UNDERGROUND NEWS

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THE TIMETABLE

Sunday and Monday 2 and 3 March Library Evenings, 1830. The Society's Library open for inspection at 9A Dunrobin Court, 389 Finchley Road, London, NW3 6HE.

Friday 7 March Visits to the Waterloo & City Railway. See UN218 for details.

Friday 14 March
Talk 'The Central Line and its Rolling Stock (Past and Present)'
by Mr.J.G.Bruce, O.B.E. 1900 for 1915 at Hammersmith Town Hall.

Saturday 29 March
Annual General Meeting. 1400 for 1430 at the Council Room,
Second Floor, The Science Museum, Exhibition Road, South
Kensington, London, SW7.

Tuesday 1 April Library Evening, 1830. Other details as for 2/3 March.

Friday 11 April
Talk 'Advertising Posting on LT' by Mr.Roger Fearnley,
Advertisement Service Manager, London Transport. 1900 for
1915 at Hammersmith Town Hall.

Sunday 13 April
The Society will be operating its Sales Stand at the London
Bus Preservation Group's 7th. Open Day at Cobham Bus Museum,
Redhill Road, Cobham, Surrey, from 1100. There will be no car
parking facilities at the Museum, but free car parking will
be available at Weybridge Station, with a free bus service
operating between the Station and the Museum.

Tuesday 15 April
Morning and afternoon visit to Aldwych disused station,
Holborn disused platform and walk through tunnel between
Aldwych and Holborn. Applications, with SAE, to Mr.G.A.Finch,
161 Valetta Road, London. W3 7TA.

Monday 28 April Library Evening, 1830. Other details as for 2/3 March.

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OBITUARY

It is with the deepest regret that we have to report the death of Charles F.Klapper, F.C.I.T., F.R.G.S., in late January, peacefully at home after a long illness, cheerfully borne.

Charles Klapper was a man of wide-ranging transport interests, with an encyclopaedic knowledge of railways, tramways, buses and lorries, and a profound understanding of their operating methods and economic environment. He was President of this Society in the year 1973/74, and delivered his Presidential Address in October 1973, a paper on 'Circle Railways and Ring Roads - have they a role?' The text of this address was published in the Society's journal in December 1973. Some of his historical Underground photographs were shown by Alan Jackson when he addressed the Society in May 1979.

He was born in Bow, East London, in 1905, and after leaving school he entered the road haulage industry. In 1935 he joined the editorial staff of Modern Transport, where his duties included writing up successive Southern Railway electrification schemes. Every six months or so he would meet the S.R. departmental officers involved, and study the new works in detail. He acted as Editor to Modern Transport during World War II, becoming full Editor in 1953. He retired from periodical journalism in 1970. During his retirement he had published several transport books which had been in preparation for many years. These included the masterly 'Sir Herbert Walker's Southern Railway', and 'Roads and Rails of London'. He took particular interest in the London and Paris underground systems, and he visited transport undertakings in Australia, Canada and the U.S.A.

He was a founder member of the Omnibus Society in 1929, being both secretary and Editor of the Omnibus Magazine from 1929 until 1946; he continued to play an active part in that Society's affairs for many years. He also participated fully in the proceedings of the Chartered Institute of Transport, the Railway and Canal Historical Society, and the International Container Bureau.

He was always ready to help younger transport students with advice and encouragement, and his wise counsels will be sorely missed. We extend our deepest sympathy to his wife and family.

DFC

JANUARY HAMMERSMITH MEETING

Our meeting for January 1980 was given by our President for 1979/80, Mr.G.H.Hafter, O.B.E., Rolling Stock Engineer LT Railways, on 'Experimental Rolling Stock'.

Three interesting projects which did not come into being were first outlined by Mr. Hafter. All three had reached an advanced stage of planning, but there were no drawings or illustrations available. The first was in 1912, when there was a proposal to build some new stock for the Central London Railway, which had some interesting features, although the specifications were based on stock already built for the L.E.R. It was intended that it should have pressed-steel doors in the middle and the ends of the cars, but would not extend up into the curve of the roof, lifting flaps to be provided on the roof for when the doors were opened. There was also to be electric latches on these doors, to be worked by the conductors. A further scheme was proposed in 1913 for joint LNWR/Bakerloo stock and differed in respect of the previous proposals in that the end platforms would have double doors as well as those in the middle of the cars. An added refinement was specified, where red and green lamps were to be located on the platform ends with the conductors, indicating when the latches were

locked down (green) or up (red). In 1914, a specification was drawn up for C&SLR rolling stock, and although not part of the L.E.R., had to satisfy the L.E.R. Engineer of that time, Mr.W.A.Agnew. One of the requirements was that the couplers should be identical to those on L.E.R. rolling stock. It was also stated that the braking for the stock should be electrically controlled, this being the first time that an electro-pneumatic brake had been suggested for the Underground railways of London.

In 1922, six sample tube size cars were built; one each by Gloucester, Leeds Forge, Metro-Carriage, Birmingham and Cammell Laird (trailers) and one control trailer by Gloucester. A slide was seen that the first mock-up for these sample cars was built to the reduced loading gauge that the C & SLR tunnels had at that time, prior to the extension to Morden, or enlargement of the original tunnels. The sample cars however, were built to normal tube stock dimensions. The mock-up car shown had one normal driving cab window, and one oval shape.

The slides then continued with two views of the original experimental electric trains of the M.D.R. which operated between Earls Court and High Street Kensington, commencing late in 1899 for about a year, prior to large scale plans being drawn up by the Metropolitan and the M.D.R. for electrification.

The first tube car to be built with double sliding doors in the middle and a single sliding door at the end was seen, being No.148 converted from a GNP & B Hungarian built driving motor car, in about 1914. These doors were outside the bodywork of the car but within the loading gauge of the stock. Charing Cross, Euston & Hampstead car No.194 was seen fitted with a revolving end single door at the guard's position, and was also a prototype air door conversion for the centre double doors and the single door at the other end. The first type of automatic coupler was seen, being the 'Tomlinson' coupler, which was an experiment in the early 1930's on two Pre-1938 stock control trailer cars.

The first example of air conditioning on tube rolling stock took place also in the early 1930's, on what became Pre-1938 stock trailer No.7195 and was given double glazed windows. There were four cooler units fitted under the car seats located in the centre and the equipment was provided by J.Stone & Co.

Probably one of the more well known experiments with rolling stock was that known as the 1935/6 Experimental tube stock, but prior to which a streamlined mock-up cab was fitted to a Pre-1938 stock control trailer and was illustrated at Ealing Common depot. The 1935/6 stock comprised 18 streamlined cars and six flat-fronted cars, all of which worked on the Piccadilly Line until the beginning of the war, after which the streamlined cars were converted to trailers and the six flat-fronted cars were converted to shuttle units for the Central Line.

A series of slides was then seen on experiments with surface stock. In 1939, a mock-up was made for the proposed replacement of the compartment stock on the Aylesbury service. This was to have had air operated sliding doors, but with compartments being retained, and the car body flared at floor level, being perpetuated from the (then) new 0 and P stocks. It was also proposed to have open and close push buttons for passenger use. Following on from the compartment stock proposals, two cars were built at Acton just after the war, which were built on T stock underframes and had K2 District bogies. These two cars became the prototypes for what is now the A stock. The first car was completed in 1946 and was numbered 17000 and was constructed in compartment form with a side corridor but having three sets of double sliding doors. It was converted in 1949 to a centre gangway arrangement with 3 x 2 seating, half of the car having high-back seats, and the other half having low-back seats. It was also renumbered 17001.

The second experimental car was numbered 20000 and entered service in 1947. This car had only two sets of double doors each side but was given a far more luxurious interior than 17000/1. Both cars ran in service on the Metropolitan Line in a T stock formation. The airworked doors on the two experimental cars were operated by an additional guard on a specially adapted adjacent T stock control trailer.

The articulated 2-car set was illustrated, which was the last of the 1935/36 flat-fronted experimental sets, but converted in 1970 for these tests. However, the articulated arrangement was not successful because of the car wheels being higher than the floor of the car, thus preventing a flat floor throughout the train. It was subsequently utilised as a shunting locomotive for Acton Works until scrapped in early 1975.

Mr.Hafter then answered questions from the audience. The Society wishes to thank Mr.Hafter for preparing such an interesting paper, which was proved by there being over 90 members and visitors - one of the Society's highest attendances at Hammersmith.

D STOCK ENTERS SERVICE

The first train of D stock entered service on the District Line on Monday 28th January 1980, as planned, but was not without problems. The original train which should have entered service from 0619 was cancelled due to defect and the 'service spare' was used. This did not prevent the first planned trip being run and entered service late, which was due to the previous train from depot (No.52) being late in front of it. The very first passenger runs are detailed below and train 46 was formed: 7532-17532-7533+7528-17528-7529. Some twenty enthusiasts had gathered at Ealing Common early that morning to 'do' the very first run in passenger service.

