to the Inca ruins at Machu Picchu.

No doubt prices will increase considerably as a result, and perhaps we visited just at the right time before too much development takes place in what is a fascinating and unspoiled area - a journey highly recommended, but one which requires a fair degree of stamina. And I thought it was going to be a holiday!

VCT WEBSITE

The Vintage Carriages Trust, based on the A 629 Halifax Road at Ingrow, near Keighley, West Yorkshire, has launched its own dedicated Internet Website.

The new Website will be frequently updated and currently includes colour photographs of VCT's fleet of carriages and locomotives, with full descriptions of each item. Also included are details of current VCT restoration projects, a brief history of VCT, details of the Railway Heritage Register Carriage Survey Project and information about the VCT Museum at Ingrow. Over the next few weeks it is planned to add further pages including details of VCT's publications and filming assignments.

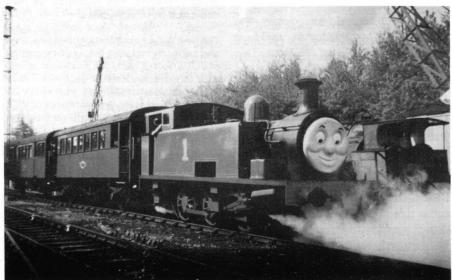
The previous VCT page on the Heritage Railways website now features an autoredirection to VCT's new website. The new address is:

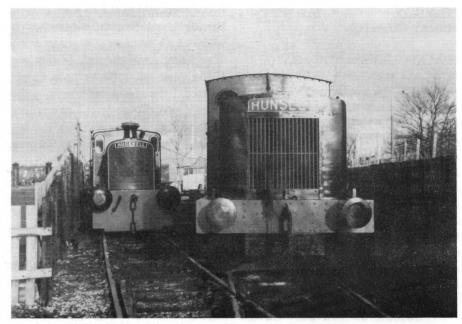
http://www.neotek.demon.co.uk/vct



Above: Carroll and Lucie 8.5.99. Photo: Keith Hartley

Below: Embsay's "Thomas" loco awaits its duties at the start of another day. 24.4.99. Photo: Howard Bishop

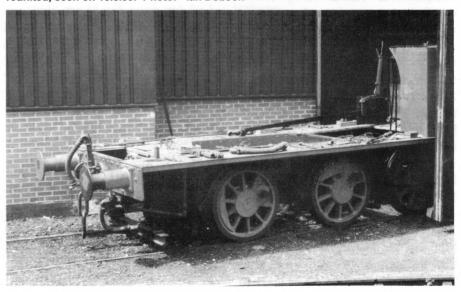




Above: Carroll and 7051, behind the Moor Road platform, 19.12.98.

Photo: lan Dobson

Below: "No, *Brookes*, you can't go out like that!" *Brookes No. 1's* frame and wheels, reunited, seen on 15.5.99. Photo: lan Dobson



REVIEW HENRY GUNSTON

TRACKING DOWN A "THOMAS" (AND THE LAST MANNING, WARDLE)

The Jazzer and the Last Manning, Wardle. A history of Hunslet Engine Co. Ltd. number 686 of 1898 and of Manning, Wardle & Co. Ltd. number 2047 of 1926 by Michael Shaw.

Published by the Warwickshire Industrial Locomotive Trust. 147mm by 210 mm, 64 pages, softbound. ISBN 0-9532903-0-1. Price £5.50, including post and package, from Mr A.R. Wiggall, 25 Enfield Close, Erdington, Birmingham B23 5SE.

Because of their busy travel schedules between railway preservation centres, the locomotives which masquerade as 'Thomas' rarely receive detailed coverage themselves. I was therefore pleased to come across this nicely turned out book, in which Michael Shaw leads us through the life of Hunslet 686 of 1898. This former Manchester Ship Canal (MSC) Company 0-6-0 side tank has been a regular visitor to Moor Road. Its centenary last year was a reason not only for this book, but also for a tour which included a visit to the Middleton last November, as featured in 'Old Run' No 163.

Hunslet 686 started life as the MSC No 14, named 'St John' after a Canadian port, and it worked on the Canal Company's extensive system until 1963.

It was then sold to ICI to work at their Blackley dyestuffs plant in Manchester, where it took the name of its predecessor, 'The Lady Armaghdale'. In the late 1960s, when rail traffic to the ICI plant reduced, Hunslet 686 was bought by the Warwickshire Industrial Locomotive Preservation Group (WILPG), leaving Blackley for the Severn Valley Railway on 14 July 1969.

The 'Last Manning, Wardle' of the title was the final MW locomotive produced at the Boyne Works on Jack Lane, 0-6-0 saddle tank No 2047 of 1926. It was delivered to the New Bilton Works of Rugby Portland Cement Co, where it worked until sold to the WILPG in 1967. As the first of the Group's two locomotives, it arrived at Bridgnorth on 22 October 1967, later taking the name 'Warwickshire'.

