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**A Job for Life: Changes seen in a 50-year career on London Underground
1916–1966**

by

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A Job for Life: Changes seen in a 50-year career on London Underground 1916–1966

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Introduction

There are, I am sure, occasions in most people's lives that can change their outlook on life, their work perspective, their approach to relationships or their interests and hobbies. In my case, one change resulted from a chance conversation with a work colleague and it led me down a path that I had never considered. It led me into an interest in history, railway history in general and the history of London Underground in particular. I was 21 years old then and working as a driver on the Piccadilly Line of the London Underground, based at Northfields depot, and the person I was talking to was a guard (named George) who was about to retire after 50 years service. It was August 1966 and he had started in August 1916 as a gateman. He spent the whole of his working life on the Piccadilly Line and lived for

most of that time in a house in Hampstead. He stayed on the trains for the whole of his career.

This was basically all I was told but it left an impression on me that has stayed to this day and it led me to try to discover more about the background to George's life on the railway and about why he stayed so long. It also added to my curiosity about some of the names and traditions of the railway that still existed when I joined the Underground in 1964 and about how the rules of operation and technical improvements evolved. This paper takes a brief look at some of the things that I discovered about the heritage that existed from those days and about what forged it. It also looks at the work of the Underground trainman in the period 1916-66 and the context of his working life.

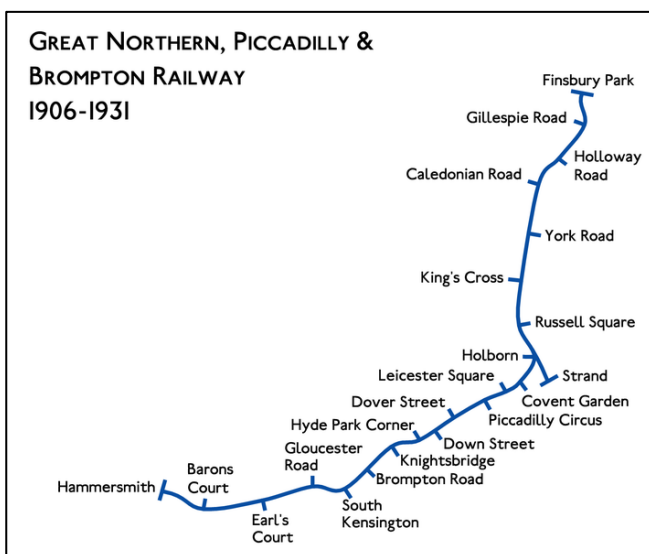


Figure 1: The original route of the Piccadilly Line as opened in 1906. Drawing by David Cane.

The Piccadilly Line

When George started working on the Piccadilly Line in 1916, the country was at war with Germany and staff were in short supply, which is probably why George was allowed to start on the trains under the age of 18 years, if what he told me was correct. The line itself had only been open for 10 years (Lee, 1956) and it ran between Finsbury Park and Hammersmith, a distance of nine miles, then the longest



Figure 2: The Hammersmith terminus of the "Piccadilly tube" as the GNP&B was originally known as built in 1906. The camera is located approximately where the eastbound District track is today. The District station was next door, behind the wall on the left had side as seen here. The whole station was rebuilt in 1931-2 when it was redesigned for the 4-tracking westwards in connection with the extension of the Piccadilly line services over the District to Hounslow and Uxbridge. Photo: LT Museum.

tube line² in London (GNPB, 1906). It was known under its original company name as “The Great Northern, Piccadilly and Brompton Railway” or GNP&B for short. It was soon generally known as “the



Figure 3: Train on the Piccadilly Line in 1906 showing a 3-car set with an open driving position at the rear. The motor car was at the other end. The cars were built in Hungary and France and shipped to England by sea. They were unloaded at Tilbury and transferred to Lillie Bridge Depot by rail. The electrical equipment was American. As seen here, the only way of boarding was by open gated platforms at the ends of each car. The gateman was responsible for opening and closing the gates. A full length 6-car train required a crew of six. Source: Contemporary postcard.

