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EARLY DAYS ON THE LEEDS & LIVERPOOL CANAL

By Gordon Biddle

(continued from page 69)

The problem of supplying water to the Yorkshire side was solved by tapping streams running into the Aire, the main ones being Morton Beck near Bingley and Eshton Beck at Gargrave. Later reservoirs were constructed at Foulridge, and up in the fells at Winterburn. But to obtain water for the canal across the flats between Liverpool and Newburgh was a different matter, the only source being the River Douglas, which the Company were prohibited from using under their Act. As the Douglas Navigation would obviously lose its staple coal trade once the proposed Wigan branch was completed, the proprietors saw their chance and in January 1772 the Leeds & Liverpool accepted an offer of 29 of the 36 shares at an agreed price, thereby obtaining a controlling interest. Now the Douglas could be used as a feeder, and in order to obtain an early return on their large purchase the Lancashire party prevailed upon the rest of the proprietors to agree also to using the Douglas as part of the main line, instead of the direct route from Newburgh to the Ribble, and thus do away with a Wigan Branch altogether.

Meanwhile, the remaining dissentient Liverpool shareholders who had withdrawn their capital at the Burnley meeting in December 1769 had deposited a Bill for a shorter canal to Wigan. The Leeds & Liverpool enlisted the aid of Wigan Corporation, the Sankey Brook Navigation and a number of interested landowners in order to defeat it in 1772 after a parliamentary battle. This fight made it clear to the Leeds & Liverpool proprietors that their purchase of the Douglas was not quite so astute a move as had appeared, for it became obvious that the shallow, winding, narrow and neglected river could not be used indefinitely. Rather than throw good money after bad in an attempt to improve the river, a new cut was decided upon. Killick says it was a joint venture with the still nominally independent Douglas Navigation, but it is not hard to imagine that the Leeds & Liverpool dragooned their partners in the Douglas Navigation into participating in return for being sold a virtual white elephant. The new cut was made from Newburgh to Wigan and ran roughly parallel to the river, it being called the Upper Douglas Navigation. In 1780 the Canal Company obtained the remaining shares in the Douglas and a second artificial cut was then made from Burscough to Tarleton in 1781, thereby avoiding entirely all but the last two miles of river. This was called the Lower Douglas Navigation, now known as the Rufford Branch. Acquisition of the Douglas was recognized by an Act of 1783.

In 1772 Longbottom's salary was increased to £500 per year, plus £50 entertainment expenses. In October efforts were made to arrange a connexion with the Mersey at Liverpool but difficulties with the Corporation led to a terminal basin being constructed at North Lady's Walk as originally authorized, and the Mersey cut was not made until 1846.

On 8 April 1773 the Bingley-Skipton level was opened amid great rejoicing, and two boat loads of coal were sold at Skipton at half the normal price of cartage. Later that year, on 26 October, 31½ miles were recorded as being navigable, from the Douglas to Liverpool, while 23 miles were finished in Yorkshire, at a cost of £2,600 per mile, considerably exceeding Brindley's estimate. On 22nd February 1774 the Liverpool end was formally opened, a number of gentlemen sailing up to Litherland where the usual junketing took place to the accompaniment of numerous 21 gun salutes. A month following, on 22 March, five boats passed down "the Grand Lock" (Bingley five-rise), marking the opening from the junction with the Bradford Canal at Shipley. Passage of the 59 feet fall took 29 minutes, accompanied again by a great deal of public acclamation. By June, 18 boats carrying lime and coal were plying regularly between Skipton and Bingley and 40 lime kilns were in course of erection between Skipton and Bradford, an example of an ancient local industry being revolutionized by canal transport. The Wigan-Liverpool section was finally completed in the autumn of 1774 and ceremonially opened on 8 October, the festivities including a cruise, a parade of 215 workmen, a cold collation on the quay and dinner at George's Coffee House, Liverpool.

Progress on the Yorkshire side as far as Holmbridge, near Gargrave, was achieved by October 1774, but between Esholt and Leeds it was slower owing to heavier lockage and the fact that by April 1776 the funds had run out. The subscribed capital and several years' income had been swallowed up in constructing 32 miles of canal at an aggregate cost of £3,500 per mile in Yorkshire and £3,000 per mile in Lancashire. The largest single item was the purchase of the Douglas shares for £11,086. 0. 5d. followed by improvements costing £10,724. 7. 8d. The heavy expense of buying a controlling interest, only to find that it was necessary to spend almost as much again in avoiding use of the river, was undoubtedly the cause of the company's financial troubles.

On 4 June 1777 between 20,000 and 30,000 people watched the grand opening of the canal to Leeds, the previous celebrations being completely capped by a dinner and ball at the New White Cloth Hall, to which the Aire & Calder proprietors were invited. Indeed, the event must have been the talk of Georgian Leeds for years afterwards. 61 miles of canal were now open, 28 miles in Lancashire and 33 miles in Yorkshire. Here Killick's Notes end, but the story can be completed by referring to the published work of his predecessor, Joseph Priestley.

Apart from completion of the two Douglas cuts, straitened circumstances and the American War of Independence prohibited further work for 13 years, and completion of the whole work took another 39 years after a succession of fitful extensions. To this end an Act was obtained in 1790 to borrow £200,000 and vary the line, in which year cutting recommenced at Gargrave under the direction of Whitworth. He had previously re-surveyed and recommended a summit tunnel of 1,640 yards at Foulridge and several other improvements. Now the old Liverpool party came once more into its own, for the Company was forced to recognize that the rapid expansion of the cotton towns dictated abandonment of the direct line and adoption of what was virtually Burdett's route of 1769. The eastern portion of the direct line had, in any case, been abandoned when the Douglas shares were purchased. Another Act was obtained in 1794 to empower a deviation between Colne and Wigan and raise a further loan, and in 1796 the eight miles from Foulridge to Burnley were opened, including the tunnel. This portion, together with the following $9\frac{1}{2}$ miles to Clayton-le-Moors opened in April 1801 was the most expensive and difficult, containing as it did, the tunnel at Foulridge, Barrowford Locks, the high Burnley embankment and Gannow Tunnel. There are five reservoirs on this section, two at Foulridge (Great and Upper), Slipper Hill, Whitemoor and Barrowford. In 1810 another 8 miles to Blackburn were opened, with a reservoir at Rishton, and in October 1816 the final link between Blackburn and Wigan was completed. This was done at the price of abandoning part of the Leeds & Liverpool's own line in favour of 11 miles of the South End of the Lancaster Canal between Johnsons Hillock up into the Leeds & Liverpool, and the latter constructing

23 locks down to its basin at Wigan. Use of the Lancaster Canal was confirmed by a Lancaster Canal Act of 1819. The Leigh Branch, connecting Wigan with the Bridgewater Canal was opened in 1821.