Through a dozen or so well informed short chapters, accompanied by a good range of black and white photos, Michael Shaw outlines the design of the 0-6-0 side tanks and their work on the MSC system. The work of 686 at ICI Blackley and 2047 at Rugby Cement is covered, and there is background information on the two Jack Lane locomotive builders. Finally come details of the lives of the two locomotives in preservation, the Warwickshire Industrial Locomotive Trust having now succeeded the WILPG. Whilst 2047 has not been active since 1977, 686 has lived a hectic life since its first performance as 'Thomas'

at Didcot in March 1994. According to the July 1999 issue of 'Steam Railway', the travels of Hunslet 686 this year include visits to the Middleton, Churnet Valley, Elsecar, Paignton, Dartmouth, Gwili, Pontypool & Blaenavon, Colne Valley, Cholsey & Wallingford, Swansea Vale and Avon Valley Railways, plus the Midland and Didcot Railway Centres.

A glimpse of the range of Jack Lane's building talent in 1898 emerges from a listing inside the covers of the book of Hunslet locomotives 677 to 689. 677 was a 3' gauge 2-6-0 side tank for the Tralee and Dingle in Ireland, 678-680 were a trio of 1' 10 3/4" gauge four-coupled saddle tanks for the Dinorwic slate quarries in North Wales. 681/2 were metre gauge tanks for the Perak Government Railway in Malaya. 683 was a standard gauge 0-6-0 tank for Baddesley Collieries, 684 was 'Jack', the 18 inch gauge tank for J. Knowles, wooden box manufactures, now preserved by the Narrow Gauge Railway Society. 685 and 686 were 'Montreal' and 'St John' for the MSC. 687 was 'Marchnant' a six-coupled standard saddle tank for the Birmingham Corporation Elan Valley Waterworks. Finally, completing a run of five gauges across thirteen locomotives, 688/9 were 5' 6" gauge 0-4-0 tanks for Colombo Harbour in Ceylon, now Sri Lanka. No boring, repetitive production line work along Jack Lane in those days!

Henry Gunston, Wantage, 18 June 1999.

LETTERS

Proposed Training Courses

Dear Sir.

It was interesting to read in the Spring 1999 journal of the proposals being considered for operating training courses for drivers. The idea deserves strong support as the passage of time means that newly trained drivers will be needed.

It set me thinking that extension of this idea would be worth considering for equipment. In particular, small items such as injectors and whistles could be brought to a course. In this way a new generation of people trained in the various aspects of steam locomotive operation will be produced: but setting up a School of Locomotive Maintenance will be quite a task! and it will require more volunteers.

Yours faithfully Geoffrey Street

Uniforms

Dear Sir.

In response to lan Dobson's letter about appropriate uniform wearing: may I suggest staff visit the North Yorks Moors Railway store at Grosmont. There you will discover an array of new and used ex.-BR uniforms. It is possible to buy a brand new uniform for around £12.50! At that price, and bearing in mind they are exceptionally long-lasting, they are very good value. So a day out on the NYMR can be very profitable.

I also think lan's ideas of a MRT logo polo shirt and MRT name and cap badge are worth pursuing.

Howard W. Bishop



Above: Carroll, with her Troublesome Trucks during the "Thomas" event, 24.4.99.

Below: Olive (the Drewry Car) and the hopper wagon, adorn the car park on 14.2.99 during the closed season track renewal programme. Photos: Ian Dobson



TIMES PAST - Summer 1816

Sheila Bye

Spenersche Zeitung, 20.6.1816

(As quoted, translated and slightly abridged, in C.F. Dendy Marshall's History of the Railway Locomotive Down to the End of the Year 1831)

The Steam Wagon that we saw several days ago at work at the Royal Iron Foundry in this place, is the outcome of a journey which our worthy Works-Superintendent Krigar has lately made to England. It is, as far as we are aware, the first constructed by him with the happiest results on the Continent, and is intended for Upper Silesia to be used for the transport of mineral coal from the Königsgrube to Königshütte where hitherto horses have been employed.

Production of steam, which sets the steam wagon in motion, takes place in a cast-iron cylindrical steam container 4 feet 3 inches long and 2 feet diameter which is fixed lengthwise on a simple wagon under-frame. This steam container is closed at both ends by a cast-iron cover, in the lower part of which is a round opening through which passes a second cylinder of strong iron plate, which serves as a fire flue.