Piccadilly tube”. The line was built by an American financed consortium that was set up in Britain as “The Underground Electric Railways of London Ltd” (UERL) and that also built the Bakerloo (Baker St. to Waterloo, also opened in 1906) and the Charing Cross Euston & Hampstead Railway (CCE&H) opened in 1907 and now part of the Northern Line Charing Cross branch (Barker et al, 1974). The UERL was also responsible for the electrification of the District line in 1905-8. The three tube lines (the Bakerloo, Hampstead & Piccadilly) were combined into one company known as the London Electric Railway (LER) in 1913. When the author joined the service in 1964, each depot or mess room was equipped with a series of glass fronted notice cases where duties, rosters, safety notices and advice about staff facilities were displayed. There were also trades union cases. The cases were still labelled with the old company initials, “LER” and “MDR” (Metropolitan District Railway).

Extensions

Within a few years of opening its tube lines in 1906-7, the UERL was looking at the possibility of extensions. These appear to have been driven by different motives according to the circumstances. For the Bakerloo, it was to reach the Paddington terminus of the Great Western Railway and to boost the somewhat meagre traffic. In 1915, the line reached Queens Park and connected with the London &



Figure 4: The new Piccadilly Line terminus at Cockfosters in 1933. The line was opened to passengers here on 31st July 1933 and trains ran as far as South Harrow until 1935, when some were extended to Rayners Lane. The train is of “Standard Stock” as the fleet of trains built between 1923 and 1934 was called. In reality, they were anything but standard, as most batches had differences in body design, equipment, wiring and control systems that were only adapted to more or less compatible operation over many years of modifications. Photo: LT Museum.

² The term “tube” arises from the single track, circular, bored tunnels used for the deep level lines in London as opposed to the double-track “cut and cover” or “subsurface” lines of the Metropolitan and District railways. Strictly speaking, these latter railways are not “tubes”. Tube trains are smaller than subsurface trains.

North Western Railway, eventually to get to Watford in 1917. This is significant, as it marks the beginning of the move towards a suburban railway that was to become the Achilles Heel of Underground operations and one that still plagues the system today.



Figure 5: Experimental Piccadilly Line air door train at Lillie Bridge depot in 1920. The motor cars were converted from Gate Stock while the trailers between them were built new. Another 19 such trains were introduced in 1921-22, reducing crew requirements by 50%. Photo: LT Museum.

The Piccadilly Line got its extensions in the early 1930s. The finance for them was subsidised by a government anxious to reduce unemployment during the depression and allowed a 7½ mile extension north from Finsbury Park to Cockfosters opened in stages in 1932 and 1933. There was also an extension west of Hammersmith along the District routes to Hounslow and Uxbridge. It involved 4-tracking the existing 2-track route as far as Northfields. The Piccadilly took over most of the District services to Hounslow and Uxbridge. New depots were built at Cockfosters and Northfields. The previous Piccadilly depot at Lillie Bridge, near Earls Court, was turned over to the engineering department.

George, who was based at Hammersmith, would have moved to Northfields with the trains when the depot was opened in 1932. He was still there over 30 years later when the author was transferred there in 1964. The line still ran only as far as Hounslow West then and this station was in the open, not in tunnel as it is today.



Figure 6: 1927 Tube Stock car at Lillie Bridge depot. The car is part of a large order purchased to replace the 1906-built Gate Stock. The car is totally enclosed, has two sets of double doors and a drivers cab at the end. This type of train reduced the train crew requirements by 50%. Later batches of these cars had electric control of the braking system. This allowed better brake control and more refined stopping positions. This in turn allowed trains to be increased from 6-car to 7-car formation. Photo: LT Museum.