So, after 55 years' work and the then enormous expenditure of £1,200,000, the Leeds & Liverpool Canal was completed. It is still open today in its entirety, having outlived its fellow Pennine canals, the Rochdale and the Huddersfield. Probably the grandest in conception, it remains the longest and finest canal in England.

(concluded)

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RAILWAY HISTORY: SOME STEPS TAKEN ON THE SOUTHERN REGION
TO PRESERVE THE RAILWAY STORY.

by H. W. Hart

Transport in some form or other had existed during the lifetime of countless generations of men before railways with their mechanical traction came upon the world scene, but their advent brought with it something which all previous forms of conveyance had lacked, namely speed and capacity.

The fast "Four-inside" coaches of the early 19th century were, for horse-drawn vehicles, the acme of comfort and service, but they carried but a fraction of the passengers conveyed by the Liverpool & Manchester Railway's first trains in 1830, and it is this sudden and gigantic widening of the transport horizon which makes the coming of railways a suitable commencing point for any study in the history of land transport.

Concerning this history, it is perhaps by no means fully appreciated what a wealth of interesting matter is contained in the existing records of the railway companies and it can indeed be said that the story of Britain's railways is based upon the Board and Committee meetings of those lines which on 1 January 1923, following upon powers contained in the Railways Act of 1921, were formed into the four Group Companies.

The perusal of these particular records shows plainly the framework of this great revolution in the life of the nation and at the same time often shows the breadth of vision of many of the railway pioneers. It is a history sometimes dramatic, sometimes even amusing, but always of great interest. When we think of the early Tyneside lines, the London & Birmingham Railway, the Broad Gauge and similar great works, who can say the story of the railways is dull?

Bearing these points in mind, it is therefore the intention to record, not history itself, but some of the means which have been

taken in recent years to preserve the historical record of rail transport, with general reference to the railways of this country and with special reference to the earlier lines which formed our present Southern Region. It could, in military parlance be termed: Operation "Preservation".

The Directors' proceedings were common to all railways and when one considers the number of companies existing at the end of 1922, and also those smaller concerns which, after long or short periods of separate existence, were merged into one of the old pre-Grouping companies, it will be appreciated that we are concerned with a mass of information. Together with such records there are, of course, proceedings in respect of those railways which existed on paper only; an example of such is the Beckenham, Lewes & Brighton Railway, which had a somewhat ghostlike existence in the middle sixties.

Apart from Committee minutes, other extremely useful sources of information are the annual reports and accounts as brought before the annual general meetings of the former companies. These are closely allied with the minutes of the respective Boards. At the same time Statistical records, Shareholders' manuals and time tables, public and service, are invaluable sources of information and are in fact the tools of the research worker in railway history and reveal the story of proposition, opposition and progress through the decades.

Shortly after nationalization of the railways in 1948, the wise decision was taken to centralize and care for all records of this nature at some convenient point, as they were at that time scattered throughout a number of offices in London and elsewhere and, it must be admitted, not receiving in some cases the care and attention which they deserved.

The result of this has been that at the present time a large and comprehensive library, carefully catalogued, exists at No. 66 Porchester Road, Bayswater, where it is under the care of the Archivist of the British Transport Commission. This library does not, however, include the proceedings of the lines formed into the North Eastern and the Scottish Regions, accommodation for these most interesting records having been found in York and Edinburgh respectively.

The importance of these collections is two-fold. In the first place they enable many questions concerning points raised in the day to day working of the railways to be answered. In the second place the facilities are of the utmost importance to the bona fide historian and research worker, and in this connexion it should be mentioned that many students engaged on their thesis for their University degree have been greatly helped both by the contents of the libraries and by the staff of the Archivist.

The records in respect of the Southern Railway's constituent companies, which covered a period from 1831 until 1922, are already installed at Porchester Road and information might well be given respecting them and the system of recording adopted before their transfer to the Archivist.

Prior to 1948, the Company's Books were kept by the Secretary, but on the abolition of his office they were handed over to the Chief Regional Officer, now again the General Manager, and combined with a certain amount of material, including copies of Board and Committee minutes already held by that officer.

It was, however, obvious that in order to build up a comprehensive record of the material which had been gathered together, a deal of careful scrutiny of the books would have to take place, and the first point which became apparent was the fact that the indexing of the former Secretary's volumes had been somewhat sketchy and had to an extent suffered for the reason that the index which had been made had been based for the most part, if not completely, on the wording shown on the spines and covers of the books. This was unfortunate, as Committees, especially those concerned with Traffic and Finance did tend to change titles over the years, with the result that titles and contents were at times at variance. At the same time there were even some cases where no connexion at all existed between the cover titles and the matter contained therein.

The result was that during 1952 an inventory of some 25 pages was made of all the minutes and report books received, some 1,800 volumes, the collection being housed in the Muniment Room which had been vacated by the Solicitor's office when it was removed from Waterloo.

The system adopted in the index was alphabetical, this being considered the easiest to work to and at the same time the easiest from a reference point of view. It was then a simple matter to make the groups thus formed into their individual railway sections and again sub-divide into the committees of these railways.