\$	Scheduled	Actua1
Ealing Common Depot Ealing Common Ealing Broadway (arr)	06.19 $06.21\frac{1}{2}$ 06.25	06.25½ 06.28
Ealing Broadway (dep) Ealing Common Acton Town Turnham Green Hammersmith West Kensington Earls Court Gloucester Road South Kensington Mansion House Tower Hill (arr)	06.32 06.34 06.36 06.40 06.45 06.48 06.49 06.51 06.53 07.06 07.10	06.34½ 06.38 * 06.40 06.44 06.48½ 06.51 06.54½ 06.56 06.58 07.11 07.14½
Tower Hill (dep) Mansion House South Kensington Gloucester Road Earls Court West Kensington Hammersmith Turnham Green Acton Town (dep) Ealing Common Ealing Broadway (arr)	07.27	07.28½ 07.31½ 07.45 07.47 07.49½ 07.55 08.00 08.04 08.06 08.09

^{*} Signal check at WM 4A

On arrival at Ealing Broadway at 0809, the train had to be taken out of service due to trouble with door equipment affecting 'A' door on car 7533. This was soon traced to a manufacturing error in a batch of relays. Train 46 thus departed Ealing Broadway empty at 0829, seven minutes late, to Ealing Common depot. A substitute train, which was the original, now with the defect put right, re-entered service from 10.44 Earls Court westbound, on the first trip to Richmond. This train comprised cars: 7516-17516-7517+7538-17538-7539. This train then continued in service as scheduled for the rest of the day, stabling in Ealing Common depot at 2004.

[†] Signal check at EC 31A

Part of the evening peak hour working is listed below, details being kindly supplied by Fred Ivey.

	Scheduled	Actual
West Kensington Earls Court (dep Gloucester Road South Kensington Mansion House Tower Hill Aldgate East Whitechapel Plaistow Barking Dagenham East Upminster (arr)	$17.02\frac{\bar{1}}{2}$	16.58 16.59½ 17.02 17.04 17.05½ 17.22 17.26 17.26 17.36 17.56 18.05 18.15 18.24
Upminster (dep) Dagenham East Barking Plaistow Whitechapel (arr (dep) Aldgate East Tower Hill Mansion House South Kensington	18.23 18.33 18.43 18.51	18.30 18.38 18.46 18.52½ 19.03 19.04 19.06 19.08 19.12 19.24½

The eastbound trip in the evening peak was relatively uneventful, save for a few minor incidents. At Victoria, 2 minutes was lost when the passenger push buttons failed to illuminate. At Whitechapel, Hammersmith & City train 240 travelling to Barking was 'looped', so that it went in front of train 46 thus loosing further time. More door trouble at Stepney Green lost more time making it about 15 minutes late for the rest of the journey. Train 46 was fully loaded from Whitechapel to Dagenham East.

Summarising, most passengers seemed to appreciate and be aware of the door control, and even those who did not realise were put right by their fellow passengers. All in all, a day which was spent helping each other - for a change!

Because of the door trouble which was highlighted on the first day, train 46 was operated by R stock on Tuesday 29th January. However, D stock returned into service on Wednesday, comprising units 7532 and 7528, although the first trips were cancelled until 0822 due to no guard being available. The same evening, the 1521 Dagenham East to Richmond trip was diverted to Ealing Broadway for service requirements. D stock also ran on Thursday and Friday 31st January and 1st February. The first Sunday working of the stock, 3rd February, did not take place, but an additional two trains (making three in all) were scheduled from Monday 4th February.

First impressions of the new train are of a smooth ride, rapid acceleration, warmth and cleanliness. Passengers have generally quickly adapted to the new form of door control and seem to like the interior decor.

The train crew is well catered for in the D stock cab and the few drivers who have worked the train all seemed very pleased with the new control layout, seating and heating. The train handles well and responds quickly to movement of the controller. The braking has that curiously variable response which is apparent on all stock with load control of braking, and it is likely that drivers will have to get used to the fluctuations in braking capacity common already on the C stock and 1973 tube stock.

THE CHRISTMAS HOLIDAY TIMETABLES & TRAIN SERVICES 1979/80

Probably one of the longest ever Christmas and New Year Holiday periods so far, special services were provided on the Underground commencing on Christmas Eve 24.12.79 until New Year's Day 1.1.80 inclusive. For each line (or section, in the case of the Metropolitan), two time-tables were issued; one for the actual Christmas holiday (covering

Christmas Day, Boxing Day and the subsequent alterations on Christmas Eve) and one containing a reduced Monday to Friday peak followed by a Bank Holiday service. This latter timetable is retained for possible future use during 1980. The reduced peak timetables operated on the following dates: Monday 24.12.79, Thursday and Friday 27/28th December and Monday 31.12.79. On New Year's Day, the Bank Holiday section was in operation, which was basically a Sunday interval service, starting at Sunday times and finishing as on weekdays. The timetable notice numbers were:-

	Christmas Day & Boxing Day	Reduced M-F peak & Bank Holiday
Metropolitan No.1 and East London Line	210/79	209/79
Metropolitan No.2	212/79	211/79
Jubilee	214/79	213/79
Northern	224/79	223/79
Victoria	226/79	225/79
District	216/79	215/79
Piccadilly	218/79	217/79
Central	222/79	221/79
Bakerloo	220/79	219/79

CHRISTMAS EVE

The reduced Monday to Friday peak services operated (see 27th/28th for further details) but with the following alterations. Paddington Suburban station was closed after 2400, while services to Richmond and Wimbledon ceased after about 2130. Richmond trains were diverted to Ealing Broadway and Wimbledon trains reversed west to east at Putney Bridge.

CHRISTMAS DAY

by P.R.Creswell

My annual article on Christmas Day services appears once again, by kind permission (and some prodding) of the Editor. If your reaction is 'Oh No! - not again!', please skip the next page or so; if otherwise, the compliments of the season (rather belatedly) to you and please read on!

I will start, as becomes a habit now, by making reference to the previous articles which appeared under the heading 'Christmas Comes But Once a Year' in UN191, pages 404-8 and UN206, pages 21-2, describing the situation in 1977 and 1978, and this article should be read, if possible, with the previous ones in mind.

This year was something of an anti-climax in most respects! By that I mean that there were virtually no alterations from 1978 in services, stations closed, the fact that travel was free once again, etc. etc. Probably the most significant change was that the service interval on the Victoria Line was reduced from 30 minutes of previous years to 45 minutes, but with the same number (two) of trains in service. This was prompted by the difficulties experienced in operating the line with very tight turn-rounds at both Brixton and Seven Sisters, and was mentioned in last year's article. 27 trains were required for service, as last year, and, for the record, only 38 bus routes, many not full length, worked on Christmas Day.

Perhaps noting my comments of last year, publicity leaflets giving all the times of trains on this day were available about three weeks before Christmas this year; but just in case they were not, a type-written script, giving less details of train services but more details

of bus route sections, was available just before the printed version, though 'on request' and not by general distribution, as far as could be gathered. I am pleased to say that this early information enabled me to plan a schedule of over 100 miles once again and, though one small part was missed, the '100' was broken, by half a mile!

For the second year running, I observed no cases of doors being opened at closed stations, in fact actual stops at closed stations at all were very rare this year; apart from stations equipped with time-delayed clearance of starter signals (most of which trains managed just to keep moving at), my only unscheduled stops were at Northfields, in both directions. We were required to stop westbound for a crew relief and the eastbound stop was due to running 2 minutes early on the non-stop run from Hounslow West and awaiting clearance by the Programme Machine. This caused a passenger to walk through the train and ask the guard to let him out! The guard rightly refused, pointing out that there was no way out of the station premises, and the passenger reluctantly continued to Acton Town! I did not hear of any plans to decorate trains this year, and did not see any so beautified in my travels!

Regarding services, all lines operated at 30 minute intervals once again, except the Northern Line branches, which were again 60 minutes each, and the Victoria Line which was 45 minutes throughout, as already stated above. The only differences in terms of stations were that Euston was not open for interchange for the first time, and that the name of Trafalgar Square on the Bakerloo had changed to Charing Cross during the year. Surprisingly, it was not possible to change from the Bakerloo to the Northern at Charing Cross, as the Northern Line trains were not stopping though the Bakerloo were! This rather stupid state of affairs is probably a quirk of history, as, when Charing Cross (N) was named Strand, it was not opened! This could, though, have been no comfort to passengers who had to wait 30 minutes because they had not made a detailed study of the publicity leaflet, which was correct in this respect. For the record, the Jubilee Line did not operate, some of its stations being covered by Metropolitan trains as had been done when the section came under the Bakerloo Line.

A rather interesting incident was encountered whilst waiting for-the first train (anywhere on the system) at Hammersmith (Met). A few minutes before it was due to depart, it was noted that an empty stock which should have left previously was still in the platform and the Station Supervisor then informed the dozen or so people waiting the first train that the service was 'suspended' as there was no signalman at Edgware Road, as his taxi from somewhere around the Greenwich area had not appeared and he could not get to work! Just one of the problems of running a railway Christmas Day! Just before the scheduled departure time of the first passenger train, the Supervisor said that the signalman had now got there and a very remarkable event then took place in that the empty stock train 201 was immediately renumbered to 222 and became the first passenger train, leaving only $1\frac{1}{2}$ minutes late! Presumably the train for 222 was used for 201, which must have then run rather late as the first Circle shuttle to South Kensington from Baker Street! Yours faithfully breathed a sigh of relief, as his Barking connection at Aldgate East was thus guaranteed! (This train, by the way, leaves from the westbound platform at Aldgate East, being one of the day's more interesting workings.)

I have been proved wrong two years running now, but I still consider that the northern branches of the Northern Line, beyond Golders Green and Archway at least, are the most likely candidates for future pruning! For good measure, I will add the Victoria Line (complete) to this year's forecast, as only two stations (Brixton and Seven Sisters) it serves do not have another line serving them.

