

# UNDERGROUND NEWS

NUMBER 240

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## THE TIMETABLE

### Friday 11 December

Programme of cine films and photographs by Mr.J.H.Blake.  
19.00 for 19.15 in the Tudor Room, Caxton Hall.

### Monday 14 December

Library Evening, 18.30. The Society's Library open for inspection at 9A Dunrobin Court, 389 Finchley Road, London, NW3 6HE.

1982

### Friday 8 January

Talk, 'The District Line @ Stock', by Mr.P.R.Connor. 19.00 for 19.15 in the Tudor Room, Caxton Hall.

### Saturday 16 January

Late-morning visit to Oxford Circus station and Station Operations Room. Applications, with SAE, to Mr.G.A.Finch, 161 Valetta Road, London, W3 7TA. Minimum age 15 years. Associate members, please state age when applying.

### Wednesday 3 February

LURS members are invited to this meeting of the Electric Railway Society, which is a talk by Mr.B.R.Hardy, 'The Paris Metro Today'. 19.00 at Fred Tallant Hall, 153 Drummond Street, London, NW1. Nearest stations: Euston, Euston Square or Warren Street.

### Friday 12 February

Talk, 'London Underground Closed Stations', by Alan A.Jackson. 19.00 for 19.15 in the Tudor Room, Caxton Hall.

### Friday 12 March

Programme of cine films with sound, to be presented by Mr.J.Laker. 19.00 for 19.15 in the Tudor Room, Caxton Hall.

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## OCTOBER CAXTON HALL MEETING

At the October Caxton Hall meeting Mr. Dennis F. Edwards, our President for 1981/2, delivered his Presidential Address on the subject of 'Walter Atkinson: Underground Civil Engineer'. He first explained how he came to know about Walter Atkinson. When he was arranging an exhibition at Ruislip, a gentleman approached him and asked if he would be interested in examining an album of railway construction scenes. This gentleman was William Atkinson, and the photographs were mainly taken by his father Walter during railway construction contracts, although some were of Walter Atkinson. Dennis found much of Underground interest in the album, and subsequently borrowed Walter's memoirs, which described his whole working life in civil engineering.

Walter was born in Southport, Lancashire, in 1877, and died in the mid-1960s; during his life he lived in 22 different places. He became an engineering apprentice at 16, and his second job was on the construction of the Great Central line between Marylebone and Finchley Road. Some enterprising navvies dug a private heading into the vaults of a pub and sampled its stock.

The contracting firm of Bott and Stennett was founded in 1899, and Walter Atkinson joined them soon afterwards. They secured an early contract from the Metropolitan Railway - to build goods yards at Chesham, Harrow and Willesden Green for £25,000. When material was needed for the foundations for coal stacks, chalk was brought by rail from cuttings near Chorley Wood. Atkinson earned a good mark by spotting forged delivery notes for supplying ballast.

The goods yard contract must have pleased the Metropolitan, for in 1901 Bott and Stennett were awarded a £250,000 contract for building the  $7\frac{1}{2}$  mile Harrow & Uxbridge Railway with its  $1\frac{1}{4}$  mile branch to Roxeth (South Harrow). This branch included a  $\frac{3}{4}$  mile viaduct, and the whole contract included 23 bridges, two stations and heavy earthworks. The countryside was sparsely populated and there were no main roads to London. Walter Atkinson was engineer-in-charge; he rented a house at Roxeth, and other engineers, officials and clerks set up offices nearby. Bott and Stennett found it difficult to recruit labour at  $4\frac{1}{2}$ d. per hour, as 6d. per hour was being paid on the Great Western/Great Central contract between Heasden and Northolt Junction, and later they had to increase their own rate to 6d. They employed up to 600 men on Harrow-Uxbridge. The biggest work on the line was the Roxeth Viaduct. This comprised 63 brick arches of 30 ft. span, one 60 ft. bridge and two 40 ft. bridges. At best, the bricklayers made two arches a week. A standard gauge track was installed along the ground parallel to the site of the viaduct. Contractors' trains brought in bricks (from Slough) and other materials, and these were raised to viaduct level by steam hoist. Other mechanical aids included steam navvies, steam cranes and contractors' locomotives (narrow and standard gauge) and trucks. Tree-felling took place on a vast scale, and the contractors had their own sawmill at Eastcote. All the timber (elms, oaks, black poplars) was used on the railway - for example, for fencing between Eastcote and Ickenham. Even the bark was used to mitigate the slipperiness of the London clay on the slopes up to road overbridges. A temporary timber bridge at Park Road, Uxbridge, cost £1,000.

Three times a week, Atkinson took a pony and trap from Roxeth to Uxbridge and walked back over the whole line. On one of these trips, Mr. W. Stennett ordered that the thickness of a retaining wall at Park Road, Uxbridge, be double the specified thickness. This piece of foresight helped to keep the approach to Uxbridge free from earth slips for many years; other examples of the specification being too skimpy were in the steep slopes of embankments (more land had to be bought near Rayners Lane to accommodate a flatter embankment) and in the approaches to road overbridges.

The contractors bought a gravel pit at Denham, and had the gravel transported by barge to Frays Wharf on the Grand Union Canal. Here, a floating crane unloaded it into standard gauge contractors' wagons which used a temporary light railway to Hillingdon, with two back-shunts to gain height (and crossing Harefield Road and Park Road on the level but guarded by gatemen). This line also carried Slough bricks and other materials; it was largely on land owned by Col. Cox, a director of the Harrow and Uxbridge Railway and owner of Harefield Place. Some bricks came direct by rail from Brill Brickworks.

A sub-contractor for carpentry and joinery made such a good job of the roof at Ruislip station that it is now a Grade III listed building. Finally, the substation at Ickenham was built, and the track laid complete with conductor rails. Walter Atkinson attended the opening ceremony in 1904, when the Chairman forecast that all the land round the railway would be occupied by houses.

After the Harrow and Uxbridge, the company built Baling Common car sheds for the District (where their engineer, Chapman, said that their electric cars would go round the edge of a cent, but had to lay easier curves after a month), Barons Court tunnel approach cutting, and some work at Neasden Power Station. After that Walter Atkinson moved to Shropshire. He later became a director of another contracting firm, Caffin and Co. Ltd. Contracts connected with the Underground included the District Line car sheds at Upminster from 1931-3, restoring the railway tunnels beneath Smithfield Market in 1937-8, rebuilding and renovating stations on the High Barnet line, and 2½ miles of widening the formation to take two new Central Line tracks between Northolt and Ruislip Gardens. Here again, railway chalk was used for embankment filling, from High Wycombe this time. The work included the longest bridge that Atkinson had tackled, the skew bridge at Ruislip Gardens station over West End Road. War broke out before the contract was finished, and although mysterious dispensation was given to use arc lamps in the blackout for the skew bridge installation, the growing shortage of men and materials compelled the contract to be suspended in 1941. Atkinson retired in 1943.

Dennis concluded his talk by showing some fascinating slides of contracting work in hand, and rural scenes on the Uxbridge branch. After question time, the meeting concluded with a vote of thanks to our President for presenting such an interesting facet of Underground history.

DFC

#### AU REVOIR, BLAKE HALL

At a little after 21.15 on Saturday evening 31 October 1981, some 50 or so enthusiasts had congregated at Blake Hall to say farewell to this station - literally in the middle of 'nowhere' - which boasted just seventeen passengers a day.

This event marked a stage in a long battle to shut the Epping-Ongar line completely, and may not stop here. As far back as 1970, moves were made to close the line, firstly on Sundays, and then on a permanent basis. Fortunately this did not happen, but a few years ago, a further attempt was made by London Transport to close the line, as the local councils would not financially subsidise the line, which is far away from the G.L.C. boundary. The threat of closure brought about the formation of the Epping-Ongar Railway Society (later renamed the Epping Forest Railway) with the aim of it taking over the line if closure was granted.

Following a public enquiry held on 15 October 1980, it was announced by the Minister of Transport on 31 March 1981 that the line should not close but to operate at peak periods only, and to permanently close Blake Hall station - this would considerably reduce LTs costs. Thus it was duly

announced by London Transport in August 1981 that Blake Hall would close permanently after traffic on Saturday 31 October, and peak-hour-only services would commence on Monday 2 November 1981. The service to be provided would have been as follows:

MORNING PEAK

Epping .....	d	06.36	07.12	07.46	08.22	08.56
North Weald ...	d	06.41	07.17	07.51	08.27	09.01
Ongar .....	a	06.49	07.25	07.59	08.35	09.09
Ongar .....	d	06.55	07.28	08.05	08.38	09.17
North Weald ...	d	07.03	07.36	08.13	08.46	09.25
Epping .....	a	07.09	07.42	08.19	08.52	09.31

EVENING PEAK

Epping .....	d	15.32	16.12	16.47	17.20	17.54	18.31	19.06
North Weald ...	d	15.37	16.17	16.52	17.25	17.59	18.36	19.11
Ongar .....	a	15.45	16.25	17.00	17.33	18.07	18.44	19.19
Ongar		15.55	16.31	17.03	17.37	18.14	18.48	19.31
North Weald		16.03	16.39	17.11	17.45	18.22	18.56	19.39
Epping		16.09	16.45	17.17	17.51	18.28	19.02	19.45

Fortunately for users of the Epping-Ongar line, the Epping Forest District Council offered £20,000 as a temporary means of covering a proportion of LTs costs, and consequently on 28 October, it was announced that the line would continue to operate its normal daily service for a further year, although Blake Hall station would still be closed. With only a few days left, posters were displayed almost immediately telling passengers of the revised plans - a partial reprieve.

Dr. Tony Ridley, Managing Director of the Underground, stated: 'Although this offer by Epping Forest District Council falls far short of the costs of running this service, London Transport is prepared to go along with the arrangement for a year to give Essex County Council time to think again about a proper grant for the line which would resolve its future once and for all.'

So it was on Saturday 31 October that Blake Hall probably saw its busiest day ever, with many enthusiasts of all ages turning up throughout the day to have a last look at the station, and buying tickets as souvenirs from the booking office - often with a queue of half a dozen or more people! Some were still under the impression that the service on the line would be peak hours only from Monday. Numerous cameras recorded the station on its last day - the station seat with its 'GER' monograms had gone, and only one of the bullseye station name plates remained in position. The festivities came to an abrupt halt, however, as the last train able to be photographed in daylight was the 13.58 from Blake Hall to Ongar: a suspicious package on a West Ruislip train at Epping (train 42, the 13.52 departure) caused the shuttle train (1586-2586-9587-1587) to be held at Ongar while police attended train 42 at Epping. Traction current in the Epping area was switched off at about 14.30 to avoid vibrating the package with the operation of the train's compressors. The bomb squad were eventually summoned (who had to come from Colchester) and your reporter was fascinated seeing a robot moving along Epping platform - from a safe distance, of course! In the end, it was decided to explode the package (known as a 'controlled explosion') which turned out to be a ladies raincoat (a similar 'controlled explosion' the previous week at Greenford exploded a box of cakes!). Services were restored at about 17.20, and during the meantime, all eastbound trains reversed east to west via the sidings at Debden. The shuttle train eventually departed Ongar at 17.16 - right time, or three hours late, missing out the 14.16, 15.01, 15.46 and 16.31 trips!

At about 21.15 your reporter and friends arrived in the forecourt of Blake Hall station to a full car park, and joined another 50 or so enthusiasts for the last passenger departure eastbound to Ongar at 21.28½ (the last westbound to Epping was at 21.05½), under the watchful eye of an Essex Constabulary P.C. By 21.25 the train could be detected leaving North Weald, as the station lights at Blake Hall dimmed considerably as the train drew power. At this time the police constable spotted an unattended brown holdall outside the booking office and immediately called for its owner, ready to close the station if need be ! The train arrived on time and was formed of cars: 1626-2626-9627-1627 - the previous train had been changed over at Epping because of flatted wheels, and thus the last westbound passenger trip at 21.05½ was formed of unit 1586.

About another 50 or so enthusiasts were already on the train when it arrived - some got off, but most went on to Ongar, to return on the 21.46, which 'calls at Blake Hall for staff' - and enthusiasts - 'only' ! where a dozen or so alighted. By this time, the remaining bullseye name plate had gone, as had the station nameplate over the station entrance.

Thus ends the story of Blake Hall - where is the 'Hall' ?

It will be interesting to see what happens to it in the months to come. Will the station house remain, and if it does, will the platform be allowed to fall derelict - we shall wait and see.

It is also ironic that Blake Hall station, dependent for so many years on a G.P.O. telephone kiosk in the booking hall for its communications, was included on the LT automatic telephone system (No.2119) just a few months ago !

Au revoir, mon ami !