On arriving at this stage, the committees were set out in chronological order and the following example from the pages of the index will give an idea of how the system appeared in practice:

<u>Title</u>	<u>Period</u>	<u>Number of Volumes</u>
<u>London & Southampton Railway</u>		
(Title changes in 1839 to "London & South Western Railway". See entries under that heading for continuation)		
Court of Directors Minutes	1834-1841	1
Traffic and General Purposes Committee Mins.	1839-1845	1
Locomotive Power Committee Minutes	1839-1846	1

In order to straighten out many complications which arose, it was necessary for the index to be amply supplied with notes. This was unavoidable particularly by reason of change of Committee titles and also to explain the numerous occasions where the names of the companies had been altered.

It will however be seen that each Company's entry was an index to the historical matter available, and although in some cases gaps appeared in the chronological record occasioned by missing files, the overall picture was as complete as could be expected having regard to the fact that for many years the records had been looked upon by some of the people responsible for them as being merely a mass of material which had no particular use and took up a great deal of room.

Some of the material indexed was in respect of proceedings outside the ordinary course of railway operation, such as the Ashford Schools minutes, whilst other material was more or less subsidiary, e.g. Dover Harbour and Channel Tunnel Company proceedings. In some cases the material was dated well before the day of the steam operated railway, instances being the Ryde Pier Company whose Directors' Minutes commenced in 1814, and the Newhaven Harbour Company concerning which documents dated as early as 1727 were unearthed.

Examination of committee titles did however reveal some strange names. The London & Brighton Railway ran a Coal Wharf Committee from 1841 to 1842. The L. & S.W. RR. had an Accidents Committee between the years 1875 and 1873. Again the London & Brighton Company had committees termed, the Monday, the Wednesday and the Friday Committee. The first concerned works between Croydon and Horley, the second works between the latter place and St. John's Common, and the third works from St. John's Common to Brighton.

The strangest title is perhaps that appearing on a book of South Eastern & Chatham minutes for the year 1899:

Marine and Horses Committee.

This committee lasted for a year only; probably its semi-reference to the legendary Horse Marines had something to do with its short life. Anyway, 1899 was a tricky year for the railway in question and someone responsible for such matters may have been preoccupied when titles were being thought out.

It would of course be incorrect to say that these records were without blemish both from the point of view of condition and the matter contained therein. So far as the first point is concerned, some of the early Directors' Minutes of the L. & S.W.R. were illegible owing to damage, not by fire, but by the water used for quenching an outbreak many years ago. Generally speaking, however, the condition of the library was found to be very good.

The second point, Contents, relates for the most part to part omissions; these are mainly concerned with dates. Only too often mention was made of the fact that a "new station at X is ready for traffic and will be brought into use shortly." When "shortly" was very often did not transpire, no further mention being made of the station concerned. Such omissions can be extremely irritating and seem to savour of carelessness. They are, however, very small blots on an otherwise faultless parchment.

We are now entering upon a new era in transport history, the Diesel and Diesel Electric era. We can, however, rest assured that the history of the passing steam age will be carefully preserved by those appointed to do so, in order that the research worker of future generations will have access to all the relevant information concerning the period through which we ourselves have lived and worked.

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RAILWAYS SIXTY YEARS AGO THROUGH THE EYES OF THE "STRAND MAGAZINE"

By Horsley Denton

It would be difficult nowadays to name a monthly magazine circulating in this country that was read by all types and classes of people and which stood out "head and shoulders" above all competitors. But sixty years ago, the Strand Magazine was a British Institution, and apart from its many widely read articles of general interest, the public met in its pages their first glimpses of some of the most famous fiction of the time, much of which is still famous today. It was the age of Sherlock Holmes, of Brigadier Gerrard, of H. G. Wells and "The First Men in the Moon." So if we look into the pages of "The Strand" and casually pick out any references to railways, we shall get some idea of the interest taken and the importance with which they were held by their contemporaries at that period.

The Volumes XVII and XVIII which cover the year 1899 reveal, without actually reading every article and story, some 21 references to railways either in the illustrations or in the titles. They are a 'mixed bag'. The first, a farewell scene on a station, is an incidental story illustration, but the second comes in the Grant Allen serial "Miss Cayley's Adventures" which is much involved with a train journey from Euston to Edinburgh via York, Newcastle and Berwick. They stopped at Dunbar "a place not mentioned in Bradshaw" and the station-master re-started the train with a wave of his white flag.

The next reference is from one of a number of articles on "A Peep into Punch" with two important quotations from that paper, the first on the Railway Mania of '45 when Punch published a railway map in the issue of 11 October 1845 with the descriptive matter underneath

declaring that "though England will never be in chains, she will pretty soon be in irons". By 1899, the Strand Magazine describes the map: "to us nowadays, there is nothing remarkable in this Railway Map, which might be mistaken for a genuine railway map of England & Wales; but in 1845 when this map was made by Mr. Punch, he no doubt intended it as a satire." In 1959 we would hardly mistake it for the real thing and I doubt if many would have done so 60 years ago, for the network of lines shown in every direction is so considerable that even in Wales one could scarcely be more than five miles from the nearest railway anywhere in the country!

The second entry from Punch, "Mr. Punch scoffs at the Underground Railway Scheme 1846" throws some light on the earliest considerations of the London Underground. "We understand" they say, "that a survey has already been made, and that many of the inhabitants along the line have expressed their readiness to place their coal cellars at the disposal of the company." After quoting the prospectus which stated that the project could be accomplished without any serious engineering difficulties, Punch makes a number of suggestions regarding co-operation with the gas and water authorities in the use of their mains (!) and finishes with the comment "We perceive that no amount of deposit is named and nothing is said of the number or nominal value of the shares. The secretary is announced to be in attendance to receive deposits from eleven to two, though whether he gets any is, in our opinion ten to one." The 1899 article including this item comments that it was "not a bad shot as 'a prophetic view of the subterranean railways'" and points out that the works were commenced in 1860, 14 years afterwards.