From Gates to Doors

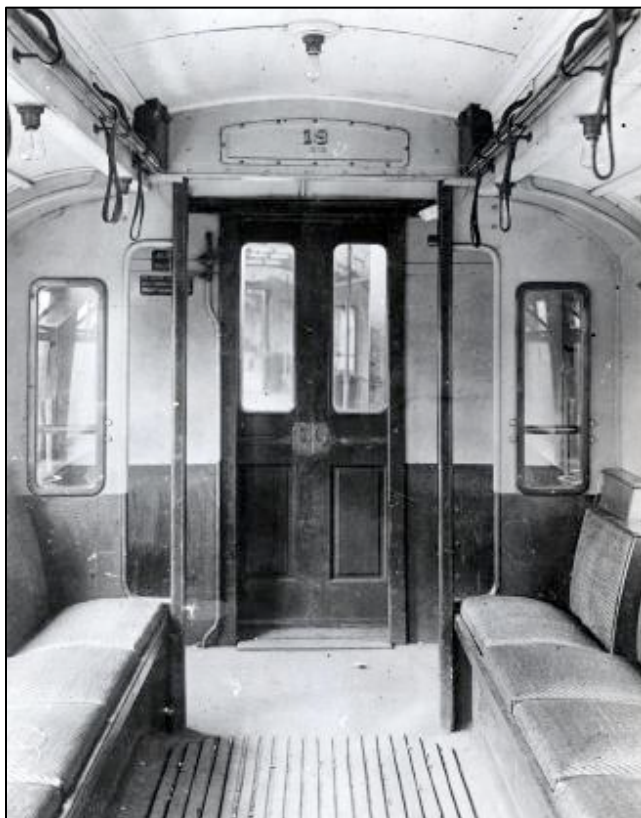


Figure 7: Guard's position at the rear of a motor car on the Piccadilly Line in 1921. The door controls were tucked away in the outer corners on each side of the gangway. Photo: LT Museum.

The Piccadilly Line was at the forefront of experiments that were aimed at reducing the time spent at stations. The need was for better access to the cars. The end platforms were not sufficient for the rising numbers of passengers using the tubes. The main scheme comprised introducing more door openings on each car. Trials started in 1912 (Jackson et al, 1962) and culminated in the introduction of a train with air operated doors in 1921. The train reduced the crew to three, a 50% reduction. This must have been a concern for George, who only had five years service in a job where seniority was everything. However, the extensions on the Central (1920 to Ealing) and Hampstead (1924-6 to Edgware & Morden) lines were to save his and many other jobs.

By the time George moved to Northfields in 1932, there had been some big changes in his working environment. The Victorian era "Gate Stock" trains (Figure 3) that he had started on had been replaced by new "Standard Stock" with fully enclosed cars and automatic doors. Seats were upholstered in moquette instead of rattan and trains were more powerful, ran at higher speeds and had better braking. The new braking system allowed trains to be more accurately positioned at stations so that train lengths could be extended

from 6-car formations to 7-car formations. To get a 7-car train in the station, the driver had to stop the train with his cab and the one at the rear, in the platform. The guard, located with the door controls on the leading end of the rear car, had to check that the train had been stopped with all the passenger doors in the platform. This arrangement remained on the Northern Line until the last two-person train was withdrawn in 2000.



Figure 8: A Guard on a tube stock train demonstrating the use of the train telephone system. The introduction of the facility allowed a further reduction in train crews of 30%. There was some industrial action as a result of these changes. Photo: Thomas (1928).

The author recalls that this arrangement presented a problem when plans for the conversion of tube lines to one-person operation were prepared in the 1970s. Without a guard, the driver needed to be positioned in the platform for door operation and dispatch purposes, so new trains had to be designed in a 6-car formation to get the cab within the tunnel platform. They were designed with slightly longer car bodies. The overall train length was about 5m shorter than before and there was a 4% loss of accommodation.