Summary

Total stations open: 87
Total trains in service: 27
Total stations non-stopped by trains in passenger service: 72
(Bakerloo 6, Central 5, District 14, Circle 0, Hammersmith & City 10, Metropolitan 4, Jubilee - not applicable, Northern 15, Piccadilly 13, Victoria 5.) These totals include West Hampstead, Dollis Hill and Neasden (Metropolitan) and Chiswick Park, Stamford Brook and Ravenscourt Park (Piccadilly) at which trains on these lines do not normally call anyway. Victoria Line trains stop at closed stations, but doors remain closed.

BOXING DAY

Boxing Day train services this time were almost the same as those in 1978, except for the Bakerloo (which then had two northern branches) and the Jubilee (which was not open). Services started between about 0915 and 1000 and finished at Sunday times. For Heathrow passengers, an earlier 20 minute service was provided between Kings Cross and Heathrow from about 0705 (westbound) and 0800 (eastbound). Throughout the day, trains operated at the following intervals (minutes):-

Metropolitan No.1 (11 trains)

Hammersmith-Whitechapel: 15

Circle: 15

Edgware Road-Liverpool Street: 73

Stations closed: Barbican, Cannon Street, Mansion House, Temple, Paddington Suburban.

In addition, two spare trains were provided at Hammersmith for football traffic at Queens Park Rangers.

Metropolitan East London (2 trains)

Whitechapel-Surrey Docks: 15

Surrey Docks-New Cross/New Cross Gate: 30

Stations closed: Shoreditch, Shadwell.

Metropolitan No.2 (12 trains)

Uxbridge line: 20

All stations to Moor Park: 20

Moor Park-Watford: 20-40 (two per hour)

Moor Park-Amersham: 30 (one LT and one LMR per hour)

Chesham branch: 30

Marylebone-Aylesbury: 60 Baker Street-Harrow: 10

Jubilee (8 trains)

Charing Cross-Wembley Park: 10 Wembley Park-Stanmore: 20

Bakerloo (7 trains)

Elephant & Castle-Queens Park: 10

Station closed: Regents Park.

Victoria (9 trains)

Brixton-Seven Sisters: 10 Seven Sisters-Walthamstow: 20 Northern (17 trains)

Via Charing Cross

Edgware/High Barnet-Camden Town: 20

Camden Town-Kennington: 10

Via Bank

Mill Hill East/Colindale-Camden Town: 40

Camden Town-Morden: 20

Stations closed: Borough, Goodge Street, Mornington Crescent, West Finchley.

District (see below for trains in service)

Ealing Broadway-Upminster: 15 (12 trains)

Richmond-High Street Kensington: 15 (4 trains)

Wimbledon-Edgware Road: 15 (5 trains)

Stations closed: Ravenscourt Park, Olympia, West Brompton, Temple, Mansion House, Cannon Street, West Ham.

In addition, spare trains were provided for football traffic as follows:-

3 x 7 cars at Upminster for West Ham (morning match)

2 x 6 cars at Triangle sidings for Chelsea (afternoon match)

Piccadilly (18 trains)

Cockfosters-Wood Green: 20

Wood Green-Heathrow: 10

Acton Town-Rayners Lane: 20 (shuttle)

Stations closed: Aldwych, Covent Garden, North Ealing, South Ealing.

In addition, one spare train was provided for the football match at Arsenal. It originated from South Harrow sidings at 0926 to stand spare in Barons Court siding for use as required, for the forward traffic. For return traffic, the same train stood spare as required in Arnos Grove middle platform, stabling back at South Harrow by 1530.

Central (see below for trains in service)

West Ruislip-Epping: 20 (10 trains)

Ealing Broadway-Hainault via Newbury Park: 20 (8 trains)

North Acton-Leytonstone: 10

Hainault-Woodford: 40 (1 train)

Stations closed: Ruislip Gardens, Chancery Lane, Stratford, Fairlop, Roding Valley, North Weald, Blake Hall, Ongar.

Two trains for the football match at Queens Park Rangers were provided, one from White City and one from Hainault.

REDUCED PEAK HOUR TIMETABLES 24/27/28/31.12.79

These timetables provided a normal off-peak and evening service as provided in the normal full service working timetables, but catered for the anticipated reduction in passengers travelling on the above dates in the peak periods. The peak service intervals only, and the number of trains required for service are shown below.

Metropolitan No.1 (25 trains, normally 30)

Hammersmith-Barking: 10

Circle Line: 10

It should be noted that the Circle and Hammersmith services in the off peak operate every $7\frac{1}{2}$ minutes, and a casual glance at the peak service might suggest that less trains were required. However, this

was not so, as these trains were 'swallowed up' in the peak hour extension from Whitechapel to Barking, and much renumbering of trains took place after the morning peak and just before the evening peak.

Metropolitan East London (4 trains, normally 5)

Shoreditch-Surrey Docks: 10 Surrey Docks-New Cross/New Cross Gate: 20

Metropolitan No.2 (36 x 8 and 1 x 4 trains, normally 45 x 8 morning, 43 x 8 evening and 1 x 4 both)

In the normal full peak service, it is arranged in 'blocks' of 15 minutes, but on the reduced peak service, it is arranged in 'blocks' of 20 minutes as follows:

Uxbridge line: 3 trains (1 all stations to/from Baker Street, 1 all stations to/from Aldgate, 1 fast to/from Aldgate).

Watford line: 2 trains (1 all stations to/from Baker Street, 1 fast to/from Aldgate).

Amersham line: 2 trains (1 all stations to/from Baker Street, 1 fast to/from Liverpool Street).

Chesham branch: two through trains, supplemented by the shuttle, giving a 20 minute service to/from Chalfont.

The Marylebone-Aylesbury service was also reduced to operate every 20 minutes.

Jubilee (26 trains, normally 28)

Stanmore-Willesden Green: 4½
Willesden Green-Charing Cross: 3

Bakerloo (24 trains, normally 27)

Elephant & Castle-Queens Park: 3
Queens Park-Stonebridge Park: 6-12

Stonebridge Park-Watford Junction: 4 trains, up morning, down evening.

Victoria (31 trains, normally 33, temporarily reduced from 34)

Brixton-Seven Sisters: $2\frac{1}{2}$ Seven Sisters-Walthamstow: 5

Northern (82 trains morning, 80 evening, normally 95 both)

The Northern Line full peak service is arranged in 'blocks' of 11 minutes, but the reduced peak timetable provides blocks of every 133 minutes (or three blocks in 40 minutes). The normal pattern of service is also provided:

Edgware & High Barnet-Tooting/Morden via Bank Edgware-Kennington via Charing Cross High Barnet & Mill Hill East-Morden via Charing Cross

The combined intervals are:-

Edgware-Camden Town: $3-3\frac{1}{2}$ (alternate trains both routes) High Barnet-Finchley Central: $3\frac{1}{2}-6\frac{1}{2}$ (2 City, 1 Charing Cross) Mill Hill East-Finchley Central: $13-13\frac{1}{2}$ (via Charing Cross only) Finchley Central-Camden Town: $3-3\frac{1}{2}$ (alternate trains both routes) Camden Town-Kennington via Bank: $3-3\frac{1}{2}$ Camden Town-Kennington via Charing Cross: $3-3\frac{1}{2}$ Kennington-Tooting: $2-2\frac{1}{2}$ (2 City, 1 Charing Cross) Tooting-Morden: $2\frac{1}{2}-5$ (variable)

District (53 x 7 and 7 x 6 trains, normally 65×7 and 9×6)

Ealing Broadway-Turnham Green: 10 Richmond-Turnham Green: 10 Turnham Green-Earls Court: 5 Wimbledon-Earls Court: 5 (alternate Edgware Road/Main)

Central Area: 2½ (including Circle Line)

Aldgate East-Barking: 21-5 (including H&C)

Barking-Dagenham East: 21-5 Dagenham East-Upminster: 5

Piccadilly (65 x 6 morning, 67 x 6 evening, 1 x 3 both, normally 77 x 6 morning, 76 x 6 evening and 1 x 3 both)

	Morning	Evening
Cockfosters-Arnos Grove: Arnos Grove-Wood Green: Wood Green-Acton Town: Acton Town-Heathrow: Acton Town-Rayners Lane: Rayners Lane-Ruislip: Ruislip-Uxbridge:	2½-5 2½-5 2½ 5 5 5-10 15	$ \begin{array}{r} 2\frac{1}{2} - 5 \\ 2\frac{1}{2} \\ 2\frac{1}{2} \\ 5 \\ 5 - 10 \\ 15 \end{array} $
Central 61 x 8) 3 x 4ATO) Normally: 2 x 4)	75 x 8 3 x 4ATO 2 x 4	

West Ruislip-Northolt: 7½-10 Northolt-North Acton: 5-7½

Ealing Broadway-North Acton: 5-73

Central Area: 21/2

Leytonstone-Newbury Park: 5 Newbury Park-Hainault: 5-10

Leytonstone-Debden: 5 Debden-Epping: 10

Epping-Ongar: 32-40

Hainault-Woodford: 10-15

Summary

A feature of all these reduced peak timetables is that the same pattern of operation is continued; e.g. 'stepping back' at Elephant & Castle (Bakerloo), Charing Cross (Jubilee) and Brixton (Victoria), and extended peak services (Metropolitan No.2 section to the City, Bakerloo to Stonebridge and Watford, Metropolitan No.1 section from Whitechapel to Barking and Piccadilly Line from Rayners Lane to Ruislip and Uxbridge). However, some services saw a more frequent off-peak service than in the peak; e.g. Mill Hill East - off peak 10 minutes, Hammersmith Metropolitan - off peak $7\frac{1}{2}$ minutes and Richmond - off peak 6-8 minutes.