The "Curiosities" section that came at the end of each edition showed "A very curious study in perspective" taken leaning out of a window of the 8th carriage of the forward part of a double-headed train about to pass over "one of the newly built granite bridges in Cornwall", while another "Curiosities" entry showed a runaway truck containing 20 tons of coal belonging to the Orange Electric Light & Power Company of New Jersey sticking out of a wall of the 1st floor of a building up to which it had climbed on a ramp after gaining momentum in $\frac{1}{4}$ mile of running away down an incline.

An article called "A Common Crystal" describes without detail the railway working across the Salton Salt Lake in Southern California, and another on the "Letters of Burne-Jones to a Child" was illustrated by a facsimile showing a train and a tunnel which latter the painter in pseudo-childlike spelling and language said was horrible but did not frighten him "because I am a man."

More serious attention to railway operating was given in the first part of "Two Railway Sensations - No. 1. A Great Railway Race" which took place between Chicago and Omaha, the stake being a 750,000 dollar mail contract and the two contestants being the two rival companies between those towns, the Chicago, Burlington and Quincy

and the Chicago and North Western. The trials took place for seven days beginning on 2 January 1899 and were reported with the care and detail seen in railway journals today. Doubt may be cast on the accuracy, however, when we read that on one trip "Every fast-mile record, including a record of a mile in 32 sec. made in 1893, was broken on the trip and the distance between Siding to Arion, 2.4 miles, was covered in 1 minute 20 sec. at the rate of 110 miles per hour."

The second "Sensation" was "A Railway Smash to order." Perhaps the truest sentence in the account is the one which reads "The idea could have occurred to no human being but an enterprising Yankee showman, with an eye to business of the most colossal kind." The stunt was for raising funds for a political group and took place near Denver, Colorado, on a suitable site enclosed with fencing "solid and high enough to prevent the show from being witnessed by anyone not paying an entrance fee of fifty cents." Two engines were set in motion against each other from opposite ends of a track specially laid over a mile long. The engines were "of great power, and, though not new, were by no means obsolete." (The photographs show them to be of 2-6-0 type with large 8-wheeled tenders). The spectacle at the moment of impact, described in the richest of journalese, might easily have been a different story, for all did not go according to plan. One locomotive performed more efficiently than the other and the crash did not take place at the calculated spot in the middle, and the account somewhat ambiguously says that "only a panic-stricken stampede prevented a terrible disaster" to the spectators nearest to the unexpected meeting place. The story also refers to the "forty thousand silent and awe-struck witnesses, many of whom were heard to say that on no account would they ever consent to witness such a sight again." The photographer was among those nearer to the crash than was intended and he is praised for his bravery in opening the shutter when he was not more than a hundred feet from the collision instead of taking to flight. The photograph he obtained of the moment of impact, however, seems to have been taken from considerably further off than that although it shows other spectators much nearer! In summing up, the writer states "Everybody was satisfied however - even the collision promoters who had a balance over expenses of about ten thousand dollars, or in plain £.S.D., something over £2,000!"

The concluding reference to railways in Volume XVII were again in the "Cuiriosities" section. There was an illustration of an American boxer impaled on the top of a locomotive with which it had collided. The explanation was that the "freight engine had extremely long bumpers" which when struck by the boxcar were knocked into such a position "as to form an incline up which it ascended with an impetus that landed it right on top of the engine itself." Finally, "The Shortest Railway in the World" (needless to say it was also in America). The photograph showed a very short section of standard gauge, properly ballasted track, on the wooded slope of a mountain

in the Olympic Range in Washington, about a hundred miles north-west of Seattle. The report said that "it was evidently built for the purpose of holding the 'right of way' through the mountain pass, but has been inexistence for several years now without being extended in any way."

Here then are the principal references to Railways in six months of one of the most popular magazines of sixty years ago. Obviously they are for the most part too flippant to be of serious value to the student of railways but they do give some idea of the type of interest the public took in them. Within the same decade, the Strand Magazine did publish several articles more directly concerned with railway operation than the examples here from the period of the six months of exactly sixty years ago. One whole article was devoted to the language of the shunter's hand signals, while another was on break-down trains. But while these technical articles were few, the railways of the time played a big part in the fiction and in addition there were always plenty of odd happenings on them in real life to provide the "curiosities" column with a fair sprinkling of entries.

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BOOK REVIEW

Walter McGrath: Some Industrial Railways of Ireland. (Cork 1959) 96 pp.

This booklet is a mine of accurate information about the "unknown" railways of Ireland. Twenty-two systems are described; these range from the passenger tramway between Galway and Salthill to the C.I.E. "Overhead" at Cork. A pleasing feature is the newness of the information, the reviewer himself had not heard of eight of the tramways until the publication of Mr. McGrath's book. Where the tramway concerned has already been the subject of an article in the Journal of the Irish Railway Record Society, or other publications, references are given.

In the introduction it is stated the lines described have been chosen at random from among the 85 industrial and other minor railways of Ireland. It is a pity, however, that the choice does not include the bog railways of Bord na Mona and that some mention is not made of the lines at Guinness Brewery in Dublin. A welcome innovation is the author's refusal to reproduce, in detail, information which is readily available elsewhere; this has meant the relegation of three of the better known industrial lines to a "mention" in the introduction.

The destruction of many public records and newspaper files during the "trouble" in Ireland has made the task of the Irish historian difficult. Mr. McGrath has overcome this handicap by intensive field work and heavy private correspondence. The result is an excellent, well illustrated booklet which will be of value to all serious students of Irish railways.

D. B. McN.

THE RAILWAY MAPS OF ZACHARY MACAULAY AND JOHN AIREY

by D. Garnett.

(continued from page 50)

John Airey entered the service of The Railway Clearing House on 5 June 1852. It has already been shown (p.50) that he was associated with the Distances Section in 1873 and it seems probable that he was associated with this branch throughout his time. It is pure conjecture that his chief was Henry Oliver, who joined the service as early as 18 February 1842 and who retired, as Head of the Mileage Sub-Department on 30 September 1897.