Train Telephones

When air-door trains were introduced in the early 1920s, the train crew for a 6-car train was reduced to driver, front guard and rear guard (Connor, 1982). The door operation on the train was split into two, being divided between the two guards. In 1927, the crew was reduced to two, driver and guard. A single guard now controlled all the doors on the train. This was made possible by the introduction of the train telephone. Perhaps "telephone" is too sophisticated a word. The official description was "Loudaphone" (Figure 6), a simple

microphone and speaker set provided at each guard's and driver's position so that the crew at opposite ends of the train could talk to each other.

The new system caused some industrial relations problems. The author recalls seeing a report issued in 1927 regarding operation of train telephones. It noted that the microphones sometimes failed due to a pencil being thrust into the mouthpiece. Doubtless this vandalism was driven by fear of job losses.



Figure 9: Guard's position on 1959 Tube Stock as used on the Piccadilly Line in 1966 when George retired. Here the door controls are clearly visible, including the train telephone unit on the right hand panel. These door control panels were activated by a large key. The panels were deactivated when the guard was not in occupation so the area could be used by passengers. Photo: LT Museum.

Perhaps more important historically is why such importance was placed on rapid communication between driver and guard on a two-man train. There was a clearly traceable development path as follows:

- Tube railways were built with single track tunnels;
- Access to failed trains was normally only from the station at the rear (it was too dangerous from the front);
- A train needed a man at the front to drive and someone at the rear to provide protection or get help;
- If a driver collapsed, the deadman device would stop the train in the tunnel;
- Moving the train to the next station required another crewman to get to the cab;
- Getting to the cab on a crowded train was easiest from the front car, so a "front guard" was provided;



Figure 10: 1959 Tube Stock on the Piccadilly Line at Rayners Lane 13th September 1960. This type of the train replaced the Standard Stock on the Piccadilly and Central Lines in the early 1960s. The unpainted aluminium body became iconic for the Underground in design terms but it was to suffer the scourge of graffiti from 1984 and the company was forced to paint many of the trains in the 1990s. This stock was later used on the Bakerloo and Northern Lines and survived unpainted until it was withdrawn in 2000. Photo: LT Museum

- The front guard also acted as “second man” if any of the safety devices failed, like the tripcock³ or deadman system;
- If the front guard was removed, the phone system was needed to allow the driver to call the guard for help. Also, the guard could contact the driver if the train made an unscheduled stop.

What this shows is one example of a gradual process of improvement that was developed from the earliest days of tube railway operation. This process went on up to George’s retirement in 1966 and has continued to this day. Automatic driving was introduced in 1968 with the opening of the Victoria Line, computer controlled signalling was introduced in the 1980s and computer controlled traction power in the 1990s. More lines have been automated since and more will be done in the next few years.

Employment



Figure 11: Female gate operator on the Bakerloo Line route to Watford in 1916. This is the job that George started in that year. Due to the loss of manpower to the war, women were employed as train crew but were not allowed to drive. The gates seen here were modified from the original simple rigid design so that they could be folded. This made opening easier on a crowded platform. Passengers were not supposed to ride on the platforms but this rule was noted more in the breach than the observance. Photo: LT Museum.

With all the changes in technology and line extensions taking place between the start of George’s employment in 1916 and the start of the Second World War in 1939, it might seem likely that there would have been big changes in employment conditions. In reality, this wasn’t the case. There was a strong tradition of heritage amongst the trades unions. The author recalls booklets, regularly issued by the unions to train staff in the 1960s, describing the 8-hour day agreement and the inclusion of the meal break within the working day – an agreement secured after a strike in 1919 (Barker et al, 1974).

From 1919, the normal working week was originally a 48 hour, 6-day week with Sunday working added as compulsory or rostered overtime. There was a long tradition of “no unrostered overtime” on the Underground, despite much overtime being worked on the main line railways, and this was still in force during the author’s time on the trains between 1964 and 1976. We stabled late running trains when our duty time was complete, regardless of what it did to the service. This is one of the main reasons why LU train services take a very long time to recover from a delay. Many drivers would have appreciated the extra money but they had to do what they were told by the union, who were afraid of vacancies not being filled.