UNDERGROUND IN GREAT BRITAIN - CHRISTMAS HOLIDAY SERVICES by Brian Hardy

As mention is made in Underground News of BRs underground lines from time to time, it is worth briefly mentioning BRs services as a comparison to the services provided by LT, and how their workings differ. On dates not mentioned below, the normal services for those days operated.

EASTERN REGION - MOORGATE-DRAYTON PARK

24.12.79

A special 'down' service operated with two trains every 15 minutes running alternately to Hertford and Welwyn between 1200 and 1730, with every 4th Hertford train extended to Letchworth. The 'up' service was normal from the branches, but no additional trains in service between Finsbury Park and Moorgate in the evening peak. Services to and from Moorgate diverted to Kings Cross after about 2045.

25.12.79

No service

26.12.79

No service Moorgate-Finsbury Park, but services from branches diverted into Kings Cross

27/28.12.79

Normal off peak service. In the up direction in the morning peak ome train every 15 minutes operated from the branches, giving two trains every 15 minutes between Finsbury Park and Moorgate. The same pattern was provided in the evening peak in the down direction.

1.1.80

A Sunday service was provided (15 minutes Moorgate-Finsbury Park, 30 minutes branches) with every second Hertford train extended to and from Letchworth.

SOUTHERN REGION - WATERLOO & CITY

24/27/28.12.79

A Saturday service, finishing at about 1900.

25/26.12.79 and 1.1.80

No service

31.12.79

A Saturday service, finishing at about 2000.

LIVERPOOL - WIRRAL LINE

24/31.12.79

A Saturday service, with last trains at about 2145.

25.12.79

No service.

26.12.79

A Sunday service, but not starting until about 1300.

27/28.12.79

A Saturday service.

1.1.80

A normal Sunday service.

LIVERPOOL - NORTHERN LINE

24/31.12.79

A Saturday service, with last trains at about 2200, but a reduced service after 2030 on the Ormskirk and Southport services.

25.12.79

No service.

26.12.79

A winter Sunday service on the Southport and Ormskirk lines and a special hourly service between Garston and Kirkby. No service on any section before 1300-1400.

27/28.12.79

Normal Saturday service on all three branches, but three extra trains in the evening peak, northbound only from Liverpool to Hall Road.

1.1.80

Ormskirk line: normal winter Sunday service, but starting later at about 0730. Southport line: normal winter Sunday service starting at normal time. Garston-Kirkby: normal winter Sunday service (every 30 minutes) until 1800, then hourly.

GLASGOW - QUEEN STREET LINE

25.12.79 and 1.1.80

A service operated between about 1500 and 2230 only, as follows: Airdrie-Hyndland 30. Hyndland-Balloch via Yoker and Hyndland-Helens-burgh 60 each route.

26.12.79

Self contained services as follows, from about 0730: Airdrie-Helensburgh via Yoker every 30 minutes and Springburn-Balloch via Westerton every 30 minutes. This gave four trains per hour through central Glasgow.

2.1.80

As 2nd January is also a Bank Holiday in Scotland, a service as on 26.12.79 operated, but from about 0900

GLASGOW - ARGYLE LINE

25.12.79 and 1.1.80

A service operated between about 1500 and 2230 only, every 30 minutes from Partick, running alternately round the Hamilton/Motherwell circle

26.12.79

A 15 minute service was provided from Partick, running alternately round the Hamilton/Motherwell circle, from about 0730. In addition, an hourly through service was provided between Milngavie and Lanark from about 0830.

2.1.80

The Partick-Hamilton/Motherwell service was as on 26.12.79, but starting an hour later at about 0830. However, there was no service from Milngavie to Lanark; the latter section being covered by an hourly shuttle from Motherwell

IN CONCLUSION

Comparison with the London Underground train services of the same period, sees the Glasgow suburban system starting up, at the time London thinks of closing down on Christmas Day! Glasgow provides a service throughout Boxing Day, whereas Liverpool does not start running until after midday.

OPERATION AND TIMETABLES ON THE PARIS METRO

by B.H.Steinkamp

For a proper understanding of the subject matter of the following article, it is advisable to have a RATP system map available as well as - for those not familiar with the system - B.J.Prigmore's 'On Rails Under Paris'.

Although comparisons could be made between the subterranean railed public transport systems in London and Paris, they do not greatly add to one's understanding of either. A few 1978 statistics though, may serve to obtain an impression of the differing orders of magnitude.

		PAI	RIS
	LONDON	METRO	RER
Route Mileage	252	114	57
Number of stations served	278	353	59
Number of coaches	4223	3434	502
Car miles (million)	210	118	30
Passenger journeys (million)	569	1104	178

The biggest difference between the two systems is probably the public transport policy of the national, regional and local authorities. In Paris operation expenses are paid for only 37% by the passenger, $14\frac{1}{2}\%$ is taken care of by employers through a public transport tax with the objective of reducing payment of car allowances, $39\frac{1}{2}\%$ by the state, region or local council whereas 9% comes from other sources such as publicity.

Network Development

Another indication of the will to support and develop public transport is found in the quite sizeable extensions of rail services in the Paris region. The plans date from 1965, originally with a strong emphasis on the RER (which will be described in a following article). From 1970 the Metro, too, was provided with investment funds for extending the system.

Since 1945, development of the system has been almost negligible. On 1.5.46 line 7 was extended over 1.6 km from Porte d'Ivry to Mairie d'Ivry; on 30.6.52 the eastern branch of line 13 was extended from Porte de St.Ouen to Carrefour Pleyel. Nearly 20 years were to elapse before futher additions were made:

Date	Line	Between	Length
19.9.70	8	Charenton Ecoles - Maisons Alfort Stade	2.1 km
2.4.71	3	Eastern terminus diverted from Gambetta to Galiéni; Gambetta-Porte des Lilas operated as branch line 3bis.	1.1 km
27.4.72	8	Maisons Alfort Stade - Maisons Alfort les Juillottes	1.1 km
27.6.73	13	St.Lazare - Miromesnil	1.0 km
26.9.73	8	Maisons Alfort les Juillottes - Créteil l'Echat	1.1 km
10.9.74	8	Créteil l'Echat - Créteil Préfecture	2.0 km
10.2.75	13	Miromesnil - Champs Elysées-Clémenceau	0.8 km
20.5.76	13	Carrefour Pleyel - St. Denis-Basilique	2.4 km
9.11.76	13	Champs Elysées-Clémenceau - Invalides, linking lines 13 and 14, operated under number 13	0.8 km
	13	Porte de Vanves - Chatillon-Montrouge	2.1 km
4.10.79	7	Porte de la Villette - Fort d'Aubervilliers	2.4 km

Under construction are extensions of line 10 from Porte d'Auteuil to Boulogne Jean Jaurès (2.5 km, to be opened in October 1980), 13 from Porte de Clichy to Asniéres-Gennevilliers (3.2 km, April 1980) and of line 7 southward to Villejuif. Further additions have been approved or are under study on line 1 from Neuilly to Défense, line 4 from Porte d'Orléans to Montrouge, line 5 from Mairie des Lilas to Bobigny, line 7 from Fort d'Aubervilliers to La Courneuve, line 8 to Créteil Parc Régional, line 9 in the east to Rosny, line 10 further westward to Pont de St.Cloud, line 11 in the east to Romainville and the 'Mainline' of 13 to Stains in the north and Vélizy in the south.

Rolling Stock

The classic and traditional Paris Metro is very quickly on the way out. Only two lines, the branches 3bis and 7bis, are worked by the 'Sprague' stock in their entirety, on lines 2,5,8,9 and 12 it provides a number of peak hour workings only: 96 on Monday to Friday, 31 on Saturdays and 19 on Sundays.

The arrival of new stock since 1955 has also been used to increase the number of coaches per train, where feasible. Four-car trains still work 3bis, 7bis and 11; lines 1 and 4 have six-car formations, all the others have five cars (on route 10 one articulated unit counts as $2\frac{1}{2}$ coach). Operation of five-car trains on line 11 is under study. On 30.6.1979 the rolling stock position was as follows:-

Sprague

296 motor cars plus 42 withdrawn M 1 - M 1355

A 303 - 487 98 1st class trailers plus 8 withdrawn *

B 423 - 798 247 2nd class trailers plus 22 withdrawn

50 1st/2nd class trailers plus 15 withdrawn + AB 5201 - 5368

Note * lines 2,8,9,12.

† lines 3bis, 5,7bis.

Articulated

E 001 - E 040all on line 10

Matériel Pneu

M 3001-3036, N 4001-4018, AB 5501-5517. All on line 11. MP 55:

M 3037-3240, N 4019-4222, A 6001-6100, AB 5518-5616. MP 59:

Line 1 (50 trains), line 4 (49 trains).

M 3501-3602, N 4501-4550, A 6501-6550, B 7001-7050. There MP 73: are 43 trains on line 6, 2 on line 4 and 5 on line 11.

Matériel Fer

MF 67 A-D: M 10001-10227, N 11001-11234, NA 12001-12132, A 13011-13072, B 14001-14155, S 9011-9166.

> Formation M-B-NA-B-M line 3: 42 trains

line 2: 7 trains, line 5: 25 trains, line 9: 40 trains, line 10: 7 S-N-NA-N-S

trains.

M-N-A-B-Mline 7: 30 trains, line 9: 13

trains, line 12: 19 trains.