It will be remembered that Zachary Macaulay died in 1860. Two years later Henry Oliver and John Airey, in partnership, produced their first HANDBOOK OF STATIONS. Nothing is now known of the details of this Partnership. Airey would presumably need permission from someone to devote his time to a private commercial enterprise whilst apparently on the pay roll of The Railway Clearing House. Perhaps Oliver provided both finance and permission? Nobody knows now. The 1862 HANDBOOK OF STATIONS, though the first known publication with which John Airey was associated was not, in fact, a new idea. Eleven years previously, Zachary Macaulay had published his little-known LIST OF ALL THE STATIONS OF THE RAILWAYS OF GREST BRITAIN ALPHABETICALLY ARRANGED. The HANDBOOK OF STATIONS HAS no place in this series except as part of the story of John Airey. As with the JUNCTION DIAGRAMS, the early editions, with their supplements and appendices, justify a detailed study and the compilation of a list of known editions. No complete collection or reliable list of either publication is known at present.

Airey published his first BOOK OF RAILWAY JUNCTION DIAGRAMS on 3 January 1867. He was registered as the sole proprietor of the copyright and nothing is known that associated Oliver with this publication or its subsequent development into maps, though the Railway Clearing House have some 'Notes', prepared a number of years ago and not now checkable, which state that Oliver was associated with the early maps. The evidence of the Stationers' Hall Register is against this, however. As with the HANDBOOK OF STATIONS, Airey's BOOK OF RAILWAY JUNCTION DIAGRAMS had been anticipated. The British Transport Commission Archivist has in his keeping two books of railway diagrams which ante-date Airey's publication. One of these is dated 21/9/59 and the other appears to be some years later. Both are hand drawn and almost certainly unique. These two books came from The Railway Clearing House and were doubtless in use there during their currency. There is nothing to connect Airey with these two early books but he must have known about them, probably used them in his day-to-day work and may even have instigated them. Airey's first map was, in fact, a "diagram" covering a number of junctions which were close together and inter-related, but which could not be adequately shown on

the small sheet size of the BOOK OF RAILWAY JUNCTION DIAGRAMS. On 15 April 1869 he published the "RAILWAY DIAGRAM OF MANCHESTER AND DISTRICT" on a sheet measuring 15" x 22", to a scale of 1 mile to 1 inch. This was drawn, engraved and lithographed by J. Emslie & Sons, London, and was hand coloured.

Unfortunately all Airey's early maps were undated and it is only within the last few months that the writer realized that the cryptic "Entered at Stationers' Hall", printed discreetly outside the border lines in the bottom right hand corner, held the key to a mystery which has baffled even the Railway Clearing House themselves. With the kind help of Mr. Clinker, the Register of Publications which were "Entered at Stationers' Hall" was traced to The Public Record Office and duly consulted.

"RAILWAY DIAGRAM OF LONDON AND ITS SUBURBS" followed on 4 November 1869 and "RAILWAY DIAGRAM OF SOUTH WALES" on 5 October 1870. Second editions of 'Manchester' and 'London' are ascribed to late 1870 and a second edition of 'South Wales' to late 1871, probably before the next new publication, for which the title 'Diagram' was abandoned in favour of 'Map'. "RAILWAY MAP OF THE YORKSHIRE DISTRICT" was published on 20 November 1871. Thereafter, with one exception which cannot at present be reconciled with Airey's methodical development of the maps, the earlier 'Diagrams' had their Titled changed to 'Map' as they came up for further revision.

No maps are known which can be ascribed to the year 1872, up to the time of writing, but it is becoming increasingly clear that the picture of the early development of the maps is incomplete. It is known that only 100 copies of some of the early R.C.H. editions of 'Manchester' were ordered so the chances of survival of at least one copy of each edition, in an accessible place, is remote enough and in most cases Airey only deposited statutory copies of his first editions. Furthermore, the differences between editions which are undated are often minute and only painstaking comparison of every printed detail will reveal different editions of the early maps, though this is greatly simplified from 1873 onward when the list of 'Other Maps in this Series' first appeared in the bottom margin of each map as published or revised.

"RAILWAY MAP OF LANCASHIRE AND DISTRICT" appeared on 14 February 1871, this being the first new map to have the 'Other Maps' feature. 'South Wales' appears to have been revised again just before this as 'Other Maps' has not been added. Another edition of 'London' is ascribed to 1873, followed by one of 'Manchester', whilst 'Lancashire' appears to have been revised early in 1874. This 'Manchester' edition is the only one so far discovered which does not conform to pattern. It shows the C.L.C. to Skelton, opened 1 March 1873 and to Cornbrook, opened 2 September 1873. At this date it should NOT be called 'Diagram', which it is, and should have a list of 'Other Maps', which it has NOT.

"RAILWAY MAP OF STAFFORDSHIRE & DISTRICT" appeared on 19 May 1874 and this appears to have been followed by a revision of 'South Wales'. Another revised edition of 'Yorkshire' is attributed to late 1874 and this incorporates another development in that Airey has added his name to the title which is now "AIREY'S RAILWAY MAP OF THE YORKSHIRE DISTRICT".

"AIREY'S RAILWAY MAP OF SCOTLAND" was published on 1 January 1875. Between then and 20 December 1875 when "AIREY'S RAILWAY MAP OF THE COUNTY OF DURHAM & DISTRICT" first appeared, all the other maps were revised and adopted the title "AIREY'S RAILWAY MAP OF-", with the exception of Yorkshire, of which no copy attributed to 1875 is yet known.

The 'Durham' map marked the introduction of a new and important feature in that "January 1876" was lithographed on the map face, under the title. Revised editions of 'Scotland' and 'South Wales' carry the date "May 1876", but after that the month is omitted and with one known exception, now suspect, all new and revised editions thereafter had the year of publication lithographed under the title.