There was an agreement allowing 10% overtime added to rostered duties (in total, not on individual turns) to aid service provision and another 10% of duties were permitted to be rostered as “split turns”, where the two peak periods were covered with a 4-hour break between them. Payment for split turns was for the full 12 hours.

Crews worked on a weekly early-late-early-late basis for most of the time under review. The hours were reduced to a 44-hour week in 1947 (BTC, 1950) and this provided crews with 3 weekdays off per month instead of two. They also got two Sundays per month off. This was still in force when the author started work 17 years later.

³ The “tripcock” on the train and a “trainstop” on the track is the automatic train protection system that the Underground had from the early 20th century that is still used today on manually operated lines.

The Job for Life



*Figure 12: Uniform for platform or train staff in 1934. The same design was issued to the author 30 years later in 1964. The ring on each arm was to allow the arm to be recognised when raised to give handsignals. Staff were also provided with overcoats and raincoats.
Photo: LT Museum*

The one feature that didn't change at all was continuity of employment. The Victorian railway industry had developed a military style operation, with a rigid command structure, uniformed service staff, strict medical requirements and severe discipline (McKenna, 1976). In time, techniques in operations and engineering developed into sophisticated systems, led by technocrats and military-style officers and staffed by expert artisans and operators. The learning generated by staff experience was considered valuable by the railway companies, particularly as they did not pay for it directly. Initially, there was little formal training.

Companies needed to retain staff. They realised that the skills and experience developed by staff with their length of service were valuable assets that were expensive to replace. Staff were encouraged to remain, not only by pay increments but by offering good prospects for promotion. In their pursuit of staff retention, many companies also built housing and social facilities for their staff.

With the expansion of railways and the need for people to staff them, came opportunities for those experienced in railway systems. Staff, who had lived through the expansion, grew in experience and ability. They were given more and more senior posts and, in so doing, learned the value of experience and training. A reliable, conscientious and able member of staff could get promotion "through the ranks" and, eventually reach "officer" level. This applied equally on the Underground, which took on many ex main line staff at all levels, including senior management, in the early 1900s and these men brought the main line railway traditions and values with them.

The ethos of staff retention within railway service led to the concept of a job for life. Unlike the arrangements that prevailed in agriculture, the principal source of paid work in the early 19th Century, few railway posts were subject to seasonal variations, although many railway staff started as part time or relief employees during the summer holiday period. They were often taken on full time, eventually, as vacancies became available. They were then reluctant to lose their security. The combination of company policy towards staff experience and retention and the desire of staff for job security benefitted both parties and, as a result, could positively influence the service to the railway's customers.

Conclusions

In the 50 years that George worked on the Piccadilly Line between 1916 and 1966 there were huge changes in the route, the technology and the staffing arrangements on the trains but there were some things that remained unchanged.

The route extensions generated more traffic and helped to create the suburbs as we see them today but they also left us with a legacy of long lines that are difficult to control and keep operating under perturbed conditions. Changes were introduced in technology that reduced staff costs and improved capacity but they created some industrial uncertainties that were only contained by the continuing expansion of the system.

The rules governing the conduct of staff and operations had evolved during the 19th Century and were only changed in small ways to cope with changes in technology and efficiency. The specialised nature of the industry and the lack of any externally provided training or apprenticeships, led to an appreciation of the value experience and long service that allowed loyal staff the security of employment that was rare in other walks of life. Today, changes in the social attitudes to work,

changes in technology and changes in the railway industry have allowed this approach to lapse and this has, in some respects, affected the railway's performance.