M 10301-10414, N 11301-11356, A 13301-13356, MF 67 E:

B 14301-14356. Line 8: 52 trains, line 13: 4 trains.

M 10501-10604, N 11501-11551, A 13501-13551,

B 14501-14551. Line 7: 34 trains, line 13: 17 trains.

M 30001-NA 31001-B 32001-MF 77:

Line 13: 33 trains.

Since the middle of 1979, sufficient MF 77 trains have been delivered to fully equip line 13, the MF 67 F from there has gone to line 7, releasing 10 more MF 67 A-D for line 2. Latest deliveries of MF 77 are also going to line 7.

To be continued.

ENGINEERING WORKS

Aldgate, 13.1.80

On Sunday 13th January, work at Aldgate required the Circle Line service to be suspended throughout the day between Aldgate and Tower Hill. The work involved converting No.17 points to chairlock operation and constructing a raft over platforms 3 and 4. Circle Line trains thus reversed inner rail to outer rail in Tower Hill bay platform and outer rail to inner rail at Aldgate, platform 2, operating at the normal Sunday interval of every 10 minutes. The same number of Circle Line trains were required for the special service; 10 - 6 Metropolitan and 4 District - all C stock, but only bare minimum layovers were provided at Tower Hill and Aldgate ($4\frac{1}{2}$ minutes and $5\frac{1}{2}$ minutes respectively). The Hammersmith & City service also operated the normal 10 minute service, but was retimed to fit in with the altered Circle service, and layovers at Hammersmith and Whitechapel were $13\frac{1}{2}$ minutes and 11 minutes respectively (normally $6\frac{1}{2}$ and 8 minutes respectively). With the additional layovers on this service, one extra Hammersmith & City train was in service, making 9 in all.

Train crews were instructed to display the following on the destination blinds of Circle Line trains:

'CIRCLE LINE' Between Tower Hill and Paddington, outer rail.

Between Aldgate and High Street Kensington, inner rail.

'TOWER HILL' Between High Street Kensington and Tower Hill, inner rail.

'ALDGATE' Between Paddington and Aldgate, outer rail.

As is usual for operations of this kind, where unusual destinations are used, some crews tended to 'do their own thing' with what destination was actually shown on the blinds. One train was seen leaving Aldgate, bound for Tower Hill some 45 minutes later, showing 'TOWER HILL' instead of 'CIRCLE LINE' to High Street, and then 'TOWER HILL'!

It can thus be seen, that at Whitechapel, with Metropolitan trains every 10 minutes, each having an 11 minute turn round, both east-bound platforms were used for reversing. In consequence, eastbound District Line trains also used both platforms throughout the day, according to which was available at the time.

Northern Line, 20.1.80

Three separate engineering operations took place on the Northern Line on Sunday 20th January. These were:-

- (1) At High Barnet, platform 3, to install train arrestors, where service vehicle flat wagons were stabled in that platform throughout Saturday and Sunday 19th/20th.
- (2) At Golders Green northbound, platform 1, for the reconstruction of the platforms.
- (3) At Golders Green southbound, renewing 26 and 27 crossovers.

It was (3) that required a special service to be provided until 1500, before which time services were suspended between Hampstead and Golders Green. Until 1500, three trains provided a shuttle service between Golders Green and Edgware, while trains from the south end of the Northern Line reversed north to south at Hampstead. Apart for minor alterations, trains to High Barnet and Mill Hill East operated in their normal Sunday timings. However, trains reversing at Hampstead need further explanation as follows:-

Until 1000, when Northern Line services operate a $7\frac{1}{2}/15$ minute pattern, a $7\frac{1}{2}$ minute service was provided to Hampstead (alternate Bank and Charing Cross trains). After 1000, a 12 minute service of Charing Cross trains only operated to Hampstead, while the normal 12 minute service via Bank was diverted to reverse at Archway.

Between Hampstead and Golders Green, a substitute LT bus service operated every 7-8 minutes until 1000 and 12 minutes thereafter, in line with the train service.

In consequence of Golders Green depot being inaccessible throughout the day, the trains in service from the various depots was adjusted as shown below.

	Normal Sunday	Sunday 20.1.80
Morden Edgware	18 4	19 8
Golders Green High Barnet	8	6
Highgate depot Highgate Wood	3 4	8 4
	40	45 *

Note * total includes 5 trains for stock balance, 4 stabling at High Barnet and 1 at Morden in the afternoon.

Late in the evening, some trains which normally stabled at Golders Green were diverted to Finchley Central and thence to Highgate depot.

MAGAZINE REVIEW.

Magazine Review - SCOTTISH TRANSPORT No.33. Published by the Scottish Tramway Museum Society. $8\frac{3}{8}$ " x $5\frac{7}{8}$ ", 40 pages, 34 photographs. Price 80p including postage.

This issue of the STMS's magazine is reviewed here because it is devoted almost wholly to the recent transport developments in Glasgow, with a strong emphasis on Clyderail and the Underground, not forgetting an interesting section on suburban railway history.

The Argyle Line and Queen Street lines are covered in depth, including a history of the lines and routes, describing the decline and closure of the former, which was just after electric trains were introduced through Queen Street. The first suburban station to close in Glasgow was in 1895 (!) and from then on, decline has been gradual on the ex-Caledonian lines, with the ex-North British lines being favoured for development.

An interesting section is also included on the Underground, as it was in the 1920's and tells the story of the end of the Glasgow Subway Railway Company and the takeover by the Corporation, but not until the former were forced to close the cable-hauled system on 25.3.22 after a strike by the staff from 20.1.20 for 5 weeks due to conditions that 'were worse than the Corporation's tram staff'. When the Corporation took over the Subway, reopening on 2.7.22, conditions were improved whereby the average working week comprised 48 hours instead of $54\frac{1}{2}$ with the former company. In the mid-1920's, proposals were put forward for electrification and much improvement, estimated at £1 million (!) but with the age old problem of financial conditions of that time, came to nothing.

This issue of Scottish Transport is highly recommended for those not only interested in Glasgow's underground railways, but suburban

railways of Glasgow in general. Costing 80p (including postage), and worth every penny, copies can be obtained from STMS Sales, 46 Wellshot Drive, Cambuslang, Glasgow, G72 8BN.

More on the Underground is promised for ST34, due in the late summer this year!

London Transport Railway Timetable Booklets

Nicholas Croome

It is understood that London Transport propose to issue timetables for all Underground lines, of which three are available now.

1. Metropolitan Line (Ref. 379/1633P/50M - from 9th April 1979)

This booklet has been produced for many years (probably since the UndergrounD Guide book was discontinued in 1972), and was until recently the only complete timetable available to the public. It contains times of all trains in two sections:

- (i) The timetable for the main line shows LT and BR trains, from Aylesbury, Amersham, Chesham and Watford to Marylebone, Baker Street and Aldgate.
- (ii) The times of trains from Uxbridge to Baker Street and Aldgate.

The cover shows a photograph of an A stock train heading for Amersham. A space is left below most of the timetables to advertise several new books ('London and its Buses', and 'Country Walks 1979'), travel bargains (Cheap Day Returns, Central Tube Rover etc.), and travel information (lost property, yellow tickets etc.). On the back cover is a diagram of the Underground. Printing is purple ink on white paper.

2. Jubilee and Bakerloo lines (Ref. 379/073RP/275M - from 1st May 1979) This timetable was produced to coincide with the opening of the Jubilee Line on 1st May 1979. The first few pages explain the changes in the services, together with some frequencies. Its layout is more complicated, as the whole timetable is not shown. It is arranged as follows:

- (i) First and last times of Jubilee Line trains.
- (ii) Service intervals, Jubilee Line.
- (iii) This section lists departures from stations Stanmore to Kingsbury inclusive, towards London. In the reverse direction, times are given from all stations of Stanmore trains.
- (iv) First and last times of Bakerloo Line trains.
- (v) Service intervals, Bakerloo Line.
- (vi) The times of through services to or from stations north of Queens Park.

The cover shows a drawing of a Jubilee and Bakerloo (brown!) train. There are a few half page advertisements. It is printed in black and brown ink on white paper. The Underground diagram on the back is similar to the colour version, but with all lines black, except for the Bakerloo (brown) and Jubilee (grey).

3. Central Line (Ref. 1279/1452P/50M - from 9th April 1979)

Although this timetable is backdated to April, it has only just been published. The cover bears the legend 'Let's Make the Most of London' which makes it look rather a mess. It is by far the most complicated timetable produced. Again, the whole timetable is not shown. It is arranged as follows:

- (i) Service intervals for all the line.
- (ii) First and last trains for all the line.
- (iii) Departures from stations on the West Ruislip branch to London
- (iv) Departures from all stations Liverpool Street and west thereof to West Ruislip.
- (v) Departures from Ealing Broadway and West Acton to London.
- (vi) Departures from all stations Liverpool Street and west thereof to Ealing Broadway.
- (vii) Departures from stations Epping to Snaresbrook to London.
- (viii) Departures from all stations Notting Hill Gate and east thereof to Epping
- (ix) Departures from stations Hainault to Wanstead to London.
- (x) Departures from all stations Notting Hill Gate and east thereof to Hainault via Newbury Park.
- (xi) Complete timetable for the Woodford/Hainault branch, with connections to/from London.
- (xii) Complete timetable for the Epping/Ongar branch, with connections to/from London.

Journey times are also given. The cover of the booklet shows a photograph of a 1962 stock train. It is printed in black ink on pale pink paper. The Underground map on the back is the one designed for monochrome production (as is the one on the Metropolitan timetable).