#### Recent references to Epping-Ongar line in Underground News:

UN 218	p74
UN 220	p141
UN 223	p236, p255
UN 224	p268
UN 225	p296, p298
UN 226	p327
UN 228	p391
UN 232	p111
UN 234	p152
UN 236	p192
UN 237	p224

#### HAINAULT-WOODFORD SERVICE REDUCTIONS

At the same time as the cuts in the Epping-Ongar service were due to take place, services were also reduced between Hainault and Woodford, in the peak periods, when one train was withdrawn, making the all-day service worked by two trains, and the service interval being reduced from 10-14 minutes to 16-20 minutes. The midday off peak interval stays at 24 minutes, and the late evening interval at 30 minutes. It is interesting to reflect that the service used to be worked by four trains, every 8-10 minutes.

With the non-availability of the A.T.O. stock operating the Hainault-Woodford shuttle service, it was not uncommon for a crew-operated four-car unit of 1962 tube stock to operate at peak periods - usually on train 98, and this has been a regular happening for the last couple of years. With the reduction, this working has now been eliminated, the three units of 1960 tube stock (one three-car and two four-cars) and one unit of 1967 tube stock should be enough to provide two serviceable trains.

HAINAULT-WOODFORD SERVICE COMPARISONS

1963		Peak-hour Departures			
		Until 30.10.81		From 2.11.81	
From Woodford	From Hainault	From Woodford	From Hainault	From Woodford	From Hainault
07.01	07.04	07.02	07.09	07.02	07.02
07.11	07.12	07.13	07.21	07.21	07.21
07.22	07.20	07.28	07.29	07.41	07.37
07.28	07.28	07.41	07.45	07.57	07.55
07.36	07.36	07.49	07.55	08.17	08.13
07.44	07.44	08.03	08.09	08.34	08.31
07.52	07.52	08.17	08.21	08.51	08.51
08.02	08.02	08.29	08.31	09.11	09.09
08.10	08.12	08.39	08.43	09.26	09.29
08.22	08.22	08.51	08.55	09.50	09.51
08.30	08.30	09.07	09.09		
08.38	08.38	09.16 GH	09.28		
08.48	08.47	09.26	09.51		
08.55 GH	08.58	09.50			
09.06	09.17				
09.24	09.38				
09.48					
<hr/>					
16.12	16.01	16.17	16.09	16.12	16.08
16.29	16.28	16.33	16.22	16.28	16.27
16.46	16.45	16.48	16.37	16.47	16.46
16.56	16.55	16.58	16.50	17.06	17.04
17.04	17.05	17.11	17.04	17.25	17.23
17.15	17.12	17.21	17.14	17.41	17.39
17.23	17.23	17.31	17.24	18.01	17.58
17.31	17.29	17.41	17.35	18.19	18.15
17.40	17.38	17.51	17.46	18.41	18.35
17.45	17.45	18.05	17.58	18.56	18.55
17.53	17.53	18.15	18.09		
18.02	18.07	18.27	18.20		
18.10	18.18	18.45	18.35		
18.16	18.27		18.53		
18.26 GH	18.40				
18.34	18.58				
18.49					

Note: GH - to Grange Hill only.

NEW WORKING TIMETABLES

From Monday 2 November, new Working Timetables were introduced on the Jubilee and Bakerloo lines, each being No.2, replacing No.1 timetables for each line, having been in operation since the segregation of the Bakerloo Line and opening of the Jubilee on 1 May 1979.

Jubilee Line

Jubilee Line timetable No.2 might become a collector's item, for each copy has been printed without the LT roundel on the front cover! The most significant alteration is that the Monday to Friday peak service has been reduced by two trains, with 26 now scheduled. The reduction of two trains has been made from Neasden depot's allocation (18 trains reduced to 16), Stanmore sidings still providing ten trains.

Previously, four trains were scheduled to reverse short at West Hampstead in the morning peak between 08.30 and 09.16. This has been reduced to

one train at 07.59. The provision for two trains (morning peak) and one train (evening peak) to be cancelled as required by the Traffic Controller has been withdrawn. The net effect of the reduction is felt in the number of trains departing from Stanmore in the morning peak between 08.00 and 09.00 (15, reduced to 13), and a similar reduction of arrivals in the evening peak between 17.30 and 18.30 (15 reduced to 13). This alters the peak service intervals as follows:

	Timetable No.2	Timetable No.1
Stanmore-Wembley Park	4½	2½-5
Wembley Park-Willesden Green	3-4½	2½-5
Willesden Green-Charing Cross	3	2½-3

Trains stabling and starting from the south end of Neasden depot have also been reduced: five after the morning peak reduced to three, and three before the evening peak reduced to two. The period of 'stepping back' of crews at Charing Cross is unaltered, however, being between 08.24 and 09.42, and 16.46 and 18.11. The first reversing train at Willesden Green is now earlier at 07.34 (previously 07.43) and the last one later at 18.01 (17.46).

Monday to Friday off peak service patterns, and Saturday and Sunday services are unchanged.

The distance between stations seems to have altered between the two timetables. The distance between Stanmore and Canons Park is now 0.79 miles, instead of 0.85, while the collective distance between Finchley Road and Baker Street is misprinted as 2.33 (should be 2.23), but the revised total at the bottom is correct at 13.74!

### Bakerloo Line

For the first time since the severe staff shortage of 1973-4, the 'Stepping back' of crews on the Bakerloo Line at Elephant & Castle has been abandoned, with this new timetable No.2. This has been achieved by increasing the reversing time to the minimum allowed for the same crew to take the incoming train out - 4½ minutes. This means that the most frequent service that can be operated into Elephant & Castle, and of course through the central area, is every three minutes, which is a reduction from the previous 2½-3 minute interval. The total number of trains in service has been reduced from 27 to 24. The unreliability of the 1938 tube stock is blamed for the service reductions. Trains required for the peak service now comprise: Elephant & Castle: 2 (previously 3), London Road: 7 (8), Queens Park: 6 (6), Stonebridge Park: 5 (6), Croxley Green: 4 (4). The new timetable also incorporates the daily siding alterations for stabling trains at Queens Park, where one train now stables on No.24 road (southbound line from Watford) instead of No.21 road (northbound line to Watford). This alteration was first made in July 1981 and requires further explanation: Under the previous arrangement, trains starting in the morning from No.21 road required the route to be secured and the train handsignalled, having stabled the previous night under normal signals (BB4A - see diagram on page 187 of UN 236). Converse arrangements now apply for No.24 road: at night, the route is secured and the train handsignalled. The train enters service the following morning under normal signals - BB26.

The service to and from Stonebridge Park has also been slightly reduced, from every 7-8 minutes to about every 9 minutes. The periods of operation to and from Stonebridge are also revised, as follows:

### Northbound from Queens Park

Timetable No.1 - 08.06 to 09.43 (13 trains)  
 15.19 to 19.11 (25 trains), and at 19.53 (1 train).  
 Timetable No.2 - 07.59 to 09.59 (14 trains)  
 15.56 to 19.09 (16 trains)

Southbound from Stonebridge Park

Timetable No.1 - 07.34 to 09.34 (13 trains)  
                  15.09 to 19.01 (26 trains)

Timetable No.2 - 07.17 to 09.49 (14 trains)  
                  15.48 to 18.06 (16 trains)

The above figures exclude the four journeys from and to Watford Junction, which continue to operate at the same times.

The Monday to Friday midday off peak and evening service is as previously, as are the Saturday and Sunday services, but weekend rolling stock allocations have been revised, with consequential different numbering of trains:

	Saturdays		Sundays	
	W.T.T.No.1	W.T.T.No.2	W.T.T.No.1	W.T.T.No.2
Elephant & Castle	3	2	3	2
London Road	4	5	-	1
Queens Park	6	6	6	6
Stonebridge Park	-	-	4*	4*
<hr/>				
Total	13	13	13*	13*

Note \* Four trains provided for stock changeover purposes, running empty between Queens Park and Stonebridge Park.

Also incorporated in the new timetable, in addition to the normal passenger service of LMR d.c. trains, are empty and parcels workings between Watford and Queens Park. These can be summarised thus:

Monday to Friday:

UP: 05.56 (empty) Watford Junction to Willesden, then North London Line.  
11.54 (empty, RR) Watford Junction to Willesden a.c. depot.  
12.58 (parcels) Watford Junction to Harrow & Wealdstone, arrive 13.10. Then shunt via sidings to down platform, then:  
13.55 (parcels) Harrow & Wealdstone sidings to Euston.  
20.20 (parcels) Watford Junction to Euston.

DOWN: 13.40 (empty, RR) Willesden a.c. depot to Watford Junction.  
15.00 (parcels) Euston to Watford Junction.  
21.21 (parcels) Euston to Watford Junction.  
23.50 (empty) Willesden Junction (ex-North London Line) to Watford Junction.

Saturday:

UP: 05.56 (empty) Watford Junction to Willesden, then North London Line.

Sunday:

DOWN: 23.04 (empty) Willesden Junction (ex-North London Line) to Watford Junction.

THE GREAT CENTRAL REVISITED

The Preservation of CP Stock Car 54233

Saturday 10 October 1981 will be a day remembered by many enthusiasts of the London Underground, for it was the day when CP stock motor car 54233 was moved from Neasden depot to Quainton Road, for preservation. The move



finally took place after months of negotiations between the Quainton Railway Society, London Transport and British Rail. In addition to car 54233, the QRS also acquired 1935 Hurst Nelson brake van B557. The two vehicles, coupled together by a temporary bar arrangement, were hauled throughout by battery locomotives L18 and L38 - the pair with buckeye couplers - in the following formation: north L38+L18+B557+54233 south.

The timings were:

Neasden depot.....	dep	08.10	
Wembley Park.....	pass	08.15	)
Harrow-on-the-Hill (platform 1).....	pass	08.25	) Via Fast/Main lines
Rickmansworth.....	pass	08.44	)
Amersham.....	arr	09.03	
	dep	09.08	Pick up BR Pilot crew
Aylesbury.....	pass	09.54	
Quainton Road.....	arr	10.10	

Car 54233 is the one which was bomb-damaged at Neasden during the war, and returned to service in September 1941 using parts of Q38 trailer 013167, also damaged during the war (see 'The 'COP' Stock Story' by Piers Connor, published by TLURS, pages 9-11).

Departure from Neasden was just a few minutes late, but the time was soon regained because of the generous timings. At Amersham, a BR pilot crew were picked up, and the battery locomotives changed over to battery power for its journey on to Quainton Road. A 5 mph speed limit was imposed on the train passing stations north of Amersham. An unscheduled 20-minute stop was made at Aylesbury to allow a BR freight train in front to clear the section. This gave a grand opportunity for all enthusiasts following the move to photograph this odd collection of vehicles stationary - many were lined up on the public footbridge at the north end of Aylesbury station, much to the amusement of the Aylesbury townfolk! The crew and engineers with the special train were able to enjoy an unexpected refreshment break in the station buffet.

North of Aylesbury (which saw its last Metropolitan passenger train to Verney Junction on 4 July 1936 - the Met. continued to run to Quainton Road until 1947, and BR continued to serve some stations until 1966), the train proceeded onto the single line, although there was still a siding on the 'up' side, where a DMU was stabled for the weekend. The line beyond Aylesbury was at one time double tracked, but was reduced to a single line in 1967 after remaining passenger services were withdrawn in September 1966. In recent years, however, the single line has been upgraded to cater for the additional goods traffic, more recently with the opening of the GLC waste disposal centre at South Ruislip (these trains run mainly at night and are normally double-headed by class 25 diesels) from where the containers are taken to disused brick pits near Claydon, North Buckinghamshire.

The first point of interest beyond Aylesbury is Waddesdon (5 miles), where the railway passes under the road - here, a little can still be seen of the now overgrown platforms which last saw stopping trains on 4 July 1936 - also the last day of Metropolitan services beyond Quainton Road to Verney Junction. The final leg of the northbound journey was up into Quainton Road where the train berthed in the station platform, the single track being on the 'up' side. The station itself is owned by the Quainton Railway Society - only the track passing through it still belongs to British Rail. The station was closed in 1963 to passengers, and in July 1966 to goods traffic. No connection exists between the BR single line and either of the QRS yards, so for 54233 and B557 to be put on QRS metals, the track south of the station had to be slewed. This was done by a gang of BR permanent way men already on site, and the operation was performed with precision and slickness. L18 and L38 then pushed 54233 and B557 into the east-side sidings, uncoupled and returned to the station. Meanwhile, a QRS diesel shunter took over in the yard, uncoupling B557

from 54233. On the main line, the track was being slewed back to its normal position. L18 and L38 departed Quainton Road at 11.50, an hour earlier than scheduled, and returned to Neasden. The BR pilot crew were dropped off at Amersham and the locomotives changed from battery to current rail operation.

This interesting move prompts one to wonder if this was the first time a battery locomotive has ventured north of Amersham, and was this the first time an LT train ran north of Amersham since BR took over in September 1961 (apart for the Centenary Special in May 1963) ?

What does the future hold in store for 54233 - will it be restored to LPTB livery, or kept in its present form? One hopes that it will not be allowed to deteriorate like steam locomotive L44 - still in pieces and nowhere near completion.