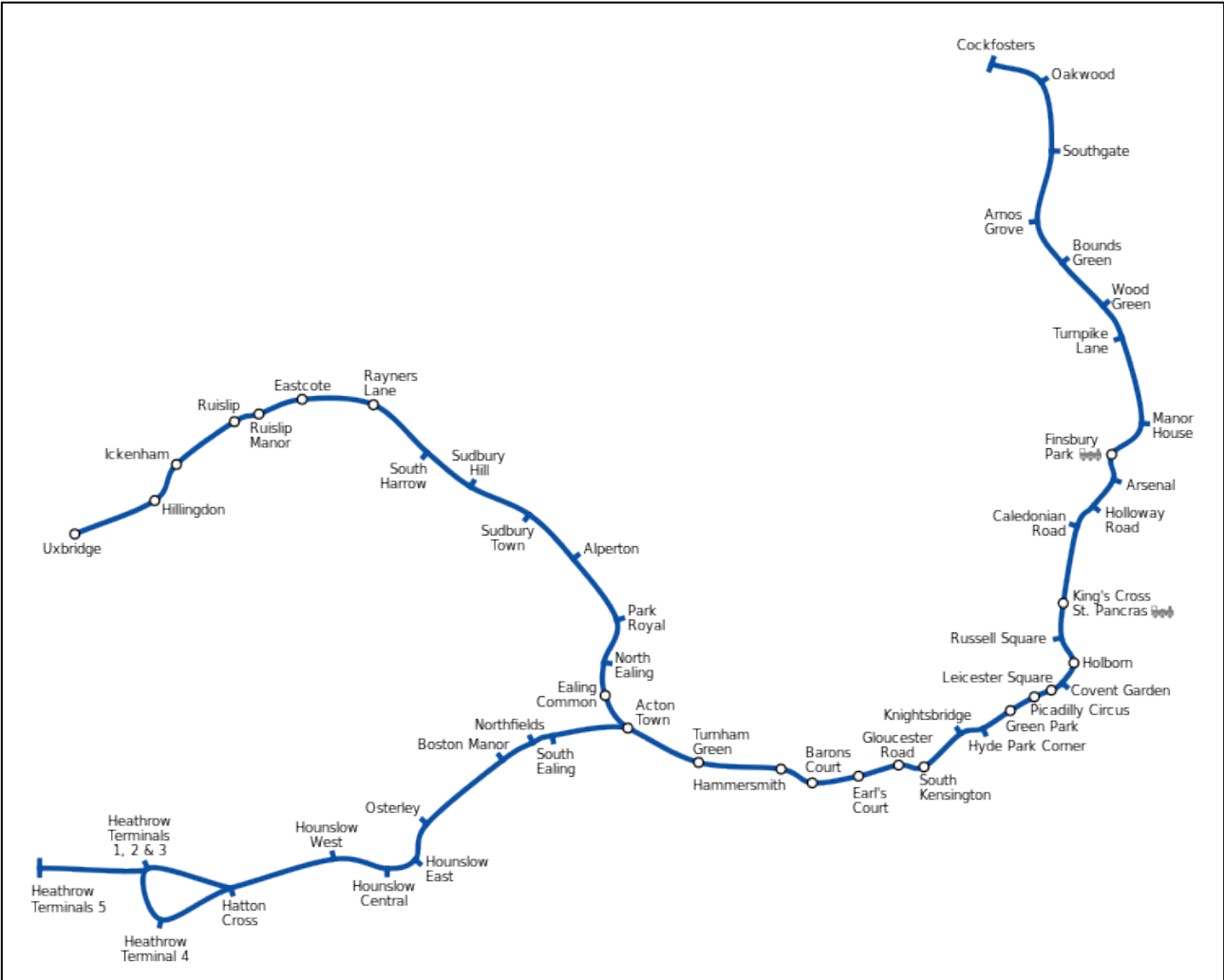


Figure 13: The Piccadilly Line in 2013. Drawing by David Cane

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