POINTS OF INTEREST

Mr.V.Badman writes:

'Regarding the report of the recent signalling alterations at Barbican (UN217, page 13), the interlocking machine used for the control of the layout there was the first one to be installed on the Underground.

For the benefit of those readers who are not fully conversant with signalling equipment, an interlocking machine is a type of signal lever frame where all the functions of a conventional power operated lever frame - the electropneumatic 'motor', the contact arrangement and the electric and mechanical interlocking - are brought together on a single vertical shaft. It is generally operated as a remotely-controlled signal box by means of push buttons, programme machines, computers etc., although it is available for manual use in emergency.

The Barbican interlocking machine, comprising 36 shafts, was brought into commission on Sunday 19th December 1954 and in its early days was remotely controlled from a temporary push-button panel mounted on a stand in Farringdon signal box - then a conventional power signal box controlling its own layout. Each push-button represented a complete route and the interlocking was therefore operated on the route-setting principle. As part of a changeover to centralise the control of signalling at Farringdon, Barbican (then of course called Aldersgate & Barbican), Moorgate and Liverpool Street, the temporary push-button panel was moved, with effect from 7th October 1956 to a temporary signal box constructed in the retaining wall on the west side of the existing signal box, to enable the final changeover to be made. This comprised the removal of the old power frame and the installation of a push-button desk to control the complete signalling between Farringdon and Liverpool Street. The changeover took place on Sunday 16th December 1956.

It should be emphasised, however, that, even though this was the first use of an interlocking machine, it was not the first remotely-controlled layout on LT.

Early types of remote-controlled installations used a conventional signal lever frame which, by the use of route-relay interlocking apparatus, could be by-passed and operated by other means. The first installation was at Wood Green in 1932, where the reversing siding could be controlled automatically by the train description apparatus on both main lines. Then in 1934 followed West Kensington West signal box, remotely-controlled from West Kensington East signal box, and, in 1936, Earls Court West and High Street Kensington signal boxes both remotely-controlled from Cromwell Road signal box. Three other layouts were directly controlled (as opposed to being remotely-controlled from an adjoining signal box) from the local signal box using route-relay interlocking; these were Rayners Lane (1935), Finchley Road (1937) and Elephant & Castle (1941). In all cases, independent operation could be performed if necessary.

Route-relay interlocking was then abandoned in favour of powerworked remotely-controlled signal boxes in which a signal box, officially known as a subsidiary signal box but known colloquially as a slave cabin, was usually worked from a master signal box, but was capable of being worked locally in emergency if required. All these installations were equipped with conventional power frames suitably adapted for remote operation. The first such installation was at Shoreditch (remotely controlled from Whitechapel (East London) signal box) in 1943, followed by North Acton Junction (from White City) in 1947, Harrow North and Harrow South Junctions (from Harrowon-the-Hill station signal box) 1948, Grange Hill (from Hainault) 1948 and Ruislip Gardens (from West Ruislip) 1948. A refinement of this system appeared with the remote operation of signal lever frames from a push-button desk instead of levers. The first layout of this kind was at Ealing Broadway in 1952 followed by Wembley Park in the autumn of 1954 (just before the introduction of the interlocking machine at Barbican); in both cases the push-button desk controlled the area in the immediate vicinity.

A number of these installations have now been superseded by the present type of apparatus. The history and technical details of these pioneer installations are fascinating and worthy of a complete article.

After the commissioning of the interlocking machine at Barbican, several new remote-control installations continued to use conventional power frames suitable adapted for power working (e.g. Archway, East Finchley, Liverpool Street (Met.)), but nowadays the interlocking machine is invariably used. There are now approximately 80 machines in use at the present time, controlling well over half the interlockings on the Underground; it is therefore firmly established as a piece of LT signalling equipment.'

OTHER UNDERGROUND RAILWAYS

by Julian Wolinsky

ATLANTA

The second segment of the Atlanta subway system opened for service on 22.12.79. The 4.7-mile west line joins the 6.7-mile east line which opened last summer. Still to open is the 1.9-mile north-south line which is expected to be completed in December 1981. However, work is already underway to extend this stub-end line and the entire planned 52,9-mile, \$4 billion rapid transit system is now expected

to be completed by 1989. When planned in 1971, the system was expected to be finished by now, at a cost of only \$1.3\$ billion.

CHICAGO

The first transit strike in 57 years forced one million commuters to find alternative transportation as trainmen and bus drivers withdrew their labour on 17.12.79. The two unions involved demanded a continuation of their cost-of-living pay arrangement but the CTA claims they simply can't afford it any more. Chicago drivers are the highest paid in the U.S. earning a basic wage of \$10.57 prior to the walkout. The dispute ended when a State court ordered the men back to work with an immediate 24-cent-an-hour wage increase, conforming to the cost-of-living formula. He also directed that a new contract must be agreed by 1 March 1980. The judge issued his order on 20.12.79 and service was normal next day. However, partial rail rapid transit service was restored on 19th, the day before, by supervisory personnel and a few train drivers who crossed the picket line. Service was resumed on only four of the eleven rail routes and only on the elevated (viaduct) routes as officials were fearful of sabotage on subway lines. Security was heavy with police officers on all trains and at all stations. On these four routes, services were very much reduced, with overcrowding of trains and stations.

On 6th December, two CTA rapid transit cars collided in the Forest Park Yard, causing one to overturn and plunge down a 12-foot embankment to a car park below. Four motor vehicles were crushed and the transit car appeared to be a write-off. The accident occurred when an outbound train was struck by an inbound train which had been switched onto the outbound tracks in error.

SAN FRANCISCO

'Alas, poor BART ...!' Although service has been fairly good since all lines resumed operation on 3.12.79 following a lengthy labour dispute, there has been one serious accident. One BART car was destroyed by fire which authorities believe may be arson. The fire happened on 12.12.79 as the train was entering an above-ground station. The few passengers aboard were safely evacuated, but the \$900,000 car was a write-off, by the time the fire brigade arrived. There is also a controversy underway between the chief of the fire brigade and BART management. The chief claims his investigation hasn't proven arson and he adds he resents a BART spokesman talking to the press as if arson had been proved. The chief is implying BART is trying to avoid criticism by claiming the fire wasn't the fault of equipment or staff. In addition, BART must replace all polyurathane in all its car seats as the result of a fire which was fatal to one fireman in January 1979. The blaze occurred in the 3.6-mile trans-bay tube, stalling the train and making it difficult for firemen to reach the flames. A number of persons were injured by the toxic fumes from the burning seats and two cars were lost. The fire forced the closure of the tube - the main BART link between San Francisco and the east bay suburbs, for nearly three months. Changes were also made in fire-fighting arrangements and procedures in the event of another fire. The seats were also ordered changed, but the dangerous material will remain in wall and ceiling bulkheads where it is used as sound deadening material.

FROM THE PAPERS, RADIO, TELEVISION ETC.

Daily Telegraph

11.1.80 There was a photograph and note on the L.T. Museum, due to officially open on 28.3.80, as stated in NF 82/80. It will include a research library and lecture theatre. As the G.L.C. has

stipulated that the museum will not be subsidised, an entrance fee of about £1 is likely.

12.1.80 London Transport are offering one-year Go-As-You-Please tickets to employers for down to half the normal rate of £485. The discount will vary from firm to firm according to the number of tickets bought and the use expected to be made of them. Each company will make its own decision on whether to give or sell the tickets to its employees.

1.2.80 Now that the auditors' report on Mr.Leslie Chapman's allegations of waste and inefficiency on L.T. has been completed, London Transport has issued a statement refuting some of the allegations. It uses 160 cars, not 224, to visit its installations at 600 locations throughout and beyond the Greater London area, but buses and trains are used whenever possible. It was an exaggeration to say that the total cost of meals for senior staff as £20-£30 each.

Ilford Recorder

13.1.80 An unidentified man fell to his death in front of an east-bound Central Line train near South Woodford station on 8.1.80, from a footbridge, between Pulteney Road and Marlborough Road.

Potters Bar Press

18.1.80 A suggestion by Barnet Council that a shuttle service should be provided on the Northern Line continuously between Finchley Central and Mill Hill East instead of the current irregular through service, has been turned down by London Transport. One of the reasons given is the inconvenience to passengers who would have to change at Finchley Central.

Television - 'A.T.V. Today'

25.1.80 On the local ITV news and events magazine 'A.T.V. Today', shown in the Midlands area, a report was shown about the Metro-Cammell works, which is currently building LT's new D stock. Various views were seen of the new cars taken from different angles, showing the various stages of production, from a basic shell with no seats, windows, or roof, to internal and external views of almost completed cars.

L.B.C. Radio

24.1.80 The Night Line programme devoted the hour from 2100 to 2200 to 'phone-in questions on L.T. rail and road services. Messrs. C.H.Cope (Operations Director - Railways) and R.D.Smith (Development Director - Buses), answered listeners questions. Replies given to railway questions included: - (i) that extra staff taken on for the Jubilee Line gave a cushion against staff cuts in the first part of 1979, but in the latter part of 1979, the situation was 'not as good as we would have wished'. It was hoped to be back to 'normal' by mid-1980. (ii) there is now very little chance of a S.E. London tube extension being built. (iii) in answer to a complaint about the lack of a Northern Line service from the Charing Cross section beyond Kennington outside the peaks, Mr.Cope said that it was better operationally to keep the sections separate. (iv) in reply to a blind person who wanted the door buttons on D stock to 'bleep' when illuminated, Mr.Cope said that the announcement of stations by train operators on the Victoria Line had been discontinued because of complaints of disturbance by passengers. The listener also complained that the D stock was on show when most people were at work.