The movement of these vehicles caused much interest to enthusiasts - for with the generous timings, it was possible to photograph it in many different locations, with the aid of a car. The day's operation went without a hitch, and congratulations must be given to all those involved.

2

### Verney Junction to Quainton Road . . . . The Hard Way

by Nick Mitchell

This summer, accompanied by some friends, I walked the trackbed of the disused Metropolitan Line from Verney Junction to Quainton Road. This is what we found:

The Verney Arms at Verney Junction is still open for business, and was doing a good trade while we were there, although it is in a very small remote hamlet. The location is still shown on nearby road signs as Verney Junction, despite the fact that it has ceased to be a junction for many years now, and the station buildings have been demolished. The platforms are overgrown with weeds, and the Metropolitan bay has almost entirely vanished from sight; however, the station house is still standing and inhabited. The twin tracks of the former Oxford-Cambridge BR line are still in use, but not by passenger trains.

Winslow Road station has gone to the dogs - literally, for the station has been turned into boarding kennels. Granborough Road station has been demolished except for the platforms, which have become almost entirely overgrown with weeds and brambles up to ten feet high. The platform brickwork has collapsed in places.

Between stations, the trackbed was easy to trace, but not so easy to follow, as underbridges have been demolished and overbridges filled in. Although part of the trackbed has become an easily walked pathway, in other parts there are brambles and nettles up to six feet high which are so thick in places as to form an impenetrable jungle.

South of Winslow Road the trackbed is covered by a plantation of young trees, and the cutting south of Granborough Road has been largely filled in. Just to add to the discomfort of the walker, a local farmer has taken it into his head to dump large piles of horse manure, of varying ages, on the trackbed.

In short, if you are thinking of walking this line, my advice is to go after a spell of dry weather, wear stout old clothing to protect yourself from the nettles, bring a machete for the brambles, and some beads to give the natives - in the unlikely event of you seeing anybody!

Note: After closure to passenger traffic in July 1936, the line was singled by 1940, closed altogether in 1947, and the track lifted in 1957.

## THE HARROW DERAILMENT

by Nick Mitchell

As reported in the October issue of Underground News, on the evening of Monday 7 September 1981, northbound Metropolitan Line train No.40, running from Baker Street to Watford, was derailed on No.217 moveable angle crossing at Harrow North Junction, 0.6 miles north of Harrow-on-the-Hill station. Fortunately, nobody was injured. However, it appeared that the derailment had been caused by the moveable angles of the crossing having moved as the train was approaching or passing over them. This gave rise to sufficient concern for an official public enquiry to be held, in addition to LTs own internal enquiry. The public hearing took place at 55 Broadway on 6 October, under the chairmanship of Major C.B.Holden, an Assistant Inspecting Officer of Railways with the Department of Transport.

Major Holden opened the enquiry by stating that it was not a court to determine legal responsibility; then Mr.M.Fish, Divisional Manager of The Metropolitan and Jubilee lines, made an introductory statement. Outlining the course of events, he said that the evening of the accident had been fine, dry and mild, and train 40 had left Baker Street at 20.35½. The run had been normal as far as Harrow-on-the-Hill, where the train called at platform 3. It departed on time at 20.55, and ran on the northbound local line, observing the 30 mph speed limit, and passing signals JB19 and JB21 at green (see diagram 1).

It was derailed on the moveable angles of No.217 crossover. Only the leading bogie was derailed; the following bogies went onto the southbound main line. The leading car (5034) of the 8-car train came to rest clear of the crossover, almost straddling the southbound main and northbound local roads. The current on these roads was discharged on overload at 20.57. A local resident summoned the emergency services, which arrived at 21.10. Current was discharged from the other two roads at 21.15, and police and fire officers helped 45 adult passengers off by 21.57. Mr.Fish expressed LTs apologies to the passengers and thanked the resident who dialled 999.

A total of 31 passengers were evacuated from two LT passenger trains which became stalled between stations due to the loss of current; they were out by 22.27. A BR parcels train was also held at A857 on the southbound main at Pinner. The leading car of train 40 was tripped, and rolling stock damage was confined to the underframe area. The permanent way was also damaged: conductor rails were displaced for a length of about 500 feet, the track alignment was distorted, and there was damage to the moveable angles and fittings.

### Technical Background

The witnesses were then called to give evidence, but as much of this was of a technical nature, it will probably be helpful at this point to describe some features of the LT signalling installation at Harrow. To understand some of the evidence, it will be necessary to go into the nuts and bolts of the signalling.

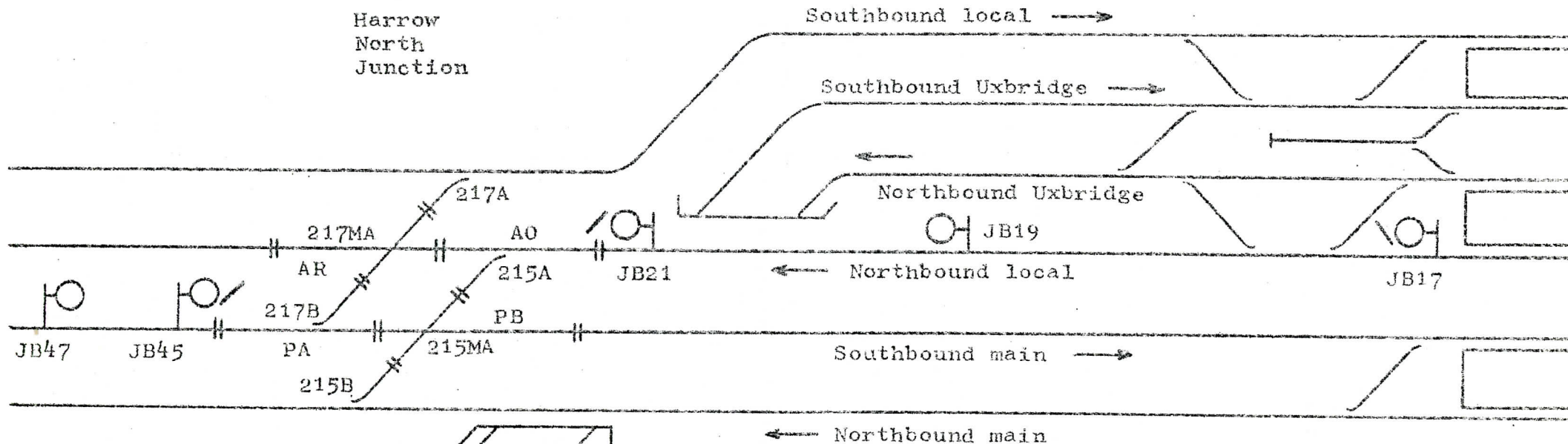
Conventional LT signals practice is for the signalman to operate the signals and points directly by operating levers in his signalbox, and, generally speaking, each lever corresponds to - and controls - one signal. set of points, or crossover. However, at Harrow, the signalling is so spread out that it is controlled from three separate signal boxes known as Harrow South Junction, Harrow Station, and Harrow North Junction. The two junction signal boxes are classified as subsidiary signal boxes in that they are remotely-controlled by the regulator (as he is termed) at Harrow Station signal box. In each of these two subsidiary signal boxes is installed a remotely-controlled power-operated interlocking frame,

DIAGRAM 1: SIGNAL AND TRACK LAYOUT -

HARROW-ON-THE-HILL to  
HARROW NORTH JUNCTION

HARROW  
OF  
THE  
HILL

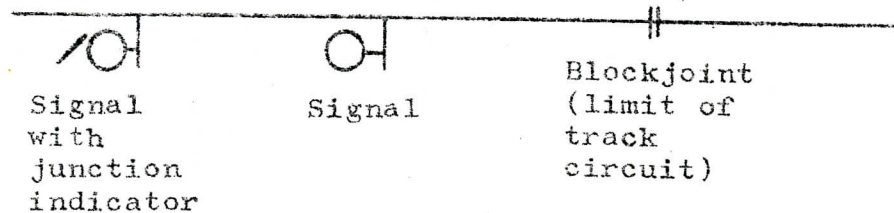
← To  
North  
Harrow



To  
West  
Harrow

Note: For clarity, only those signals, track circuits and points mentioned in the text are indicated on the diagram.

Key:



known as a 'slave' frame, which contains full-stroke type levers to operate the local points and signals on a conventional lever-for-lever basis. Each lever is moved back and forth by a 'motor' comprising two electro-pneumatic cylinders; one for the normal-to-reverse stroke and the other for the reverse-to-normal stroke. These levers are mechanically interlocked with each other in the usual way and are also provided with electric lever locks. Each lever bears a single number corresponding to that of the points or signal which it operates. As mentioned above the whole frame is normally remotely controlled from Harrow Station signal box (the 'master' signal box) but in emergency it can be operated manually simply by turning off the air supply.

The master signal box contains a combined master frame (which controls the whole area) and a slave frame which is remotely controlled by the master frame to operate the area in the immediate vicinity of the station: this slave frame works in exactly the same way as those in the North and South subsidiary signal boxes. The master frame contains 3-position miniature levers (known as 'route levers') which control the levers in the appropriate slave frames. (A 'route' in this context means the stretch of line from one signal to another, and includes setting up any points which may be present in that stretch). The route lever stands normal in its mid-stroke position and by pushing or pulling the lever away from that position, one or other of two routes can be set up. These two routes are always complementary; for instance by pushing the lever, a facing junction may be set for the left-hand turnout, and by pulling the same lever, the right-hand turnout of the same junction may be selected. The same principle applies to two converging routes or for two opposing movements onto one section of track.

The master frame operates the slave frame through electric commands sent down control wires and the apparatus in the slave frame relay room sorts out the instructions and moves the point and signal levers in the correct order to set up the route. The master frame levers are mechanically interlocked with one another; this is, however, not part of the safety function - this is achieved at the slave frame - but merely serves as a reminder to the regulator. No electric locking is provided on the master frame levers: the electric locking on the slave frame is deemed sufficient.

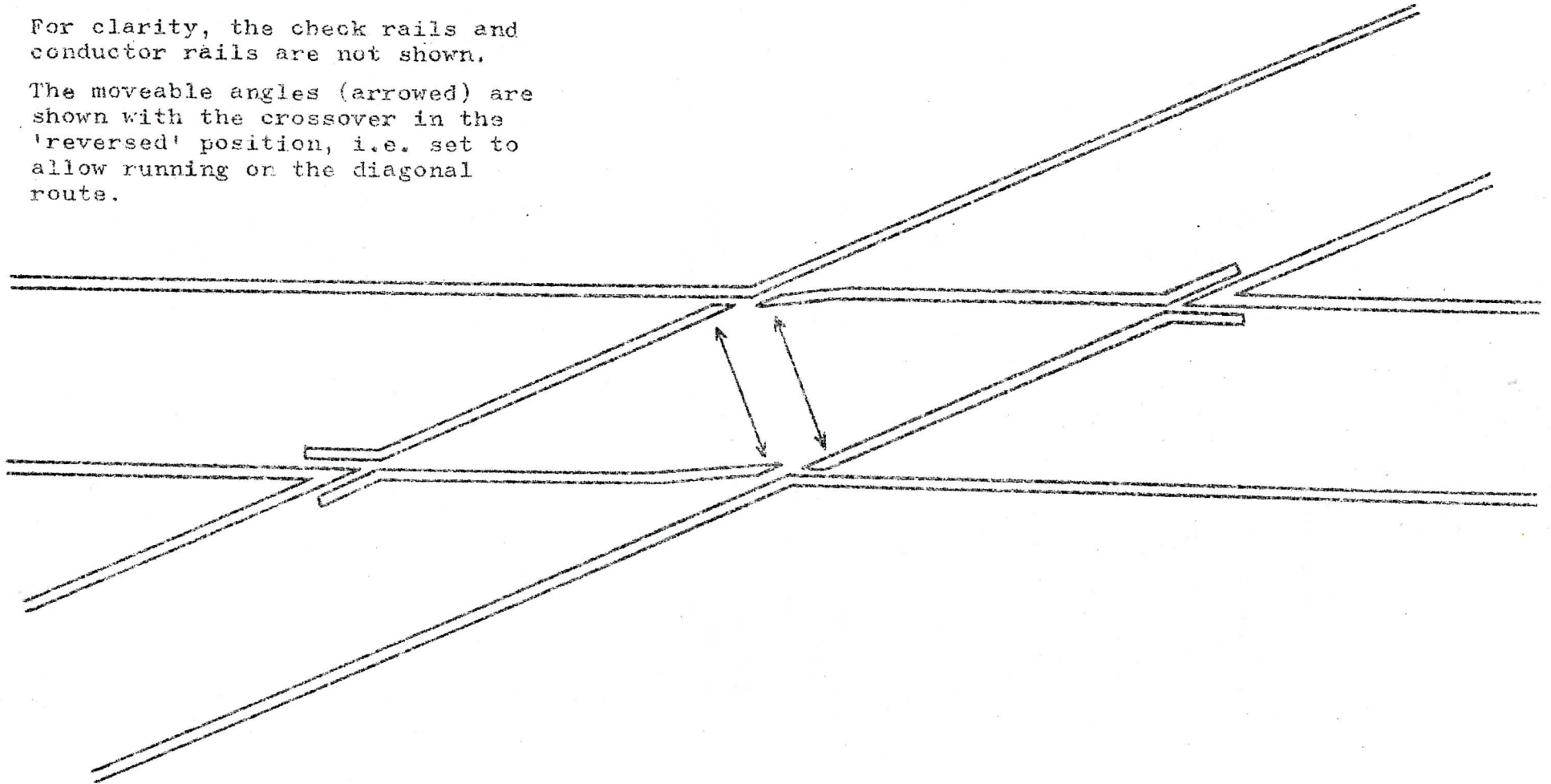
The advantage of this method of signalling is that under normal circumstances the regulator only needs to operate one lever (and that through only half a stroke) to set up a complete route and to restore that lever to mid-position after the route has been taken by a train. In this context 'taken' means that the train has passed the signal and has occupied the next track circuit (known as the replacing track circuit). The circuiting, including the mechanical and electric locking in the slave frame, will safeguard the signalling whilst the train is passing through the remainder of the route. This means of course, that one man can look after a much wider area which partially explains why the operator is referred to as a regulator and not a signaller. A special feature of this type of control is that the regulator is able to pre-select a second conflicting route before the first one has been fully traversed by a train.