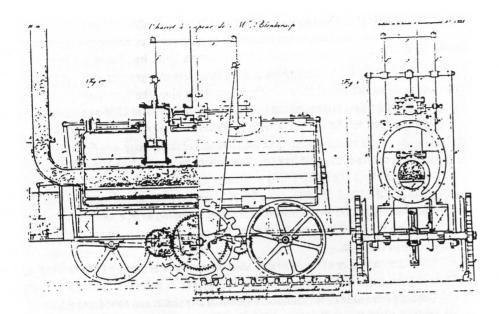
At one end, and inside this flue, is the grate for firing; at the opposite end of the flue and of the steam container rises the chimney, 6 ft. high, also of ironplate. The steam container will, when the wagon is in motion, be filled halfway up with water, which surrounds the flue on all sides and which is sufficient by the steam generated from it to maintain the wagon in uninterrupted motion for 9 to 10 hours.

Two carefully-bored iron cylinders each 1ft. 3 in. high and 6 in. in diameter are sunk in the top of the steam container, in each the piston with its upright piston rod moves up and down. The movement of the piston takes place through the steam under pressure contained in the upper part of the steam container passing alternately under and over the piston, in the first case forcing it up and in the second case pressing it down. This movement would, however, not take place if the steam were not at the same time removed from the opposite side of the piston. In the ordinary steam engine this takes place through the steam being condensed by cold water injection and the (condensed) water removed; here they escape, in a simpler way, through a junction pipe over the middle of the steam container, into the atmosphere. Connected with each of the two piston rods right and left of the steam container are two perpendicular connecting rods which by means of an 8 in, pinion situated under the steam container, engage with a larger 16 in. pinion and through that set in circular motion an outside toothed wheel 2 feet diameter and 3 inches wide. This principal wheel engages in a similar toothed iron rail and thereby pushes the wagon forward. The underframe of the wagon, with the machine just described upon it, rests on 4 iron wheels which roll upon the iron rails lying 3 feet apart, when the toothed wheel of the wagon is set in motion.

The first German-built locomotive was much smaller than the Middleton Murray/ Blenkinsop locomotives. Comparative measurements in inches were as follows:

	BOILER LENGTH	BOILER DIAMETER	CYLINDER DIAMETER	PISTON/ CYLINDER	COGGED WHEEL	CHIMNEY HEIGHT
MIDDLETON	114 inches	37/32 inches (oval)	c.8 inches	24 inches (stroke)	43 inches diameter	108 inches
GERMAN	51 inches	24 inches (circular)	6 inches	15 inches (height)	24 inches diameter	72 inches

(c.39 inches to the metre for those more metrically-minded. To further complicate



Above: Technical drawings of a Murray/Blenkinsop locomotive, from the Bulletin de la

Societe d'Encouragement pour l'Industrie Nationale

Below: The cast iron 1816 greeting 'card', produced by the Prussian Royal Iron

Foundry, Berlin.



matters, Prussian feet and inches were slightly smaller than English feet and inches!)

The German locomotive, which despite its smaller size was obviously copied from the Murray/Blenkinsop design, was built at the Prussian Royal Iron Foundry, Berlin, and tested in the works yard, where members of the public were charged a charity donation of four groschen (low value coins) to be admitted to see it working. The 'fact-finding' journeys to England, made by Herr Krigar and his colleague Eckhart between 1814 and 1825, were well-documented and full details still exist in the Prussian State archive at Berlin-Dahlem. The Foundry had obvious pride in being at the forefront of technology, and the locomotive appeared in one corner of the cast iron New Year greetings 'card' which they produced for 1816. (See illustration.) The text (I think) translates as 'IRON CASTS GLORIOUS WEAPONS IN ARTISTICALLY CREATIVE DECORATION AND UTILITY' 'GOD BLESS THE WORK OF IRON'. Some of the Foundry's other products were illustrated, including a large cannon, and other articles covering the inevitable results of using the cannon - a cross, grave marker, and tomb cover, all in cast iron.

The Prussian Empire at this time stretched from borders of the Low Countries in the west, where there was an iron rich area around the River Saar, across the northern part of modern Germany (give or take occasional independent city states and dukedoms etc.), and across Schlesien and Oberschlesien, now the northern part of Poland, where there was also a burgeoning iron industry. It was intended that the Berlin Royal Iron Foundry would supply a locomotive to both Oberschlesien and the Saarland, and after its test runs in Berlin, the first locomotive was dismantled and sent off in October to Chorzowa near Gleiwitz (now Gliwice, in Poland) in an unlucky thirteen packing cases. The fact that such a small piece of machinery had to be reduced to so many even smaller packages for transit, illustrates just how vast a change was made to the world by the later proliferation of rail transport.

On its arrival at Chorzowa, the locomotive was reconstructed, only for it to be discovered that the track prepared for it was to the wrong gauge - perhaps deliberate sabotage, due to the workers' suspicion of new technology. However, the locomotive had cost a large amount of time, money and effort, and Berlin naturally wanted the honour of being successful innovators in mainland Europe, so pressure was exerted and a short track was built to proper gauge for trials to take place. Dr. C. Matschoss in his book *Die Entwicklung der Dampfmaschine*, described how eventually "passive resistance, fear and aversion frustrated all further exertions of the central office, so that it was given up", though the modern Polish railway historian, Robert Kola, believes that it was put into use as a stationary engine and was still in operation a year later.