BBC Radio 4

 $\frac{1.2.80}{\text{only }4\text{ft}}$ In the programme 'Going Places' a blind listener who was only $\frac{4\text{ft}}{4}$ 11ins tall, drew attention to several shortcomings of the

D stock from her point of view. These included her inability to find and use the passenger emergency switch, her inability to distinguish by ear between a stop between stations and a stop at a station in order to count the number of stations to her alighting point (with older stock, if she heard the doors open, it was a station), the fitting of external door open buttons on one side of the doorway only, and not in a standard position (i.e. half on the left and half on the right).

ROLLING STOCK ALTERATIONS

January, 1980

CO/CP Stock

From Ealing Common to Ruislip (Condemned)

53027-014073-54215 24th

53034-013076-54034 29th

53026-013071-54194 30th

From Ruislip to Kings, Newmarket, for scrap

53041 53046 53050 54246 54249 54262 013074 013121 18th

D Stock

From Metro-Cammell, Birmingham, delivered to Ruislip

7000-17000-8000+8001-17001-7001+7518-17518-7519 25th

Ruislip to Ealing Common

7538-17538-7539 3rd

7516-17516-7517 4th

7518-17518-7519 30th

8001-17001-7001 31st

Entered Service, District Line

7532-17532-7533+7528-17528-7529 28th

7516-17516-7517+7538-17538-7539 28th

Sleet Locomotive Movements

ESL106 Golders Green to Highgate 7th

ESL106 Highgate to Golders Green 14th

Miscellaneous Movements

1502-2502-9503-1503 Acton to Ruislip (ex-derailment and overhaul) 7th

5537-6537 Hammersmith to Acton for light repair 24th

Service Locomotives Scrapped

Battery Loco L43 by Resco Ltd., Woolwich w/e 17th (Ealing Common)

Ballast Motor L140 by Resco Ltd., Woolwich w/e 24th (Acton)

Reformations

Frem

To

1474-2474-9475-1475

1474-2504-9475-1475

3902-3903

4929 Spare

3902-4929-3903

Livery Alterations

From service maroon to yellow

Battery Locomotive L61.

Units to Acton for Overhaul

1452-2452-9453-1453 Central 7th Northern 1218-2218-1219 10th 1508-2508-9509-1509 Central 10th District 23542-22622 14th Victoria 3051-4051-4151-3151 15th 1208-2208-9209-1209 Northern 16th 5030-6030-6031-5031 Metropolitan 17th Central 1522-2522-9523-1523 21st Baker100 10151-012309-11151+10204-012294-12128-11204 24th 5529-6529 Metropolitan 24th 1524-2524-9525-1525 Central 29th

Units from Acton after Overhaul

1474-2504-9475-1475 Central 7th Central 1482-2482-9483-1483 10th District 23560-22662 14th Northern 1160-2160-9161-1161 16th 1512-2512-9513-1513+1526-2526-9527-1527 Central 5016-6016-6017-5017 Metropolitan 23rd 10248-012226-12431-11248 28th Bakerloo

SOCIETY SECTION

ANNUAL GENERAL MEETING - 1980

Notice is hereby given that the Annual General Meeting of the Society for the year 1979 will be held in the Council Room, Science Museum, Exhibition Road, South Kensington, London, SW7, at 1430 on Saturday 29th March 1980. The Council Room is on the second floor of the Science Museum, opposite a staircase round a former lift well, at a point about half way from the front of the museum to the back. The new lifts are adjacent to the staircase, and the second floor may also be reached by escalator.

The Agenda and the Report of the Committee for 1979 are given below. The Accounts will be available at the A.G.M., and also by post to those sending an addressed envelope $(9" \times 4")$ to the Treasurer at 6 Launceston G_{ardens} , Perivale, Greenford, Middlesex, UB6 7ET; if they are not ready when this journal is published, they will be sent as soon as possible afterwards.

Please note that Members must produce a 1980 Membership Card to gain admittance to the A.G.M.

Nominations have been received for the following members to be elected to fill the four vacancies on the Committee: Messrs. D.J. Burton, D.F.Croome, G.A.Finch, D.O.Hayward, F.W.Ivey, G.Jasieniecki, and B.R.Panting. All these members have agreed to serve on the Committee if elected.

Notice has been received of intention to propose an alteration to the Society rules, by D.F.Croome, as follows:-

Rule 5(e) ELECTION OF COMMITTEE

Add at end 'and that the nominator is a paid-up member.'

AGENDA

- 1. To receive any apologies for absence.
- 2. To have read the Notice of the Meeting.
- 3. To have read the Minutes of the 1979 A.G.M., if so desired by the majority of members present.

AGENDA (Continued

- $\mu_{\rm e}$ To confirm the election of Mr.P.R.Davis as President of the Society.
- 5. To confirm the election of Mr.D.F.Edwards as Vice-President of the Society.
- 6. To receive the report of the Committee for 1979.
- 7. To receive the Accounts for 1979, and the report of the Hon. Auditor thereon.
- 8. To elect an Auditor.
- 9. To consider the proposed amendment to the Society's rules, submitted by D.F.Croome.
- 10. To elect four members of the Committee.
- 11. To conduct any competent business.

By order of the Committee.

D.F.Croome, Secretary.

REPORT OF THE COMMITTEE FOR THE YEAR 1979

The Committee is pleased to present to members its report for 1979. In many of the Society's spheres of interest, careful planning and sustained hard work by Committee members, Officers and helpers has achieved notable success, making this the Society's best year yet.

Library

There were ten library evenings at Nick Mitchell's home, which were well attended. The scope of the library has been widened by acquiring extra books and periodicals.

London Transport

Closer ties have been established with London Transport. In addition to maintaining contacts on visits, speakers and publicity, the Society has assisted with advice when requested during the establishment of the London Transport Museum at Covent Garden, and Society representatives have been invited to press functions. At L.T's suggestion, membership leaflets are now available at the Poster Shop at Griffith House, and this is known to have been of considerable benefit to our membership numbers.

Meetings

Twelve meetings were held at Hammersmith Town Hall, and increased attendances made it necessary to move to a larger meeting room for a trial period. Five talks were given by L.T. officers or their assistants, one each by officers from the G.L.C. and Metro-Cammell, four by our own members who spoke on their own specialities, and a film show was given by the L.T. Film Unit. We are indebted to all our speakers for devoting their time to preparing, delivering and illustrating their talks. Average attendances increased from 43 in 1978 to 65 in 1979.

Membership

The successful development of Society activities, particularly in the periodical and publicity spheres, resulted in a heavy enrolment of new members, so that at the end of the year the total membership was 538, nearly a 50% increase on the previous year's figure. Thanks are due to Paul Creswell, who took ever as Registrar from the beginning of the year, for his efficient handling of this spate of applications and of renewals from existing members.

Modelling

New developments were reviewed in Underground News, and Mr.Friswell wrote a comprehensive introductory article to UndergrounD modelling. Ian Robins continued as Modelling Secretary.

Overseas Members

We welcomed the U.S./Canada representative, Mr.R.D.Spotswood to Society functions when he visited this country at the end of May, and we are grateful to him for his continuing work on behalf of the Society. Mr.S.Hamer was appointed as Australia/New Zealand representative, and we were pleased to enrol or retain members in France, Germany, Italy, Netherlands, South Africa and Sweden, as well as the countries covered by representatives.

Periodicals

The periodicals situation was reviewed in depth in the Chairman's statement published in UN216, to which members are referred. During the year twelve issues of Underground News were published (three with photographs) and in June an illustrated supplement was wholly devoted to the Jubilee Line, which was opened to the public on 1st May. Although there were thirteen issues, compared with 17 in the 'catching-up' year of 1978, the number of pages published in 1979 increased by 27% over 1978, and as the page size was increased from quarto to A4, the area of pages published increased by 53%. The contents included full details of developments on London's Underground, and the Glasgow, Merseyrail and Tyne & Wear systems. From reports sent by U.S. members, we were able to include some U.S. rapid transit developments. New features included 'Personal View' and extracts from newspapers.

One issue of UndergrounD appeared in September, edited by David Hayward. Ways are being explored of reducing costs.

Thanks are due to both Editors, and to all those who have assisted with the production and despatch of periodicals.

Preservation

The Society's Q35 trailer car was finally moved from Ashford to London on 17th May, and some work has been done on this car since its arrival. Owing to other pressures, preservation progress generally has been slow.

Roving

With the opening of the Jubilee Line, the Society honoured its promise to begin checking attempts to travel to all LT-served stations in one operational day, and to this end Nick Mitchell helped several groups of prospective attempters with information from timetables in the Society's library. On 18th October a group led by Dr.Peter Altman, in support of the 'Pennies from Heaven' charity, succeeded in establishing a new record time for covering all the present-day network. The Society gained much publicity in the press and on TV and radio in its role as scrutineer. (Details of the October attempt and the checking organisation were given in UN216). There has been an unsuccessful attempt in the first days of January 1980, and notice has been received of other planned attempts.

Sales

The Sales team, headed by (and on occasions wholly comprising!)
Bob and Val Greenaway, has manned the Society's sales stand at all
twelve Hammersmith meetings and eleven outside events, whilst the
Assistant Sales Manager has dealt with postal sales. The hard work
involved in buying, storing and transporting stock, and erecting and

manning the stand provides a valuable service to members and an essential source of income for the Society.