The crossover on which the train derailed was what is known as a 'moveable angle' crossing, a type which is comparatively uncommon on LT. Instead of the normal type of fixed crossing, this is in effect a pair of trailing points, immediately followed by a pair of facing points (see diagram 2). The two pairs of points operate together so that the crossover can only be set for straight-ahead running on one or other of the two roads. It is not designed to allow a train to be switched from one route to another (although in this case, several bogies were in fact switched onto the southbound main). The advantage of the moveable angle arrangement is that it enables two tracks to cross at a shallower angle than would be possible with a fixed crossing, thus permitting higher speed running.

DIAGRAM 2: MOVEABLE ANGLE CROSSOVER

For clarity, the check rails and conductor rails are not shown.

The moveable angles (arrowed) are shown with the crossover in the 'reversed' position, i.e. set to allow running on the diagonal route.



## Locking and Interlocking

In order to enable the technical evidence to be properly understood, it is as well here to include a couple of paragraphs on locking and interlocking which are a necessary safety feature of signalling practice.

Signal and point levers are mechanically interlocked with one another by a network of locking bars at the front of the frame to prevent the signalman moving a potentially dangerous combination of levers. The system also prevents a signal lever from being pulled - and the signal clearing - unless all points (and their controlling levers) governed by that signal, are in their correct position.

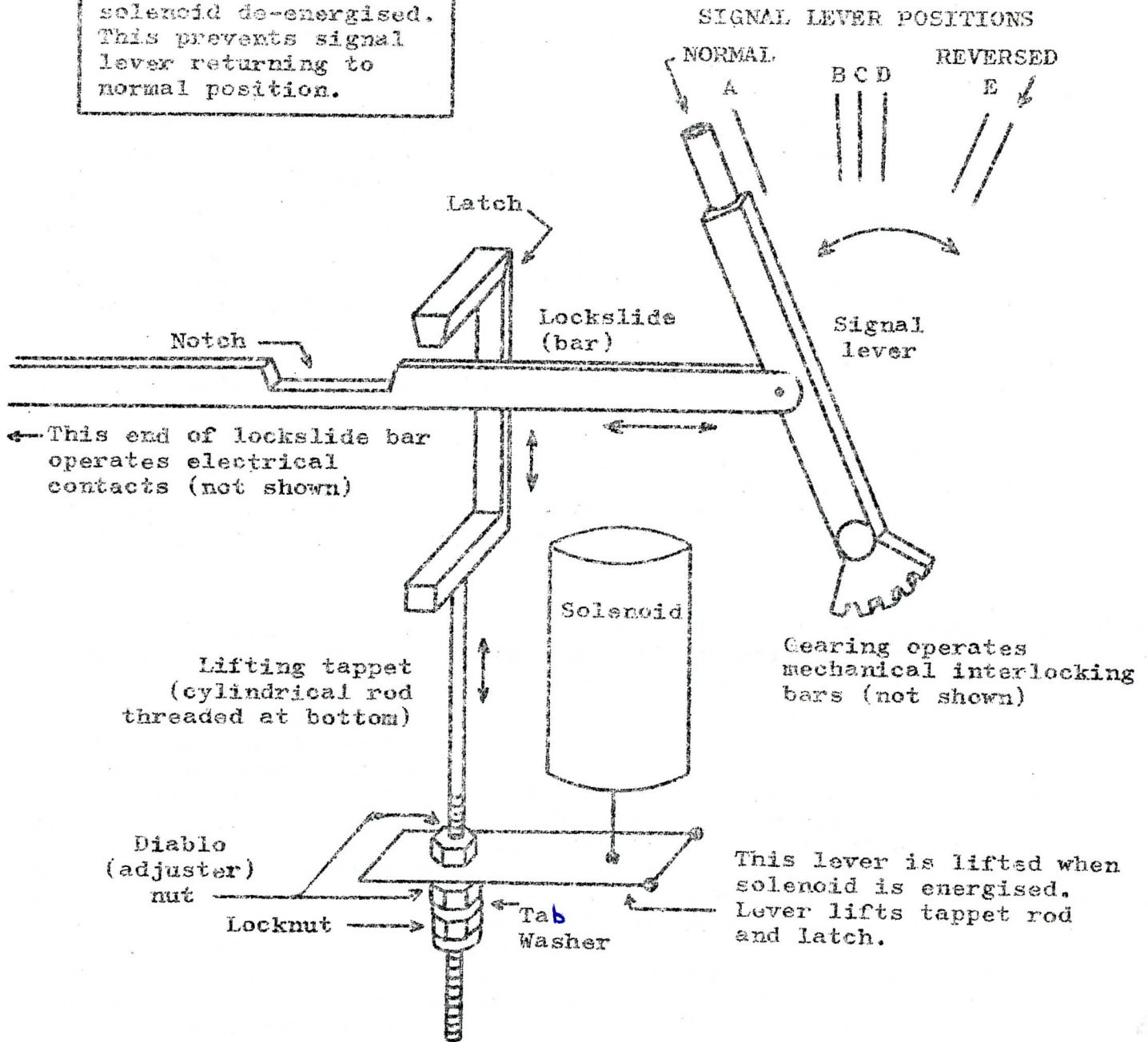
Signal and point levers are equipped with electric lever locks, which are generally controlled by the occupation or otherwise of certain track circuits by a train to prevent or permit the movement of that lever. The electric lock on a signal lever is known as a backlock and, when that lever is reversed to clear a signal, it is designed to prevent its full restoration to the normal position until the train has accepted the signal and proceeded through the route (although the signalman can if necessary restore the signal to danger by moving the lever away from the full reverse position). By keeping the lever away from the full normal position the mechanical interlocking prevents the signalman from being able to \*operate any point lever in the route; were he able to do this the train, if moving, could be derailed on the moved points. Incidentally, it should be noted here that the backlock also incorporates the approach track circuit to the signal and this prevents the signalman from fully normalising the signal lever in the face of a driver approaching that signal. The electric lock on a points lever is known as a tracklock in which the lever is held locked at either its fully normal or fully reverse position whenever the track circuit(s) in which the points are situated are occupied by a train.

A further precaution against facing points moving under a train is provided by a ground tracklock in which the point mechanism itself is maintained inoperable electrically whenever there is a train on the track circuit(s) in which the points are situated.

An electric lever lock comprises two principal components which interact with each other - see diagram 3. Attached to the lever is a long sliding bar, known as a 'lockslide' running to the back of the frame to operate the electric switching contacts in the signal circuitry. This bar moves (in relation to the signalman) backwards and forwards and its top surface is notched to receive the 'latchpiece' which is a square hook-shaped component at the top of a vertical rod known as a lifting tappet. By means of suitable linkage the lifting tappet is raised and lowered by the energisation and de-energisation of an electromagnet which is mounted immediately below the lockslide. When the electromagnet is energised the latchpiece is raised and the bar is free to slide back or forth, but when it is de-energised the latchpiece rests by gravity on the top of the lockslide and engages with the notch as the lockslide passes it. The notch is suitably positioned according to the function of the lever, that is to say in the case of a points lever, there are two notches which engage at the full normal or full reverse position of the lever should a train be on the tracklocking track circuit. In the case of a signal lever the notch is at the 'B' position (see diagram 3) and the lever lock circuiting is arranged so that the lock is energised whilst the lever is stroked from normal to reverse (to provide an uninterrupted lever stroke) but with a train on the approach and/or backlocking track circuits the lock is de-energised to interrupt the passage of the lever in a reverse-to-normal direction at the 'B' position.

The lifting tappet is threaded at the bottom and secured by a diablo nut to the linkage with the lifting lever of the electromagnet; this provides a means of adjusting the relative height of the lifting tappet (and hence the latchpiece) to the lockslide. In this position the diablo nut is

Latch drops into notch in lockslide when solenoid de-energised. This prevents signal lever returning to normal position.



**DIAGRAM 3:** SIMPLIFIED SIDE VIEW OF SIGNAL LEVER AND LOCKSLIDE MECHANISM (not to scale)



secured by a locknut and washer. Now read on ....

### Evidence

The first witness called to give evidence to the enquiry was the motor-man of train 40. He confirmed that the run had been normal until Harrow, and that there had been nothing wrong with his train. Leaving Harrow, he opened his master controller to the series position, because he knew he would have to observe the 30 mph speed limit at Roxburgh Road bridge. He built up his speed to 25-30 mph, then shut off power when he reached signal JB21 in order to coast over the points until he reached the 60 mph speed limit beyond them. His cab rolled over 215 turnout then he was thrown off his seat and onto the floor by a violent lurch. The deadman's handle operated to apply the brakes. He picked himself up but was again thrown down, then he got up again but saw a signal post coming at the cab, so ducked down again. When the train stopped, he cut out the Motor Generator and tripped the overloads. He went to a signal telephone, rang the Regulator and requested him to put all signals in the area to danger and take off the traction current as soon as possible. He told the enquiry that he couldn't really understand what the Regulator was saying, because the telephone wasn't very audible, and also he was rather shaken up, so he didn't know for certain if the current was off.

The first two cars, which contained three passengers, were in darkness - the emergency lights had failed. The guard came forward to see if they were all right, and he said yes. The guard walked the passengers back through the train, but his own concern was to ensure that current was off. The emergency services arrived, and he put down his short-circuiting device. He had to go about 30 feet or more ahead of his cab in order to do this, as the conductor rail was leaning over. Apart from this, there was not a lot he could do to help; during the detrainment he answered questions from the police.

The next witness was the guard, who corroborated the driver's story. The first he knew of the derailment was a sway on the rear car, the main car lighting (apart from the emergency lights) went out, and the train line air gauge went down. Looking out, he saw arcing at the front of the train. After checking his tail lights, he went forward, checked that his motor-man was all right, reassured the passengers and escorted them to the back of the train, applied the handbrake, and put a red handlamp in his rear cab. It was getting pretty dark by that time. The firemen arrived by climbing over the fence on the west side of the track.

The next witness was the regulator who had been on duty in Harrow Station signalbox. He said that the train arrived at 20.54. He pushed the levers to clear signals JB19 and JB21 between the station and Harrow North Junction, then lowered the starter (JB17) for the train to leave. In accordance with standard practice when he saw from his illuminated diagram that the front of the train had reached A0 track circuit, he centered his route levers. This enabled him to preselect the route for the next train. Had he centered the levers any earlier, it would have resulted in the signal (JB21) going back to red in the driver's face.

Looking at the illuminated diagram, he then saw that there was another train to the north of the station. This was train 6, the 20.35 fast train from Amersham to Baker Street, which was on the southbound main waiting for JB47 and JB45 signals to clear for it to cross to the southbound local, so he pushed 45 and 47 levers to preselect the route for that train. He saw signal 47 on his diagram clear momentarily, then heard a bang. He thought that train 40 had passed through the route and that train 6 had hit an obstruction and been derailed. The current was going on and off, and the warning bell was 'pinging' to show something was wrong. He informed the Line Controller. He also heard from the motorman of train 40 on the signal telephone. He sent his lineman (Automatic Equipment Technician) down to the junction to find out what had happened before he let any more trains go. The current was off when the emergency

services arrived, he said, but the train crew didn't know this.

He told the enquiry that lever 21 in the slave frame in the north cabin had recently been 'sticky', and on a few occasions he had had to restroke the corresponding lever in the master frame to get the signal to come off. He had told the lineman to deal with it.