Further details about the Chorzowa locomotive were discovered by Mike Clarke, an industrial history researcher (Milepost Research, of Accrington). He was researching the network of canals which served the Royal Mines and Foundries in the Gleiwitz/Gliwice

area, when he found a drawing and description of the loco in the iron works archive there. He has also passed on to me details from the Hauptstaatsarchiv at Düsseldorf, including drawings and material concerning the second German locomotive, which was sent to the Royal Mines etc. in the Saarland area of western Prussia, but more of that one another time. The Gleiwitz/Gliwice archive's drawing is interesting in that it is a reverse copy of the famous technical drawing of a Murray/Blenkinsop locomotive published in France in the 1815 *Bulletin* of the Société d'Encouragement pour l'Industrie Nationale. The Prussian notes are a synopsis in German of the Bulletin's description of the locomotive, too, but it is difficult to define whether Prussia had the drawing and notes from France, or vice versa, or whether Prussia and France each obtained them independently from Leeds. The Prussian drawing has thick outlined main details, rather as if they have been 'transferred' using printers' ink. The fine detail is sketched-in much more crudely than in the published French drawing reproduced with this article (the Polish drawing probably is copyright!).

More new information arrived recently from former MRT member Rabbi Walter Rothschild, who now lives and works in Berlin. Looking through files of *Das Flügelrad*, the former German railways official magazine, he found in the January and March 1966 issues an amount of correspondence regarding early German locomotives. The first item was a short article with a copy of the 1816 New Year's 'card'. It mentioned a few names connected with the early development of steam locomotion, including Blenkinsop, and appears to imply that the first loco and its builder were the objects of local mockery. Two issues later, a letter was printed from Marie Krigar of Hameln, referring to the article – my (rough) translation of the letter being:

... the locomotive on the plaque. It is not the invention of an unknown master. but it was my greatgrandfather Johann Friedrich Krigar. He was Ironworks Foreman at the Kreuzburger Ironworks in Oberschlesien, and in 1804 was, through Graf (Count) Reden, made the Mine Captain of Schliesen, and was later Minister for Mining and Metalworking in Berlin, called to Berlin to collaborate on the founding and administration of the Royal Iron Foundry. In 1810. he was appointed Director. In 1814, the Administration dispatched Greatgrandfather to England, to study the possibilities of applying steam power to transport. In 1815, after his return, under his leadership and to his plans, the first German locomotive was built. I have no knowledge about him supposed to being mocked by the Berliners, and he also did not let the machine travel in the Iron Foundry yard (just?) for public amusement! The Berliners anxiously gaped at the little locomotive, "which moved itself on a track without horses with its own power and hauled a load of 50 metric hundredweights" - as the Vossische Zeitung wrote at that time - on account of its sizzling and hissing. In 1818 another locomotive was built, that your article likewise not fully described. In "Kramer's History of the Royal Iron Foundry" is to be read "The successful test run lays down a shining testimony to the understanding, knowledge, spirit of adventure and forward-looking genius of its builder."

The earliest attempts to develop steam-worked railways in several countries were very closely linked to the success of our own Railway's experimental use of locomotives

and, though Herr Krigar's attempt to introduce steam locomotion into Prussian industry failed, other Germans came to Middleton in later years, seeking information for the same purpose. In the early 1830's, shortly before the demise of the last of the pioneer Middleton locomotives, Johann Andreas Schubert came to Leeds from Dresden in Saxony, seeking, as his fellow Germans had done in earlier years, evidence to help him promote steam railways in his own area. Schubert eventually succeeded, and though the inaugural locomotive on his 1839 Dresden-Leipzig railway was English, another, *Saxonia*, was built completely in Germany (*not* a Murray/Blenkinsop type though!). At the railway's opening ceremony, protocol demanded that the English loco hauled the train, but the loudest cheers were for *Saxonia*, which Schubert cheekily drove behind the official train with loudly-blowing whistle, to the obvious delight of the crowd. Sadly, *Saxonia* was soon acclaimed as the first German-built locomotive, overlooking the experimental efforts of Herr Krigar more than twenty years earlier.



Above: Inauguration of the Middleton Lodge memorial on 13.5.98.

L-R Mrs. Dorothy Hebden, Mrs. Linda Middleton (local Councillor, then Lord Mayor of Leeds), and Ian Smith (then MRT Chairman). Photo: Ronnie Hebden



Above: Mary on the ParkHall passing loop, 26.6.99. Photo: lan Dobson

Below: "Thomas" scampers along the Park Hall loop, 1.1.99. Photo: lan Dobson



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