The foregoing have been mentioned in some detail as a necessary part of the story of the development of Airey's maps. A tabulation of all known editions is being prepared and it is hoped that this will be published as a supplement to the November JOURNAL. At the same time, details of the other maps, not so far mentioned, will be given.

Here is Airey's own description of his maps, taken from an early advertisement:- "These maps have been drawn from the Ordnance Survey, and compiled with great care from details supplied by the Railway Companies, all of which have been duly certified.* They show clearly the different systems of Railways in colours, DISTANCES in miles and chains, Stations, Junctions, Sidings, Collieries, Tunnels, Levels where lines cross, Private Lines and Works, also the Counties, Canals, Rivers, Docks, &c., and a complete list of the Running Powers and Working Arrangements in EACH district." All but the earliest has a feature which was subsequently dropped. This was a little panel showing prices, of which the following (London 1877) is typical:

PRICES

Sheet, coloured	2/6
Book form, cloth	4/6
" " leather	5/-
On rollers, varnished	5/6

* This could have been more happily expressed! D.G.

Mention must be made of "AIREY'S RAILWAY MAP OF ENGLAND & WALES". This was published, not "by J. Airey at the Railway Clearing House, London", as were all the other maps, but by McCorquodale & Company, who were joint owners of the copyright. Possibly this map was prepared by Airey for McCorquodale's so that they could have a map in competition with that published by Smith & Ebbs, who, as Mr. Clinker has pointed out, also did a great deal of the printing for various Railway Companies. The first edition of 'England & Wales' was published on 14 November 1876 but dated "January 1877". It was to a scale of 11 miles to 1 inch and measured 42" x 30". This was a lamentable map, black and white only, with the different companies' lines shown by a plethora of different chains of symbols. No second edition is known and it was evidently soon abandoned. However, Airey and McCorquodale's excelled themselves in the map which replaced this early failure and "AIREY'S RAILWAY MAP OF ENGLAND & WALES" published on 1 January 1881 was prepared from a plate engraved by James P. Emslie, son of Airey's original engraver, in the style which he afterwards used for the new plates commissioned by The Railway Clearing House. This map was lithographed in colour and marked a great step forward in cartography and was a really beautiful map.

Airey's business, including that carried on in partnership with Oliver, was purchased by The Railway Clearing House in January 1895, including all plates and stock. The 'England & Wales' map was not included in this agreement, probably due to resistance by McCorquodale & Co. Maps prepared for issue in 1895 were issued without change but James Emslie was commissioned to produce new plates for 'Scotland' and for a new map of 'England & Wales' to a scale of $7\frac{1}{2}$ miles to 1 inch. Both had the colours lithographed and appeared as "RAILWAY CLEARING HOUSE OFFICIAL RAILWAY MAP OF -" during 1896. No less than 4,000 copies of the first five editions of 'England & Wales' were published and subsequent editions varied between 1,000 and 1,500 copies each. Two revised editions were published in 1896 (and possibly others, of course). 'Derbyshire' appeared as "AIREY'S RAILWAY MAP OF THE DERBYSHIRE AND NOTTINGHAMSHIRE DISTRICTS", but was published by Harry Smart, Secretary Railway Clearing House, London", instead of "by John Airey". 'Durham', which probably appeared later in the year, had its title completely redrawn to accord with that adopted for the new 'Scotland'.

For 1897 issue, all the other maps had their titles re-drawn to the new design and Harry Smart in person was quoted as the publisher for the next several years. Airey's plates continued in use for varying periods, being gradually superseded by James Emslie's new plates with lithographed colours, the last of which appeared in 1914.

John Airey retired in normal course on 30 June 1901 and the small edition of 'England & Wales' was finally acquired by the Railway Clearing House in October 1901. Meanwhile, however, there had been a

most odd edition of this map in 1899. This was printed from a photographic reduction of the larger edition. Be it remembered that the copyright of the larger edition belonged to the R.C.H. whilst that of the smaller one belonged to Airey & McCorquodale & Co.! Furthermore, there is believed to be no edition of the larger map between 1897 and 1901, so the small one must have been prepared from the 1897 large one, and then brought up to date. This reduced version was not satisfactory and somewhat unreadable and was never repeated. The 1901 version was published by McCorquodale's in May but entered at Stationers' Hall by The R.C.H. after acquisition by them.

The Railway Clearing House were much more meticulous than Airey had been about registering and depositing copies of the maps when revised. As a result, apart from the increased survival rate of less obsolete and more handsome maps anyway, it is less likely that many R.C.H. maps are missing from the list compiled to date, whereas it can be deduced that a considerable number of editions of Airey's maps are missing.

Two of Airey's maps lapsed. 'Derbyshire' was incorporated in 'Lancashire', 'Yorkshire' & 'Staffordshire' when the others were re-drawn. 'Yorkshire' was also entirely re-drawn upon new sheet lines covering a greater area. This map, designated on the forthcoming tabulation as Yorkshire II to differentiate it from the earlier one, was actually published on two separate and self contained sheets. The northern sheet had "North Sheet" printed in the bottom margin, and the South Sheet had a complete standard title printed in the top margin. This enabled the two sheets to be joined with only the title - and date - of the former showing. Since the North Sheet and South Sheet were not always revised in the same year some confusion arises.

'Durham', 'Cumberland', 'Gloucester' and 'Edinburgh' have not been published since the 1923 grouping but the latter has since been superseded by a new map of Glasgow, Coatbridge & Paisley districts, which appeared in 1932 and is the only map in the series not in the style of James Emslie.

The only maps to be revised since the beginning of the Second War are 'Scotland' in 1941 and 'England & Wales' in 1940 and 1947. 'Scotland' had been re-printed twice since then, without change, and is still available. The last edition of Ireland, 1927, was also re-printed without change and in 1942, but is now out of print.

In response to a specific enquiry, The Railway Clearing House, who have been most helpful in the preparation of these articles, have stated that it has been decided to publish revised editions of 'England & Wales' and 'Scotland'. They are expected in the Spring of next year, being delayed by further impending closures. Revision of 'London' is to follow but no decision has yet been taken as to the other maps in the series.