The next witness was Mr. Hurford, LTs Signal Engineer (Design). He described the signalling installation at Harrow, which had been commissioned in 1948, although it had subsequently been altered when the four-tracking was carried out in 1961, and again when the goods yard was removed in 1971. He told the enquiry that the route levers in the master frame are interlocked to prevent the regulator from setting up a conflicting route, but this is only done as a reminder to prevent a possible delay to traffic, not as part of the 'safety' signalling system. The levers in the slave frames are operated electropneumatically by remote control - this remote control circuitry is not part of the safety signalling either. However, the mechanical and electrical locking in the slave frames does form part of the safety signalling system. The equipment is standard LT equipment. He added that LT have some 5-6000 locks in service.

The backlock on lever 21 in the north frame includes track circuits AO and AR, so that even though lever 21 in the master frame was centered, the back lock in the north frame should have held lever 21 until the tail of train 40 cleared track circuit AR. However, it would appear that this electrical lock failed and 21 lever went fully back to the normal position before it should have done. (This in turn would have freed the mechanical locking on the lever controlling 217 crossover).

This crossover is locked by the occupation of track circuit AR, but not by AO. It would not be LTs practice to include AO in the locking of 217 crossover, as the signal backlock is relied on to hold the route. Indeed, as the Inspecting Officer pointed out, there were good reasons why AO should not have been included in the locking.

The next witness was the Automatic Equipment Technician on duty that evening at Harrow. He said that his job, which has a very wide scope, mainly involved emergency call work, such as failures, quick repairs, and lamp renewals. He is permitted to change pneumatic motors and valves, but is not qualified to work further down the lever frame, e.g. on the interlocking. On the evening of 7 September, up to the time of the derailment, he had had no calls. No. 21 lever had not failed that evening, but in the logbook he saw a report that it was still sticky: this had first been reported during the late turn on the 5th, two nights previously, and a locking fitter had worked on the lever that night. However, the lever was still in need of further attention.

He was in the station signalbox when he heard the circuit breakers in the substation (about 150 feet away) come out with a loud bang. He looked at the illuminated diagram and saw that tracks AR and PA were occupied, and the reverse indication of 217 crossover was lit; however, this flickered and went out. Nos. 45 and 47 levers were pushed, but he could not remember looking at 19 and 21 levers. After getting in touch with the Report Centre at Acton, he went to the North box to check the levers there. He found that signal levers 45 and 47, and points lever 217, were reversed; all other levers were normal. No. 215 points lever was locked in the normal position by the presence of a train on track AC; levers 19 and 21 were also locked normal, mechanically.

Questioned about the 'sticky' lever 21, he said that it had been working, but the regulator sometimes had to restroke his lever to get it to clear - this had only happened a couple of times or so per shift. He said that the valves and air motors used for the remote operation of the levers in the slave frame do sometimes stick and require changing, but that it is not possible to work on the lever during traffic hours.

The next witness was the locking fitter who had worked on 21 lever in the slave frame two nights before the accident. He said that he had been called out from Rickmansworth late on the Saturday evening and had ridden down to Harrow on the staff train. After arriving at the North box, he rang the AET at Harrow Station box and was told that the lever was sticky. He obtained possession of the frame from the regulator, turned off the air, and tried the lever by hand. He told the enquiry that it was tight in operation between the 'D' and 'E' positions, going from Normal to Reverse. He took off the segment plates and the panels of the frame, and checked that nothing had dropped down to jam the mechanism.

He then got his mate to work the lever while he checked the locking bars - the screws that hold the 'dogs' can work loose - and he wiped the grease off the dogs but could see no signs of scraping. He regreased the dogs, and found that the lever was still sticky.

Going round to the back of the frame, he could see that there was a bit of shine on the side of the lockslide, and he realised that it was rubbing in its guides. While his mate worked on the lever, he rubbed the lockslide down a bit at a time with emery buff, until the stiffness in the lever had been tremendously improved. He also checked the ball catch of the lever (this is the joint in the lever which is designed to break should the lever be roughly handled).

Trying out the lever, he found that it was working a great deal better than before, and reported what he had done to his inspector. He turned on the air and worked the lever from the pneumatic valves. He also got the AET to test the lever out remotely from the master signal box, and later tried it himself from there - on all these tests the lever operated correctly without sticking.

He thought that the stiffness in the lever might have been caused by the lockslide not running true. He checked the contacts on the electric lock, and when his mate was operating the levers he could see the lock energising and de-energising. He did not examine to see if the sticky lever had been caused by the electric lock, because when he operated the lever he could tell that the lock was not 'clipping' the notch in the lockslide. He said that he could have checked the locking and the latch if he had thought that there had been a fault in it.

The final witness was Mr. Bletcher, LTs Signal Maintenance Engineer. He described the recent maintenance history of the North box: its last full overhaul had been in August 1978. In August 1981 a fitter had started the regular 'annual' check on the frame, which takes place every 12-18 months. The fitter had already carried out four shifts of programmed maintenance, but was on annual leave when the derailment occurred. He had not yet got as far as checking the electric locks, but when he had done so, the mal-adjustment in the lock would have been detected.

He said that the remote operation of the slave frame should mean that the electric locks do not wear once they have been set up adjusted and locked, since they are never strained. They should not require adjustment for many years (if ever). The item that failed was one that had a very reliable record.

He stated that the previous witness had been a fitter for about two years, carrying out regular maintenance on locking frames, but not answering many fault calls. He would not have come across a lock failure such as this. The fitter had followed a methodical approach to look for mechanical binding; however, the shine on the lockslide was due to binding elsewhere which had pushed the lockslide over. The filing only alleviated the problem temporarily until the underlying fault got worse. He would not have expected the fitter to have examined the underside of the lock, as he thought it was working properly - the lock is 'active' when the lever is in the mid position, but the lever was binding in the reverse position. To sum up, the fitter was fooled by something outside his normal experience.

He told the enquiry that this type of failure was entirely outside his experience on LT, neither had he heard of BR experiencing this problem. The piece that failed was a latch locking lever - a tappet lever of a very well tried design. The locking nut is an approved method of securing the adjustment of the lever, but the thread had been under tension for many years and had stretched, the locknut had eventually come loose, and had escaped from the clutches of the tab washer which was supposed to prevent it from turning. The nut and washer were in fact found on the floor of the pit under the frame. After the incident, LT had checked several thousand similar devices, but all the locknuts had been found in position, therefore he could not believe that this was a suspect type of equipment. However, LT were now considering other ways of securing the adjuster nut.

Summing up, the Inspecting Officer said that he wanted to go into all the technical details before closing his enquiry fully. He was satisfied that he had found the cause of the accident, and would look into ways of preventing a recurrence. However, the equipment that failed was well tried and tested, and it might be best to make no changes. No blame attached to any person in this matter, he said: it might appear that the fitter missed the cause of the failure, but then he could not have been expected to find it. His report to the Secretary of State would be published by HMSO in due course. With these remarks, the public hearing was closed.

#### Comments

To sum up the technical evidence given at the enquiry, it would appear that the derailment was brought about by a complex chain of events. This started with the locking nut on the lifting tappet working loose (and eventually dropping off altogether). The adjuster nut was then able to work down the thread of the tappet. This effectively lengthened the tappet, which pushed the lockslide out of true and eventually meant that the latch did not engage at all in the notch on the lockslide. Thus when train 40 reached track A0, and the regulator had reset his route levers, there was nothing to hold lever 21 in the slave frame from returning to the normal position. This in turn would have freed the mechanical locking on 217 points lever, so that when the regulator pushed levers 45 and 47 to set the route for the southbound train, crossover 217 would have reversed and signals 45 and 47 cleared. All this would have happened during the 15 seconds or so that the front of train 40 took to pass through track circuit A0, although if the lock had been working correctly it would not have happened until the back of train 40 cleared track AR.

Thus, when train 40 reached 217 crossover, the moveable angles would have been set for the crossing route. The wheels of the train would have smashed past the trailing switches of the moveable angles which were set against it, but when they reached the facing switches they would have been presented with a sharp corner which was never intended for a train to try and go round. In these circumstances it is hardly surprising that the leading bogie was derailed - indeed it is somewhat remarkable that the following bogies did not derail, but managed to take the corner.

#### Acknowledgements

I would like to express my thanks to Victo Badman, a fellow Society member, for giving me some help with the preparation of this article.

#### LETTERS TO THE EDITOR

Sir,

Referring to the Underground Detective by Jeremy Buck, the author seems a little churlish in not once acknowledging that the author of the Sherlock Holmes stories was Sir Arthur Conan Doyle, and surely the name in the 6th line of the penultimate paragraph of Mr. Buck's interesting

article should read 'Conan Doyle' instead of 'Watson' ? Watson, as a fictional character, could not sell to the public. Paul Garbutt wrote a similar article on the same story in the late L.T. Staff Magazine.

Yours sincerely,  
D.F.Croome.

Perivale, Middlesex.  
15 October 1981.

Jeremy Buck writes:

'Desmond Croome is correct in saying I should have mentioned Conan Doyle. The reason I did not is that most 'Sherlockians' (and there are quite a few) refuse to admit that Holmes and Watson were fictional characters. They claim that Watson wrote the stories, and that Conan Doyle was only his literary agent. I followed this opinion in my article, but reluctantly I have to admit that these two likeable characters probably did not exist. Apologies to Paul Garbutt whose previous work I was unaware of.'

The article about closed stations (UN 238, pages 227-231) has prompted comments, corrections, and further information, as follows:

H.V.Borley writes:

'I have known South Acton almost since the day the District station was opened and can assure you that there was never more than one platform. The line was doubled just before electrification when the passenger service began. At South Acton station there was a facing crossover from the eastbound line to a long platform, much of which was overgrown with grass and weeds.

There was a small ticket office on ground floor level; this was closed about 1912 and a notice told passengers to obtain tickets from the signalman on the platform. There were no other staff on duty. On 14 February 1932 the branch was reduced to a single track with automatic signalling. The signalbox was closed and removed, and a small ticket office erected on the platform. The clerk also collected tickets. There were always runaway sidings into a field to prevent runaway vehicles getting on to the 'main line'.

When first opened, the branch was single. Both L & NW and Midland goods trains worked through usually to Ealing Common; a District Railway pilotman joined the train at the junction. The 'goods' consisted of stores and material for the District Railway and except when the South Harrow line was under construction the trains ran only about once a week. So far as is known they always worked in the very early hours when there were no passenger trains. The date of the last goods train is not known, probably in 1914. The points at the junction were clipped out of use early in 1915 but retained for emergency use being finally removed together with the junction signalbox in 1930.'

J.C.Gillham writes:

'I feel it is misleading to include South Harrow in the list of stations 'which closed only to be resited nearby'. In fact the original platforms and location are still in use today, and all that happened in 1935 was that a new booking office building and access stairs fronting onto the main road were added at the western end of the platforms, in replacement of the original building (which still survives today for staff purposes) at the eastern end of the same platforms and up a side turning.

Also included is Hounslow West in the same list, but here in fact the original booking office building and part of the access passageway are still in use today, and the 1975 alterations involved the construction of new platforms on a new alignment at a different angle and lower level.

Really, you can't have it both ways! I must admit that the list did not specify whether resiting was intended to refer to the booking office or to the platforms, but nevertheless at most of the others in the list of 15 both the buildings and the platforms were re-located with entirely new construction, in a few cases up to several hundred yards away. The inclusion of both Tower of London and Tower Hill is of course correct, but it should be noted that the latter (with entirely new construction) has returned to the same location as the former, after an interval of 83 years with a different station 200 yards to the west and a different name.

I feel I must especially challenge the inclusion of Hammersmith (Piccadilly) in the list of resited stations, for surely here both the platforms and the booking office are still in exactly the same location today as they were from 1906 onwards, and the 1932 rebuilding, although drastic, was still on the same site. There were previously two terminal tracks and platforms on the north side for Piccadilly trains reversing, and two through roads (also one extra loop) on the south side for District trains to and from places further west. From 1932 onwards, after the construction of an extra double track tunnel underneath Hammersmith Broadway to the north of the older District tunnel, the eastbound District trains were re-located onto the north side of the station, with eastbound (now through) Piccadilly trains on almost the same alignment as one of the previous Piccadilly terminal roads, and westbound Piccadilly trains just about where eastbound District previously were, and westbound District almost unaltered. Admittedly all four tracks were pushed just a few feet sideways to allow for four wider platforms instead of five slightly narrower, but I don't think this qualifies as 'resiting' the station. This same change of function for existing tracks on the same site applied also to Ravenscourt Park, Stamford Brook and Turnham Green, except that in each case the two on the north side until 1932 were LSWR (disused since 1916) instead of Piccadilly.