Study Tours

Tours of the Uxbridge branch (led by Alan Jackson) and the Isle of Wight Railways (led by Bob Greenaway) were successful and enjoyable.

Visits

Eight official visits were made to London Transport properties, and two to other railways in the London area. They were all well attended as was the successful visit to the Keighley and Worth Valley Railway in September. Our thanks are due to our hosts who made these visits possible.

Personal

The Society recorded, with deepest regret, the death on 27th September of a founder member, and the first existing member to be made an honorary member, the Rev.P.W.Boulding.

Mr.Peter Davis, former Chairman and Editor, fully recovered from his throat operation, and was able to address the Society in August.

Presidency

Thanks must be recorded for the active support given by Mr.G.H.Hafter, O.B.E., during his Presidential year.

Conclusion

The Committee thanks all members for their support, and the transport authorities, the press and numerous individuals for helping in many different ways, and it looks forward to a further year of development in 1980.

By order of the Committee.

D.F.Croome, Secretary.

UNDERGROUND NEWS - 218

Due to an unfortunate error while collating UN218, a number of copies may have slipped through with the pages in the wrong order. It is hoped that all wrongly collated copies were found and corrected, but if not, then we apologise, and hope that your appreciation of the issue was not affected. As a result of correcting the error, a number of copies had to be restapled leaving some holes on the edge opposite the spine. Again, we apologise to those members who received such copies, but without re-printing the affected 20 pages, this was un-avoidable. We will try to do better in future.

Underground News No. 218, the D Stock Supplement to UN218, the Index for 1979 and a current sales list, were posted on Monday 28.1.80.

SOCIETY OFFICERS

Members are reminded that the last comprehensive list of Society Officers, their jobs and addresses appeared in UN217, page 23.

PRESS DATES

Articles for Underground News, including adverts, newsflashes and reviews etc., should be received by the Editor (address on back page) as follows:-

For the May 1980 issue - by 1st April 1980.

For the June 1980 issue - by 3rd May 1980.

For the July 1980 issue - by 31st May 1980.

THE EDITOR AND INFORMATION

Due to the increasing pressure of work in preparing your journal every month, which tends to be expanding all the time, the Editor regrettably cannot research members' queries sent to him. To try and continue to do this as well as write, edit and type Underground News each month would mean one of two things:-

- 1) The content and regularity of Underground News would suffer, or
- 2) Correspondence would get put to one side awaiting attention until time could be spared to deal with same.

It is therefore proposed that the Society should consider asking for an INFORMATION OFFICER, whose job it would be to research members' queries, subject to a satisfactory applicant volunteering.

This would allow the Editor and other Society Officers, many of whom are over-burdened with the amount of work they are involved with, to concentrate more fully on their respective tasks, all work of which is voluntary, for the benefit and efficient running of the Society.

Any member who might be interested in the job of 'INFORMATION OFFICER' for the Society, is asked to write to the Editor with his/her suggestions by Tuesday 25th March 1980 at the latest, so that the applicants can be considered by the Committee.

This is not of course, asking you to stop sending your articles, news-flashes etc., to the Editor - it is because of your contributions that this situation has arisen. Thank you!

SPECIAL ADVICE SERVICE

Until about a year ago, the Society operated a 'Special Advice Service' which, for a small additional subscription, members were specially advised of any notable forthcoming event on the Underground, which, due to short notice, could not be included in the timetable of Underground News.

The Committee has been asked by a small number of members, to reconsider its decision on dropping the Special Advice Service. At that time, it was dropped, basically, for two reasons:-

- 1) Finding someone willing to carry out the service efficiently.
- 2) Having the information in time for advice.

Now that (1) has possibly been solved, it might be possible to restart the Special Advice Service, if enough interest is shown by you, the membership.

The following notes are proposals only, and should not be taken as concrete facts:

It is suggested that the S.A.S. should be operated by 1st class post only.

The agreed fee would cover a number of advices over no specific period of time, this would depend on the amount of interesting happenings. The number of advices would be governed by the postage rates at the time and a small part of the fee would cover stationery.

It must be stressed that special train workings (test trips etc.) are usually arranged at short notice, and could not be covered by the S.A.S.

Members who are interested in a 'Special Advice Service' are asked to write with their ideas and suggestions to Mr.F.Ivey, 19 Hide Road, Harrow, Middlesex, HA1 4SG, by Tuesday 25th March 1980 at the latest. Please do NOT send any money. Further information will be published in Underground News at a later date.

MEMBERS SECTION

Mr. Mats Arbman wishes to introduce himself to members of the Society.

He writes:

'I am 23 years old and I am a new member of the L.U.R.S. I would like to know if there will be anyone interested in corresponding from time to time on Underground and other transport matters, pictures, colour slides exchanged etc.'

Mr. Arbman's address is:

Lundhagens strand 41 S-178 00 EKERO Sweden.

Mr.D.F.Kiddle would like to know if any members can throw light on the goods workings of the Metropolitan Railway during its later days, having not been able to see working timetables of the period. Mr. Kiddle would also like to know how the goods services on the Watford branch (1925) and the Stanmore branch (1932) fitted into the general pattern of goods services.

Members able to help Mr.Kiddle are asked to write to him at:

10 Fenshurst Gardens, Long Ashton, Nr.Bristol, BS18 9AR.

AMENDMENTS TO UNDERGROUND NEWS

UN217, NF44/80 - The D stock test trip started from Northfields and finished at Ealing Common.

D Stock Supplement to UN218 - the diagram facing page 44, the truck wheelbase should be 7'-3" and the wheel diameter (new) should be 2'-7".

UN218 - With reference to the final paragraph of the article on the history and general description of the Hong Kong Mass Transit Railway on page 66, further information has come to hand about the opening dates, which corrects and amplifies the previous information. The position is as follows:-

Kwun Tong to Shek Kip Mei - public opening 1.10.79 (as stated already) Shek Kip Mei to Tsim Sha Tsui, without intermediate stations - just before Christmas 1979. Intermediate stations on this section 31.12.79. Tsim Sha Tsui to Admiralty - 28.1.80.

Admiralty to Chater - planned official opening by Princess Alexandra on 12.2.80.

It is understood that the extension to Tsim Sha Tsui (north of the harbour) put so much strain on the ferry-boats to Hong Kong Island, with the extra traffic that it attracted, that the Admiralty extension was hurriedly opened to put the cross-harbour traffic underground as soon as possible.

BOOK REVIEW

'HOW WE USED TO TRAVEL' - Price 20p, and available from most libraries in the Hammersmith and Fulham area.

During a recent visit to Fulham library, I came across a booklet entitled 'How We Used to Travel', and therein was an excellent section (pages 14-29) devoted to the railways in the Hammersmith and Fulham area. This section is packed with information - opening and closing dates, electrification dates and when services were withdrawn. A map on pages 18 and 19 shows the lines and stations in the area, with those disused or demolished. The Underground is well covered, including

the Bakerloo Line at Willesden Junction, the Central between East Acton and Shepherds Bush, the District from Stamford Brook/Putney Bridge to Earls Court and the Olympia line, the Piccadilly Line and its 1932 extensions and the Hammersmith & City Line.

The Outer and Middle Circle services are also described, stating when they ceased operating and reference is also made to the now disused viaduct between Ravenscourt Park and Hammersmith. Another interesting point brought to light in the booklet is that Shepherds Bush (H&C) had only one station until 1914 at the site of which is now the market, being replaced by the present two (Shepherds Bush and Goldhawk Road).

In all, a useful booklet, full of interesting facts and information, and excellent value at 20p.

B.R.S.

NEWSFLASHES

- NF 89/80 The London Transport staff library at 55 Broadway closed on 14th January without any prior notice to staff. The reason given was that the ground-floor accommodation was needed for offices at which the general public normally had to call, although it seems odd that if L.T. was in such a hurry to use the space, it would have known which department was going to move in. The library includes general books, but there is also a specialised transport section, including many rare pamphlets and papers. Representatives of library users have protested vigorously, and in L.T. Staff News for 1.2.80 it was stated that the library committee had been informed that the closure was not permanent, and it was hoped that new accommodation would be found soon.
- NF 90/80 On Friday night/Saturday morning 25th/26th January, Points and Crossings Tamping Machine SC765 broke down east of Northfields station. A 3-car 1973 stock (unit 880/1) was sent to assist and pulled the defective machine back into Northfields depot, being coupled with an emergency adaptor.
- NF 91/80 The Seaton and District Tramway in Devon has acquired some L.T. No-Smoking labels for use in the saloons of the trams.
- NF 92/80 Newly converted diesel crane C606 was damaged on Sunday 13.1.80, when its jib collided with a disused overhead crane in the L.E.R. shed at Lillie Bridge.
- NF 93/80 A 6-car C stock train (units 5510-5511-5527) was transferred from Hammersmith to Neasden on Monday 14.1.80 for emergency coupling tests with D stock unit 7500/1 in Neasden depot, which took place on Tuesday 15.1.80.

TAIL-PIECE

A member noticed at Chancery Lane station on 18.1.80 at about 1815, a man going up the escalator with a dog under his arm. Nothing unusual at the time, but after a good look he realised the dog was a stuffed imitation - travelling from Barking, perhaps??

Underground News is printed and published by the London Underground Railway Society. Correspondence for this journal should be addressed to the Editor Underground News, 13 Castleton Road, Eastcote, Ruislip, Middlesex, HA4 9QQ. Members requiring a reply to their correspondence are asked to enclose an SAE