(To be continued)

CORRESPONDENCE

The Avoirdupois of Class Differentiation

Sir, - Your paragraph in the July Journal entitled "A Railway Train in a Bog" brings to light a curious state of affairs, which may not have been sufficiently appreciated in the past by students of social history. From the earliest times, first class rail passengers have been provided with accommodation which in sheer cubic capacity as well as quality has been far superior to that available to the lesser lights in the fare-paying hierarchy. The harassed commuter, doomed to stand in tightly-packed corridors, need only look into an unoccupied first class compartment and observe wistfully the ample seats and knee room, far in excess of normal anatomical requirements, to see that this privilege still obtains today.

But are the cartoons in pre-grouping Punch, or the Dickens illustrations, which show the voluminous well-to-do, as hyperbolical as the casual observer might think? "A Railway Train in a Bog" gives us a clue. We are informed that "the train was a very heavy one, having many first class passengers ..." and no further proof is needed to see that first class passengers a century ago were indeed of massive proportions.

This poses an interesting question: did the travelling aristocracy of those days evolve, in some Darwinesque way, into a larger breed in order to fill more completely the ample room provided for them (perhaps to justify morally the higher rate of fare), or did the early railway companies, realizing from the start that affluence and corpulence were not unconnected, prudently if somewhat tactlessly provide accommodation to suit the already substantial needs of the wealthy? Research workers would do well to give weighty thought to this matter.

A. E. BENNETT.

Sleepers (Journal, pp.13 & 60)

Sir, - Non-cellaried buildings with ground floors of wood with an air space below have the floor joists supported at intervals by "sleeper walls". These are dwarf walls of $4\frac{1}{2}$ " open brickwork and provide a support for the floor joists at intervals of 6 to 8 feet. This makes possible the use of smaller and much cheaper floor joists than would be necessary if they had to span the whole width, as is necessary in upstairs rooms. A baulk of timber, usually 4" x 2", is bedded on top of the brickwork as a foundation for the joists.

D. GARNETT.

St. Helens and Rainford Junction Services.

Sir, - Trains from St. Helens to Rainford Junction may either diverge at Randle Jc. direct into Rainford Jc., or go straight on at Randle Jc. over the L. & Y. main line to Bushey Lane Jc., and then set back into Rainford Jc. I call these routes A and B respectively. (The Working timetable sometimes refers to A as "the old curve". One can decide the route used definitely from Working books only, but comparison of times allowed in Public timetables may give a probable route. The following notes are based on those issues of both to which I have access.

On 13 July 1912 "through L. & Y. and L. & N.W. (Passenger) workings were resumed between St. Helens and Ormskirk." From then until October 1922 certainly (July 1924 probably, and possibly later) route B was used for the through trains and for the St. Helens trains not going beyond Rainford Jc. By September 1930 (probably from September 1926, may be earlier) routes A and B were used: this continued until May 1938 (probably later). By October 1940 route A only was used (and apparently also in February 1950, and very possibly until the service on these branches was withdrawn). Before 13 July 1912, certainly in October 1910 (probably at least as far back as May 1909) there were no through passenger trains, and the L. & N.W.R. used route A only. Going further back, I can only check from the Public timetables of May 1878 and June 1880, when there were by some trains through carriages between Widnes and St. Helens, Ormskirk and Southport. Timings do not make clear which route, but suggest A, whether going beyond Rainford Jc. or not. By June 1880, there were trains shown non-stop between St. Helens (or Crank) and Ormskirk: these presumably travelled over the straight road and did not enter Rainford Jc. It would be interesting if some member could give the dates of change of route precisely.

A. St. G. WALSH.

The F.W. and Mid. Railways v. The Board of Trade.

Sir, - No doubt most readers will have noticed a mistake on p. 65 of the July Journal, summary of effect of the judgments, para. 4, line 7: "invalid" should, of course, read "valid". This slip is my responsibility, for which I apologize; the Editor and printer are in no way to blame.

C. R. CLINKER.

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- Benjamin Franklin's godson, /Benjamin Ourtam/, by Roy Christian.
(In /Derbyshire Countryside". Vol. 24, No. 3,
April-May, 1959)
- July 25, 1859, was a great day for the Worcester-Hereford Railway.
(In Evening News & Times" (Worcester), July 24,
1959. Also (under title "A Notable occasion
in railway history") in "Berrow's Worcester
Journal", July 24, 1959)

COUNTY RECORD OFFICES

Referring to the Presidential Address, Mr. E. H. Sargeant, County Archivist, Shirehall, Worcester, writes "if any member produces anything at all which deals with Worcestershire, I'd be very glad to beg or buy a copy. Reciprocally, a copy of anything we produce on railways and canals shall be sent to your Society."

I hope members concerned will feel able to respond - and to help other County Record Offices in the same way. Retrospective help would, I am sure, be welcomed by all County Archivists in appropriate cases.

From C. R. CLINKER.

EMMET'S CANAL: AN INDUSTRIAL CANAL OF THE WEST RIDING

By John F. Goodchild

A Yorkshire canal which has received very scant attention from local historians and apparently none from the national chroniclers of canal history, was situated in an upland valley some four miles south-east of Bradford, in the township of Gomersal and near the village of Birkenshaw.

In 1781, John Emmet the elder, Thos. Holden, Wm. Bolland and Wm. Emmet, all of Halifax, "Iron founders and Copartners," whose works were situated at Wards End in that town, became tenants of land in the village of Birkenshaw, and in the following year purchased land on which they proceeded to erect a furnace and later a foundry. The coal and ironstone necessary for the production of the iron had to be brought from a place called "Blue Hills" to the furnace, a distance of about one mile along the valley side, and to connect the two places a canal was constructed, following the contours of the hillside. The company, it is interesting to note, was the first to smelt iron in the Bradford district, and preceded the more famous Bowling and Low Moor Iron Works (founded 1788 and 1791 respectively). A foundry price list of 1782 indicates that the company were then making (among many other things):

"Wheels for Newcastle waggons ...
Ditto for Scoops ..." (the wagons used underground)
"Engine Work. Cylinders, Bottoms, Receivers, Sinking
Pipes, Working Barrels, Wind Bores, Elbow Pipes, etc."