Surprisingly, the list does not mention Northfields at all, and yet Northfields station really was completely resited in 1932 on the opposite side of the main road. The old two-platform station and all its buildings, to the west of Northfield Avenue, were totally demolished a year or so previously so as to make space for the approaches to the new rolling stock depot, and an entirely new four-platform station was built, well back beyond the east side of Northfield Avenue. The track quadrupling between Acton Town and Northfields was opened on 18 December 1932 for District trains, and Piccadilly trains started using it on 9 January 1933, but I am not sure on which date the massive new booking office building opened. Before this, there was for a year or so a temporary building on the east side of the road and to the south of the new permanent one, since the old one had already had to be demolished. At this time the Northfields scheme envisaged the permanent closure of South Ealing station, which would have increased the other list from 19 to 20. Additional stairs were provided at the opposite end to Northfields station, with a footpath leading through to a new exit in Weymouth Avenue, which was only 250 yards from the entrance to South Ealing station booking office. South Ealing buildings were demolished when the road bridge was rebuilt for the railway quadrupling, and a temporary wooden hut was erected similar to the Northfields one. Due to a change of policy, caused by passengers' protests, the South Ealing temporary booking office is still in use as such today, almost fifty years later, and the Weymouth Avenue exit from Northfields was closed and abandoned after only a very few years. South Ealing platform alterations involved only the laying of an extra track behind the outer edge of the two existing side platforms, converting both of them into islands, but all the Northfields station quadrupling and widening was to the south of the old alignment. The Northfields temporary booking office building also still exists, but under other ownership, and for well over forty years it has been the local headquarters of Toc H.

Another omission from the list of resited stations, at any rate at street level, is Ealing Broadway District Line. When Ealing Broadway Great Wes-

tern and Central Line station buildings were suddenly closed on 3 December 1960 and totally demolished the following week (somebody had discovered the supporting girders were very badly corroded), alternative access to the platforms was provided through the District Railway booking office further along the street, with a new temporary passageway built behind the intervening three or four retail shops. Nothing more was done for about five or six years, but when eventually a new permanent building for the Western and Central booking office was erected on the same site as the old one, this new building also now functioned as the District Line booking office, access being through the passageway behind the shops but in the opposite direction, and the old District-Railway booking office and hall was permanently closed. This is just as much a 'resiting' as is the South Harrow example, but both of them ought really to come into the third category of 'top station closures which did not affect platform locations.'

I would also query the inclusion of Osterly in the list of 19 'permanently closed' stations. Surely the circumstances of its removal 300 yards, which is correctly described, qualifies it as an addition to the list of 15 'resited' stations, just the same as Kings Cross Metropolitan, or Uxbridge. Finally, not mentioned is Finsbury Park, Northern City Line. Perhaps it cannot be decided which of the three categories to put it into, and I'm sure I can't either! So far as concerns its own railway, it has been totally abandoned, as also have the tracks leading up to it. But both the platforms are still in use, unaltered, save that they have been taken over by two other railways (Piccadilly and Victoria), with the tracks beyond both ends of the station re-aligned and coming from and going to quite different destinations.'

#### BOOK REVIEWS

TUNNELS UNDER LONDON - Second Edition; by Nigel Pennick; published by Fenris-Wolf Publications, 142 Pheasant Rise, Bar Hill, Cambridge, CB3 8SO. 24 pages; 297 mm x 210 mm (A4). Price: 85p, plus postage.

This typewritten monograph, illustrated with numerous maps and diagrams (some drawn specially, others reproduced from original technical papers) examines in detail all deep level tunnels that are known to have been built beneath London, and many proposals that were not carried out. Tube railways naturally claim a major share of the author's attention, and the lines as built are described in moderate detail. Great attention is paid to the unusual sections of the tubes, such as the Aldwych branch, the disused tunnel at South Kensington, Bull and Bush, and the abandoned section of the C & SLR between Borough and King William Street. Other tunnels described include the Post Office Railway and its compressed air predecessors, World War II deep shelters, and Post Office cable tunnels. Full details of sources are given, and a bibliography. There are some interesting conjectures on why and how certain tunnels were built, and what has actually been built, after the manner of Peter Laurie in 'Beneath the City Streets', but there is a rather naive attitude to the economics of tube railway construction in some hypotheses about possible unused tunnels. The contemporary plans and sections of original C & SLR construction and gradient profiles of the Central London are valuable.

Rather uneven in coverage, but well worth buying for its examination of the lesser-known bits of subterranean London. Obtainable from the Society's Assistant Sales Manager at 21 Chestnut Grove, South Ealing, London, W5 4JT, for 85p, plus 20p postage.

DFC

GUIDE TO THE URBAN TRANSPORT MUSEUM - PARIS, ST.MANDE. 8th edition, 1980. 19 photographs (7 in colour), size 8 $\frac{1}{2}$ " x 5 $\frac{1}{2}$ ". 24 pages.

This guide includes a plan of the museum at Saint Mandé, Paris, a short introduction, and short descriptions of the 126 vehicles under control of

the museum, some of which are in reserve or at the associated working 60 cm line at Pithiviers (80 km from Paris). Vehicles have been drawn from all parts of France, but the bus collection has a strong Paris bias (17 out of 29). Compared with the 26 horse-drawn road vehicles, 37 trams and 16 light railway vehicles, the three Paris Metro cars are heavily outnumbered. These comprise one type 300 motor car (metal cab and equipment compartment, the rest in wood), one type 500 motor car (all-metal) and one Nord-Sud motor car of 1925. The guide is believed to cost 5 francs. The museum itself is near Port Doree Metro station on line 8, and is open each Saturday and Sunday between 14.30 and 18.00 from 18 April to 31 October.

DFC

Editor's note: Since the guide was produced, another rail vehicle has joined the other three Metro cars. This is the prototype single car 'MP51' that was built for experiments with rubber tyred train operation on the Paris Metro.

### HISTORICAL BOOK REVIEWS

by Peter Bancroft

Number 8: CITY AND SOUTH LONDON RAILWAY. DESCRIPTION OF THE WORKS, INAUGURATED BY HIS ROYAL HIGHNESS THE PRINCE OF WALES, On Tuesday 4 November 1890. Brochure printed for the opening ceremony by Waterlow & Sons Limited, Printers, London Wall, 1890.

A list of Directors and Officers of the City & South London Railway Company, whose address is given as 46 King William Street, E.C., precedes the description of the railway, which actually commences with a map of the route. Station names are not shown on the map, but many main roads are named and the routes of several main line railways and a small part of the Metropolitan District Railway are shown.

At the start of the text, those attending the ceremony found the area now traversed by the railway described as '... some of the most densely populated localities of the Metropolis.' The tramways terminating about half a mile from the London Bridge, and the omnibuses over London Bridge were subjected to increasing congestion and the railway was conceived as an effective means of relieving this congestion. The Company was incorporated by Act of Parliament in 1884, with powers for further extensions being granted in 1887 and 1890, to Stockwell and Clapham Common respectively.

At more than three miles in length, the railway, as then constructed, was placed in separate 'up' and 'down' tunnels, deep under the streets. Stations had been constructed at '... the Monument, King William Street; Great Dover Street (Borough); the 'Elephant and Castle'; New Street, Kennington; the Oval; and Stockwell.' Hydraulic lifts and stairways provided access from street to platform levels. The 'up' and 'down' tunnels were deliberately placed at different levels at the stations, so that a surface establishment was required on only one side of the road, passengers being able to walk directly to either platform from the foot of the lifts or stairs.

An electrical generating station at Stockwell supplied current for the locomotives, which had three collectors or shoes sliding along the conductor rail. The amount of current being regulated by the driver controlling a lever. The locomotives weighed about 10 tons and produced up to 100-horse power.

For the permanent way, the sleepers had no ballast supporting them, resting instead on the iron tunnel lining.



Hydraulic power for the lifts was supplied throughout the length of the line, again from the generating station at Stockwell.

The geography of the tunnels throughout the line is described. Figure 1 in conjunction with a detailed map of the area around the King William Street terminus, and the lines under the Thames, give the route and level of the separate tunnels at various points. Figure 2 shows the tunnel lining. The under river tunnels were effectively drained by the use of a cross heading joining the two tunnels at the lowest point under the river. The water then drained into the sump below the construction shaft and could be discharged using an injector hydrant.

The construction of a temporary shaft in the river at Old Swan Pier is described and also that of the running tunnels together with the shield and tunnel driving method. The maximum rate of progress of tunnelling was 16 feet in one day. A diagram and description of the grouting apparatus is also given, and the use of compressed air for some sections of the tunnelling work is noted.

Names of the Engineers, Contractors, the Architect for the station buildings, and suppliers of electrical and mechanical equipment are given, together with some technical details of various items of machinery.

Pen and ink drawings interrupt the text at various points and are captioned as follows:

- The Stockwell station (outside view).
- Island platform, Stockwell station.
- The Elephant and Castle station.
- The Oval station.
- Inside view of lift chamber.
- The carriage shed at Stockwell.
- Interior view of carriage.
- Pay gates.

This is a very well presented booklet, written in a simplified style, presumably so as not to blind the general public with too many technicalities. The drawings are also a credit to their creator, and give an excellent impression of the works described by the text.

A photostat copy of the brochure is contained in the Society's Library, which is open to members on a number of occasions throughout the year. See 'The Timetable' for details.

## SOCIETY SECTION

### Modelling

Will members please note the change of address for the Society's Modelling Secretary:

Top Flat, 47 Buckingham Place, Brighton, Sussex.

A manufacturer has written to the Society, asking for assistance with research on the London Transport livery as applied to the ex-GWR 5700 class O-6-OPT locomotives. The manufacturer is having problems regarding the exact layout of the black areas on top of the locomotive. The cab roof, front face and safety-valve cover, dome, chimney and smoke box door (and top) were all painted this colour, but what was the exact area that was painted black (if at all) on the top surface of the tanks/boiler area?

Possibly the water filler funnels were painted in the maroon colour - hence the black area would have a 'shaped' edge to it, possibly following that of the metal cladding on top of the locomotive. If any member has any information or photographs that can answer this problem, would they please contact the Modelling Secretary at the new address, above.

Members, are advised that the Hamblings litho sheets for modelling O/P stock are still available at 30p per sheet. However, the window strips and and wooden roof/flared skirt mouldings are not now available.

Hamblings is located in Cecil Court, London, W.C.1., and the nearest Underground station is Leicester Square.

### Underground News, Underground, and Society Subscriptions

This issue of Underground News is the last of the Society's periodicals to be published this year. As you will have read in UN 239A last month, the periodicals have varied over the years, in format, production methods, size and content. In general we have always tried to improve the publications members receive, and in recent years especially, seem to have achieved a great deal.

Some members have, however, commented that there have been fewer pages, diagrams and photographs in Underground News than there were last year. This is true, but it has been compensated for by having three issues of Underground in 1981, whereas from 1975 to 1980, an average of only one Underground was published each year. Overall, taking into account the different page and type sizes, this year has seen the greatest output from the production and distribution team - a most satisfactory result in this our twentieth anniversary year. In both 1980 and 1981 the combined content of Underground and Underground News was more than four times what it was on average, in each of the first 15 years of the Society's existence. Put another way, the total content of the periodicals of the first 15 years has been equalled in the last five years.

It would appear that members are reasonably satisfied with what the Society provides, and this is shown by the substantial level of membership, which has more than doubled in the last four years. We try to ensure that all members get their money's worth, by keeping the amount spent on producing and distributing the periodicals roughly equal to the total income from subscriptions, all other expenses being met from Sales profits and donations. Inevitably, subscriptions have had to increase, but in 1981 the increase was only about 8% - much less than the inflation rate, and for 1982 it is nearer 7%. The Committee and production team are all dedicated to maintaining or improving standards, while keeping subscriptions to an acceptable level. We hope we will have your continued support in 1982, and that many more will continue to join us, for with greater numbers, the benefits of scale become apparent in the production of the periodicals.

The Productions team wish all members a happy Christmas and a prosperous New Year. The Editor wishes to thank all those who have contributed to Underground News, for without their efforts, the journals would have been much thinner!

### Dumper Bundle - November 1981

Members should have received the following items at the beginning of November:

1. Underground News No.239.
2. Underground News No.239A.
3. Underground No.9.
4. Reprint of Preliminary issue of Underground.
5. Reprint of issue No.1 of Underground.
6. Renewal notice for 1982 (not Overseas or Honorary members).

If any member did not receive any of these items, please let the Despatch Officer know - address on back page of each issue of Underground News. Please note that the back page of UN 239A was deliberately left blank.

## Society Sales

The following items are available from the Society Sales stand, or by post from the Assistant Sales Manager:

Map of Bridges and Structures on London Transport Railways. This 594 mm x 841 mm (A1 size) Dyeline print shows over 1,000 structures on London's Underground system and gives details of structure number, road/service carried, and type of structure. It includes many now on disused lines and also shows the uncompleted Alexandra Palace, Mill Hill and Bushey Heath extensions with their proposed structures.

This is available to LURS MEMBERS ONLY, from the Assistant Sales Manager, please quote your membership number with order. Price: £1.00, plus 10p postage.

The London Bus Magazine - No.38, Autumn 1981. Price: 85p.

London's Underground - new edition by H.F.Howson. Price: £6.95.

Tunnels Under London - by Nigel Pennick: reviewed on page 317 of this issue. Price: 85p.

## Subscriptions for 1982

Subscriptions for 1981 expire on 31 December 1981, and we should be grateful if members would renew their subscriptions by that date, either by posting their remittances to the Registrar, 67 Weltmore Road, Luton, Bedfordshire, LU3 2TN with the completed renewal form, or by remitting them to National Girobank account number 501 5952 by following the procedure shown on the renewal notice.

The rates for 1982 are £7.50 for full members and £4.50 for associates (aged 12-15 years inclusive on 1 January 1982) with a supplement of £2.50 for overseas members to cover overseas postage costs. Renewal notices were sent with the October issue of Underground News for overseas members and with the November issue for home members.

## End of Financial Year

All officers and members holding funds belonging to the Society, or being owed money by the Society, are asked to send their remittances and claims respectively, made up to 31 December 1981, to the Treasurer, 6 Launceston Gardens, Perivale, Greenford, Middlesex, UB6 7ET, to reach him NOT LATER than 7 January 1982. Membership subscriptions should NOT be sent to the Treasurer, but to the Registrar - see above.

DFC

## Underground Roving

September 1981 saw the start of the 'silly' season of roving record attempts after the summer recess.

The first group to make an appearance were Jon Brown, Robert Anderson and Alex Chin-A-Fat, who, on 16 September, were making yet another and perhaps final attempt to break the record. As usual, they left Ongar at 05.48 and succeeded to get to Aldwych at 08.14 on time. However, from there they began to lose time due to a train failure on the Piccadilly Line, and waiting 20 minutes on a Jubilee Line train outside Baker Street.

But as dusk approached, their luck began to change and things began to go in their favour, the main one being a Piccadilly Line train running via the District Line between Hammersmith and Acton Town, which stopped at Turnham Green to pick them up and then stopped at Chiswick Park. This train in fact replaced a cancelled District Line train. They finally arrived at Upminster at 23.36, in 17 hours 48 minutes, nine minutes inside the record.

On 24 September, it was the turn of Nick Mitchell (the Society's Librarian) and Ian Robins (the Society's Modelling Secretary) to have a go.

They were joined at Ongar station by Simon Calder, a Radio One reporter for 'Studio B15', a Sunday afternoon programme. During the day the reporter interviewed the Attempters, Jon Brown - a checker, Mike Sherman - the daytime controller, and some passengers. A seven-minute feature went out on 'Studio B15' the next Sunday. Things did not go well for them during the day, beginning with a signal failure at Ruislip which left them standing in the rain for half an hour at Ickenham, missing the connection at Chesham just as the pubs were shutting at 14.30, and finally missing the last Aldwych shuttle of the day. In all they did 200 stations, but Jon Brown's record still stood.

More attempts were due to take place in October, prior to the closure of Blake Hall station and the proposed reduction to peak hours only of the Epping-Ongar service.

My thanks to all the helpers and congratulations to the new record holders.

MJS

### POINTS OF INTEREST

Nigel Hyde writes:

#### Turned Stock

When 1938 tube stock worked on the Piccadilly Line, these trains were also 'wrong way round' during the time that uncoupling was practiced. This was to conform to the formation of the pre-1938 stock with the three-car unit at the east end. Overhauls of the Piccadilly Line 1938 stock then involved journeys between Northfields depot and Acton Works being via High Street Kensington and Mansion House.

At its maximum, there were 184 trains of 1938 tube stock, allocated as follows:

	Allocation	Required for service
Northern	115 (46U (69	100 (45U (55
Bakerloo	54 (31U (23	47 (30U (17
Piccadilly	15U	13U

'U' with UNDM - shown in WTTs as 7U (and 4U when uncoupled).

It will be noted that more 'U' trains were scheduled for service than could reasonably be provided on the Northern and Bakerloo lines. This is explained by the need to divide standard formation trains on the Northern Line into 4-car and 3-car parts - the 3-car units for the City service. On the Bakerloo Line, only standard formations uncoupled at Watford Junction.

#### Station Lights Dimming

Further to page 223 of UN 237, until the modernisation scheme of the early 1960s, stations north of Harrow-on-the-Hill had their lights fed from the conductor rails, resulting in the dimming of lights as trains passed. On 'T' stock trains, lights also dimmed during motoring. As a deterrent to theft, the bulbs in the compartments were screw rather than bayonet fitted. At the stations north of Harrow when fare changes required booking office staff working through Saturday nights, it was necessary to provide emergency lamps during the time that traction current was off.

#### From the Newspapers & Radio

##### Daily Telegraph

15.9.81 - A poll by Opinion Research Centre for Thames TV showed that 76% of the 1,000 people asked were in favour of a referendum on the issue

of increasing rates-and reducing LT fares. Three to one were in favour of higher fares and the same level of rates.

30.9.81 - Copies of famous pictures from the National Gallery and the National Portrait Gallery are to be displayed on plastic panels on the Bakerloo Line platforms at Charing Cross, as part of a £3-million fare-lift for the Bakerloo part of the station.

28.10.81 - Cheap public transport in London, introduced by the GLC three weeks ago, is expected to cost ratepayers an average of £12.96 a month from April, a rise of £7.76. These figures, based on the 'average' ratepayer with a house whose rateable value if £278 were described last night by the London Boroughs Association as an 'intolerable burden'. Yesterday, the Westminster Chamber of Commerce was given leave to apply to the Queens Bench Divisional Court for an order quashing the GLC resolution of 21 July, which sanctioned the overall 25% reduction in fares. Earlier this month, Conservative-controlled Bromley was granted leave to apply to the Divisional Court.

29.10.81 - Yesterday, in the Queens Bench Division Court, Counsel for Bromley Council accused the GLC of using ratepayers as a milch cow to pay money unlawfully to provide cheaper fares for bus and underground travellers. 'An average ratepayer who previously paid £7.20 of his rates for public transport was being asked to find £40.50 in the current year and £60 the following year, with the cost rising over the next four years.

30.10.81 - In the Bromley v GLC case yesterday, counsel for the GLC denied that the Council had 'ploughed on with blinkered eyes' in cutting bus and tube fares by 25%.

4.11.81 - Yesterday, Lord Justice Dunn and Mr. Justice Phillips, sitting in the Queens Bench Division, ruled that the GLC was legally entitled to pass on the cost of cutting fares by 25% to its ratepayers.

6.11.81 - In presenting Bromley Council's appeal against the Queens Bench Division Court's finding for the GLC, counsel for Bromley said that this court fell into serious error.

7.11.81 - At the Court of Appeal yesterday, counsel for the GLC said that the GLC, in reducing fares, had made 'all the relevant considerations',

11.11.81 - Yesterday the Appeal Court allowed an appeal by Bromley Borough Council against the refusal of two judges in the High Court to quash the order from the GLC to levy a supplementary rate to pay for the fares reduction. The Appeal Court ruled that the GLC had acted unlawfully in levying a supplementary rate to pay for a 25% reduction in bus and tube fares. Lord Denning, Master of the Rolls, told the QC for London Transport that LT could continue for a week or two with the present fare pattern, pending an appeal to the House of Lords, but advised it to plan for changes in its fare structure while making its appeal. In the meantime, the GLC may not ask the borough councils for a supplementary rate, nor may the councils ask their ratepayers to pay it.

#### Sunday Journal

25.10.81 - There are very few scorpions left at one end of the platforms at Ongar station, as people have taken them as pets. They are 1½-2 inches long and are quite harmless. An LT spokesman said that people must take them as pets because they are more interesting than a cat or dog!

#### BBC Radio 4 - News Bulletin

11.11.81 - This programme included an interview with Nadine Jolie, who has been put in charge of the police anti-crime squad on the Paris Metro. There were 30 reported crimes a day, and of the 425 Metro and RER stations only 25 had escaped having a criminal incident in 1980. She has been put in charge of the Metro police squad, which is regarded by the public as 'extra tough'. The Metro was alleged to be a dangerous place, but no more so than crossing a road. The top job of the police was largely one of

human relations. A woman would give the force a human image. She would travel on the trains themselves, having had training in self-defence, and would carry a gun. She could take on any man. The 11,000 crimes reported each year were only the tip of the iceberg of all crime on the Metro. Women passengers suffered from pickpockets taking their handbags or their contents, and men passengers from money being taken from back pockets. She would introduce increased manning in areas where there was most crime and did not anticipate any difficulties in controlling her male colleagues - she anticipated an intelligent reaction. (The worst areas for crime on the Metro are reported as being near the Pompidou Centre, and on the Left Bank).

### ROLLING STOCK ALTERATIONS

October, 1980

#### 1959 Tube Stock

Northfields to Golders Green

1052-2052-9053-1053+1054-2054-1055 26th

#### CO/CP Stock

From Ealing Common to Ruislip (Condemned cars)

53003-54003 2nd (ex-pilot motors)

53218-014260-54214 8th

From Neasden to Quainton Road for Preservation

54233 10th (official 'scrapping' date)

#### R Stock

From Ealing Common to Ruislip (Condemned cars)

21125-23228-23332-23432 1st

21148-23248-23348-23448 7th

Ruislip to Booths, Rotherham, for scrap

23538 23229 22620 23406 23306 21106 21123 23216 23326 23425 6th

#### CO/CP & R Stocks

Ruislip to Booths, Rotherham, for scrap

22611 23562 22643 23539 22678 23578 22625 23516 50003 54003 20th

#### D Stock

From Metro-Cammell, Birmingham, delivered to Ruislip

7080-17080-8080+8081-17081-7081 13th

7082-17082-8082+8083-17083-7083 24th

Ruislip to Ealing Common for commissioning

8081-17081-7081 14th

7080-17080-8080 15th

8077-17077-7077 27th

7076-17076-8076 29th

Entered Service, District Line

7068-17068-8068+8069-17069-7069 4th

7072-17072-8072+8073-17073-7073 27th

7074-17074-8074+8075-17075-7075 27th

#### Miscellaneous Movements

L18+L38+B557+54233 Neasden to Quainton Road for preservation 10th

L152-3910+3911-L153 Hainault to Ruislip for scrap 25th

9435-1435 Hainault to Acton (derailment damage) 26th - pilot unit 1578

L21 Ealing Common to Acton (collision and overhaul) 26th

1294-2294-1295 Golders Green to Acton (collision) 30th

Service Vehicles

B557 Neasden to Quainton Road for preservation 10th (official 'scrap' date)

New Hopper Wagons delivered to Ruislip from W.H.Davis:

HW208 HW212 HW213 HW214 HW215

Units to Acton for Overhaul:

Metropolitan	5543-6543	1st
Northern	1234-2234-1235	2nd
Central	1710-2710-9711-1711	2nd
Metropolitan	5078-6078-6079-5079	7th
Jubilee	3441-4541-3541	12th
Bakerloo	10193-012282-12054-11193	14th
Northern	1308-2308-9309-1309R	16th
Victoria	3069-4069-4169-3169	20th
Central	1590-2590-9591-1591	22nd
Northern	1298-2298-1299	23rd
Northern	3227-4227-4327-3327	26th
Central	1558-2558-9559-1559	29th
Metropolitan	5080-6080-6081-5081	30th

Units from Acton after Overhaul:

Metropolitan	5511-6511	1st
Northern	1290-2290-1291	2nd
Central	1646-2646-9647-1647	2nd
Bakerloo	10036-012188-12098-11036	14th
Central	1690-2690-9691-1691	15th
Northern	1288-2288-9289-1289	16th
Victoria	3078-4078-4178-3178	20th
Central	1562-2562-9563-1653	22nd
Northern	1286-2286-1287	23rd
Northern	3222-4222-4322-3322	26th
Central	1610-2610-9611-1611+1650-2682-9651-1651	29th
Metropolitan	5064-6064-6065-5065	30th

Reformations

From	To
<u>1962 Tube Stock</u>	
1650-2650-9651-1651	1650-2682-9651-1651
<u>1973 Tube Stock</u>	
208-688-889	208-608-408
888-608-408	888-688-889

NEWSFLASHES

- NF 199/81 It is estimated that the reduced fares have created an extra 4-6% increase of the number of passengers travelling on the Underground and buses, although at weekends this figure shoots up to about 10%.
- NF 200/81 A62 stock unit 5160 that was transferred to Northfields in September, was used for traction current tests. It is interesting to note that A stock is banned west of Northfields (except that trains may leave the depot at the Boston Manor end and reverse on the eastbound line), between Turnham Green and Richmond, Putney Bridge and Wimbledon, Earls Court and Olympia, Mansion House and Aldgate East, and between Praed Street Junction and Hammersmith Metropolitan.
- NF 201/81 The new ticket office at West Ham station was opened from 18 January 1981, although modernisation of the station has continued throughout the year.