The foundry supplied pumping and blowing engines and engine parts to local collieries and foundries in the early 19th century, but ceased operations in 1815, although it was not until 1828 that the deed of dissolution of the partnership among the remaining partners was signed.

The canal appears to have been opened soon after 1781, and remained in use until the closure of the works. Its course is still easily traced for much of the way, although difficult of access in parts. The furnace and the canal basin lay close together near the stream flowing below the villa of Birkenshaw; there was a dam across the stream (part of which still remains) to provide the canal with water, and a small basin for the unloading of the boats. From the dam the stream fell quite steeply away, but the canal followed a level course, passing along the valley side at just below the 525 feet contour, its embankment seldom reaching more than the height of twelve feet above the natural hillside. On the inside of the embankment the face was walled, but no attempt seems to have been made to cut the canal into the hillside, unless this has been ploughed out over the years; it is impossible to judge the original depth of water without excavation, the cut being now quite dry. The course of the canal can be easily traced to within 150 yards of "Blue Hills", but from there to

the terminal basin the course appears to have been ploughed out. The farmhouse, spoil heaps and a shaft-site stand above the 525 feet contour, but there is no record, recollection or visible sign of a lock on this cut, so it seems likely that the coal and ironstone were either brought down from the shaft top to the canal, or loaded from an adit.

So far as the author is aware, there are no plans showing the line of this canal during the time it was in use, and the first large-scale printed map to indicate its course is the first edition of the 6" Ordnance Survey, on which it is called "Navigation Bank" (still called locally "Navvy Bank"). The author has a manuscript plan of 1823 showing the foundry and basin at Birkenshaw, which were then out of use. It is curious that a canal should have been constructed to connect these mines and the furnace when the railway had been introduced in the district for a considerable time; Emmets were the first established of the great 18th century ironmasters of the Bradford district, but the only ones to use a canal for the transport of their coal and ironstone. It is possible that a canal was chosen on account of the lack of the usual favourable gradient for the construction of a railway, found in the respective situations of the mines and furnaces at the other local ironworks. Of the operating details of the canal little survives from so remote a period and so obscure an undertaking. The vessels were, however, drawn by horses, and from the existing layout the towing path presumably lay along the top of the embankment.

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CLOSED PASSENGER LINES OF SCOTTISH RAILWAYS: ERRATA.

Please note the following errors in this article published in the March and May issues of the Journal.

- Line 2: Nethermill Junction should be underlined.
- 8: For "?" read "-" in stations column.
- 13: Pitnappie should be underlined.
- 21: Closing date should read 1/10/1904.
- 44: Distance should read 3 $\frac{1}{4}$.
- 51: Note ZB. Asterisks should be inserted after the following dates: CA 4/1899, RO 5/1902, CA 5/1906, RO 1/1911.
- 64: Note ZK should read "reconstruction and connexion".
- 80: For Old Meldrum read Oldmeldrum in stations closed column.
- 87: Delete "op.10/63*" after Cummingston, and add after Coltfoot (Platform.
- 91: Distance should read 1 $\frac{1}{4}$.
- 97: Closing date should read 12/52*.
- 99: For Carlisle (Citadel) read Carlisle (Canal).
- 102: For Blythe and Tyne read Blyth & Tyne.
- 116: Opening date should read 1/9/1894.
- 117: For "op." read "clo." after Arbuckle.
- 118: For "op." read "clo." after Blackhall.
- 124: Note SS. For Loch Triage read Loch Treig.

RED HALL, BOURNE, Lincs.

The Society for the Protection of Ancient Buildings (of 55, Great Ormond Street, W.C.1.) have reported on the saving of the Red Hall, Bourne Railway Station, Lincs. They write that it is "a house of considerable architectural interest and well-known on account of its association with the Gunpowder Plot of 1605. In 1892 it was first threatened when the station was built, but considerable pressure from the Society caused the Railway Co. to agree to retain it as a station master's house. Later the building was divided up and in 1947 the railway, having no further use for it, asked the Society to take it over. This was impossible, however, and in conjunction with County and local bodies efforts were made to save the building, but without success. Recently, at the eleventh hour, an interested person came forward and is willing to take over the house and put it into repair."

(It has been suggested that the building was used by the Bourne & Essendine Railway - opened 16 May 1860. Bourne to Spalding was opened 4 August 1866, and Bourne to Sleaford 2 January 1872. The continuation from Bourne to Little Bytham Junction was opened in 1893 for goods and 1894 for passengers. The date 1892 would appear to be wrong, unless a new Bourne station was contemplated at this time.-Ed.)

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UNIVERSITY COURSES

University of London. A Certificate Course in Transport Subjects is under consideration by the University of London Extension Committee and the British Transport Commission. It is hoped to begin the Certificate Courses in the Session 1959-60. If the scheme is agreed the Certificate will extend over three years and examination success is required each year. The subjects described for the first two years may be taken in either order, but the study for the third year may only be taken after completion of the first two years. The certificate will be awarded upon demonstration of a knowledge of the subject, comparable with that expected of students attaining a first degree. 1st or 2nd year: Transport Economics or A comparative Survey of Transport and Economic Geography in Britain. 3rd year: Studies in Contemporary Transport Problems. For details enquire from The Director, University Extension Course, University of London, Senate House, London, W.C.1.

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The Editor appears to be in trouble with the Post Office who have found out, after five years, that he has been posting the Journal as printed matter in a pillar box instead of in bundles at the Post Office a long way off. After one or two nightmare meetings the Editor realizes he is too dim to understand the official mind and would be grateful to any member who can explain what should be done.

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