- NF 202/81 The northbound starting signal at Kensal Green - KG1 - has been modified. The single lens searchlight top aspect (red-green) has been replaced by a two-aspect red-green signal head from 16 August 1981. The southbound station starter was similarly altered earlier in the year.
- NF 203/81 With the reduction in Southern Region services into Cannon Street after the evening peak, involving complete closure from 19.30, the District and Circle lines station similarly closes at 19.30 with effect from Monday 5 October 1981.
- NF 204/81 Further to NF 185/81, the following corrections and additional information has been reported: The derailed train at Woodford was formed (east) 1435-9435-2434-1434+1493-9493-2490-1490 (west). Of cars 1435, 9435 and 2434 that were derailed, 1435 and 9435 finished up sitting on ballast, and the former was the one that was almost at right-angles to the signal box. Only the east end bogie of 2434 was derailed and this was rerailed soon after the breakdown gang had arrived, the semi-permanent bar coupling to 9435 having been cut. The battery locomotives then moved 2434-1434+1493-9493-2490-1492 wrong line back towards South Woodford, thence to Woodford home signals, and at about 05.45 to Woodford eastbound platform. The battery locomotives then uncoupled and 1493-9493-2490-1492 then pushed 2434-1434 to Hainault depot. The two cars that were left at Woodford were thus 1435-9435.
- NF 205/81 The October issue of Modern Tramway contains the second article about the Berlin U-Bahn, by C.J.Monks. Illustrated is an LT-type bullseye at WITTENBERGPLATZ station, which was presented by LT to the BVG in 1952, to commemorate the BVGs 50th anniversary. Does anybody know if this is still in position today?
- NF 206/81 Resignalling is expected to commence in 1982 of the Jubilee Line between Baker Street and Stanmore, and the Metropolitan Line between Swiss Cottage and Wembley Park. The work is scheduled for completion in 1985. This will follow the completion in early 1982 of the resignalling of the Piccadilly Line between Barons Court and Cockfosters, with computer controlled signalling at Wood Gree, Arnos Grove, Oakwood and Cockfosters being supervised from Earls Court Regulating room.
- NF 207/81 The lifts at Queensway (Central Line) and Caledonian Road (Piccadilly Line) are to be replaced by new lifts at a cost of £1.19 million and £1.5 million respectively. Those at Queensway were originally high-speed lifts operating at 500 ft per minute, but have been slowed down to 300 ft per minute for some years to improve reliability. The two lifts at Caledonian Road date back to when the Piccadilly Line was first opened, and still have hand-operated doors where the lift operator stands.
- NF 208/81 For many years, when seven trains were stabled overnight at Queens Park, No.21 road was used (northbound Watford line) for one of these trains, with that train entering service the following morning via the northbound platform (with No.14 points secured and the train handsignalled into the platform - see diagram of Queens Park on page 187 of UN 236). No.24 road was normally left empty. However, from an unknown date in July 1981, this situation was reversed, so that No.21 road is now left clear, and trains have to be handsignalled back to stable on No.24 road (No.15 points having to be secured reversed). Entry into service the following morning is by normal signals (BB26). Six trains are now stabled at Queens Park - one each on 22/23/24 roads, and three in the south sheds.



- NF 209/81 D stock DM 7049 has been fitted with Storno train radio equipment since August. The aerial is located on the opposite side to C stock; i.e. driver's side.
- NF 210/81 1972 MkI stock DMs 3224 and 3521 have been fitted with Storno train radio equipment. Unit 3222, freshly overhauled, was transferred to Ruislip from Ruislip on Wednesday 11 November, so that DM 3322 could be exhibited in the Lord Mayor's Show, the theme for 1981 being Transport. DM 3322 was loaded onto a lorry Friday evening 13.11.81, and appeared in the procession on Saturday. It returned to Ruislip on Saturday evening and was unloaded on Sunday morning. Messrs. Sunters provided the road transport (they also did most of the moves to the Covent Garden Museum). The unit returned to Golders Green on Wednesday 18 November.
- NF 211/81 The subway connecting Kings Cross Midland station and the Underground platforms at Kings Cross has been completed and was shown to the press in early October. It will not be opened to the public, however, until the BR line from Bedford is diverted into Moorgate in May 1982. The total cost of the new subway is £12.7 million, of which £5.4 million will be paid by BR and £7.3 million by LT. Overhead wiring for the Midland Suburban Electrification commenced on Monday 26 October 1981, and at the time of typing this item, all the cable had been run through to Moorgate, although much of it remained to be put in position. Views of Kings Cross Midland station have now all but disappeared, following the building of a high wall between the LT and BR lines. The former City Widened Line to Moorgate is to be known as 'The Midland City Line', and from 6 December 1981, will be in use for empty stock trains.
- NF 212/81 An Underground 'beer mat' has been discovered at a Courage pub in the Hampshire village of Greywell, more famous for being the site of the Basingstoke Canal tunnel (still intact, but blocked at one end by a fall), than for any connection with railways, or indeed the Underground. The beer mat is one of a set covering preserved steam locomotives (numbering at least nine, probably ten), and No.6 depicts 4-4-0T steam locomotive No.23, now preserved in the LT Museum, Covent Garden. Other locomotives in the set include: 'Mallard', GW 14xx, LMS 45110, GWR 'King', 'Winston Churchill' 34051, a Somerset & Dorset 2-8-0, and others. Our correspondent asks if this is the first time that an Underground subject has been included on a beer mat?
- NF 213/81 Her Majesty The Queen opened the Tyne & Wear Metro on 6 November 1981, when the section from Haymarket to Heworth was added to the system. Public services commenced on 15 November providing a through service over the new bridge over the River Tyne, named Queen Elizabeth Bridge on 6 November. Between South Gosforth and Heworth, three trains every 10 minutes operate, except during the evenings, when two trains operate. The next section to open will be from Tynemouth to St. James in 1982, and from Heworth to South Shields in 1983.
- NF 214/81 The 'Approaching' and 'In Platform' indications on the concourse train describers at Camden Town (see Underground No.7, pages 18 and 22) were out of use during September and the first two weeks of October. This caused initial confusion to regular travellers, who would wait in vain for this indication to appear. The indicators were back in full use from 14 October 1981.
- NF 215/81 The removal of foam seating from 1972 MkII tube stock cars has now been completed.

- NF 216/81 Further to NF 178/81, the indicator at Wimbledon is far from new, having been installed some two years ago, although not commissioned until recently. The display panels have gained sun-shades - hardly necessary in its present location.
- NF 217/81 Further to NF 191/81, reports have been received that destinations on the westbound dot matrix train describer at St. James's Park were shown on some days during the week commencing 17 August, but during the next week, it was completely blank. This started a daily display of destinations from 2 September. A typical display is:

1 RICHMOND 3 MINS  
2 WIMBLEDON 5 MINS

The first line is steady. If three trains are on the old describer, the second and third trains alternate continuously on the new one. Both disappear by appearing to move upwards into the bottom of the top line. Sometimes the bottom line is replaced by:

NEXT TRAIN IN 30 SECS

or,

NEXT TRAIN IN 3 MINS

Other features of interest are: (i) Maximum time seen is 7 minutes, (ii) 'CIRCLE' only, (iii) just after a train has left the platform, it has been seen to show destination of second train as both 1st and 2nd train for a few seconds, (iv) is brighter than eastbound describer, and generally more pleasant to look at, (v) sometimes all the 'minutes away' are not shown at all.

While on dot matrix train indicators, it is reported that this type is to be installed on the Northern Line in the next 12-18 months, initially on Charing Cross branch platforms. The new indicators consist of a matrix of light emitting diodes which can be illuminated in any combination to show letters, figures and diagrams. They will be linked to the computer at the Cobourg Street control centre and will be able to display a variety of other messages, as well as the first three trains.

- NF 218/81 It has been announced that £60 million is to be spent on modernising 140 stations on the Underground system. Station platforms will be identified with the relevant line colour - as has been done on the Jubilee Line (silver friezes) and Bakerloo Line platforms at Baker Street (brown friezes). Station walls will also have their own identifications. For example, it is planned that Oxford Circus will have a 'Snakes and Ladders' theme, Tottenham Court Road will have an abstract design suggesting electronics, computers and record companies.
- NF 219/81 It is reported that LT has decided to copyright the tube map, which appears in hundreds of thousands of diaries each year. One of the leading lights in the diary business has said that they will still include Underground maps, even if it means that they have to draw their own!
- NF 220/81 With reference to NF 171/81, according to notices at both BR and LT stations, the new arrangements at Kentish Town operated from Sunday 7 June 1981. Special single tickets and cheap day returns headed 'London Transport' naming destinations are issued as far as Bedford.
- NF 221/81 The advertisement boards at both West Harrow and Preston Road stations were renewed on 18 September 1981.

## SPECIAL EVENTS AT THE LONDON TRANSPORT MUSEUM

Children will be shown how to make a three-dimensional wall-plaque, depicting a double-deck London bus, at the LT Museum during the Christmas and New Year holidays. The sessions will take place twice a day from January 4 to January 8 and will last about two hours. A fee of £2 will cover admission to the Museum, all materials, instruction and refreshments. Other items of interest during the holidays include daily film shows from 28 December until 3 January, free to all Museum visitors.

An exhibition entitled 'Building a Reputation' opened at the Museum on 24 November, and continues until 31 May 1982. It is about London Transport's architecture and its development and includes some original drawings by Charles Holden, models, video and slide shows, and many photographs.

The Museum will be open each day between 10.00 and 18.00, except for 25 and 26 December. Admission charges are: £1.60 adults, 60p child not taking part in the making of wall-plaques.

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### Corrections to Underground News:

UN 238, page 248, NF 164/81 - in 14th line, third word should read 'short' and not 'long'.

UN 239, 2nd paragraph, 6th line, amend 'platform' to read 'tracks' - Chorley Wood was to have had four tracks with two outside platforms.

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### NEWSFLASHES (Continued)

- NF 222/81 Observed for the first time on 14.9.81 that the new fluorescent lighting over the escalators from the Metropolitan Line to the Jubilee/Bakerloo lines was in use for the first time. The new lighting, which is in strips over each escalator, replaces the single strip positioned above and between the two escalators.
- NF 223/81 Although the new multi-storey car park at Harrow-on-the-Hill station was opened on 3 August 1981, it has been observed that very few cars yet use it, and none have been seen above ground floor level.
- NF 224/81 Work started on demolishing the concrete lamp standards and signs at Harrow-on-the-Hill on 8.9.81, on platforms 1/2. Those on platform 3/4 were started on 22.10.81. Temporary signs have been erected fitted to temporary poles. Similar replacement of the signs at Kilburn was started on 23.10.81.
- NF 225/81 The first unit of A stock to be given a 'half-life' overhaul left Acton Works on 30 October 1981.
- NF 226/81 It is reported that the GLC has asked London Transport to investigate 'Ladies Only' travelling in one car of each Underground train, to make travelling safer for women after 11.00 at night. It is suggested that the guard's car be set aside for the purpose. This disappeared with the end of the compartment stock on the Metropolitan Line in 1962.
- NF 227/81 A bomb exploded at the Paris station of Gare de Lyon during the evening of 5 November. One person was injured and over 120 left luggage lockers were destroyed.
- NF 228/81 BIRTHDAY HONOURS: Piccadilly Line 75 years old on 15 December. Central Line Stratford extension 35 years old on 4 December.

SHUTTLE - 'TOTAL SUCCESS'

As the American space shuttle has been in the news in the last week or so, we bring, with the spirit of Christmas you understand, an off-beat look at another sort of shuttle. A.GRICER reports for Underground News from Chalfont & Latimer station:

Crowds estimated to number at least 15 assembled at Chalfont and Latimer station last Tuesday to witness the historic arrival of the Chesham shuttle.

Described as 'the greatest technological advance since Metadyne equipment', the shuttle, code-named A60, made a perfect arrival at Chalfont, following its launch ten minutes earlier from Chesham.

The crew of two Rickmonauts had the traditional breakfast of steak, eggs and orange juice at Wembley Park canteen before their adventure. They were then whisked away by a specially-adapted DMS bus to Chesham station where their work really began.

The booking office was converted into a temporary Mission Control Communications Centre, with the Station Foreman being Mission Controller. The booking clerk had overall responsibility of the Refreshment Unit, assisted by two Relief Clerks, an Area Manager and a Traffic Manager.

At T-20 minutes the Rickmonauts carried out extensive checks on all control and brake equipment.

At T-10 minutes the countdown was almost suspended when a tail light failed. The twelve Carriage Examiners (now known as 'Carriage and Wagon Doctors') on hand were, however, able to overcome this difficulty.

At T-3 minutes, the ignition sequence started with carriage heaters, motor generators, lights, compressors and pilot lights cutting in.

At T-0, precisely 19.11 hours local time, an historic 180° turn of the Master Controller launched mankind into another era. At Mission Control the air was tense as closed circuit TV from a helicopter-mounted camera kept the Shuttle in sight as it threaded its way to Chalfont. Ten minutes later, at 19.21 local time, the arrival at Chalfont came. Mission Control erupted in euphoria as shots of the Rickmonauts descending from the Shuttle came across the screen. An Area Manager was seen to hand round cigarettes, and all momentarily lost control after the tense build-up.

A similar scene was in evidence at Chalfont as the crew were mobbed by the crowd. They had witnessed a truly memorable moment in the development of mankind, as it is intended that the Shuttle could enter passenger service within months!

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