

ROADS AND ROAD TRANSPORT

HISTORY CONFERENCE NEWSLETTER

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Society Officers

President: Professor Theo Barker
London School of Economics

Chairman: Prof. John Hibbs O.B.E.
University of Central England
Perry Barr
Birmingham B42 2SU

Secretary: Gordon Knowles
7 Squirrels Green
Great Bookham
Surrey KT23 3LE

Treasurer: Roger Atkinson O.B.E.
45 Dee Banks
Chester CH3 5UU

Research Coordinator: Ian Yearsley
97 Putney Bridge Road,
London SW15 2PA

Newsletter Editor: Ron Phillips
16 Victoria Avenue, Grappenhall
Warrington WA4 2PD
E-Mail Ron.transnnet@BTinternet.com

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Rosie Thacker (TMS), Ian Yearsley and Colin Balls (BCVM) for help with the Lincoln Tramways item.
R. Atkinson for photographs on early motor buses.

CONFERENCE MATTERS

16th September 2000

18th BUSINESS MEETING

The eighteenth Business Meeting took place at the Museum of British Road Transport, Coventry, on Saturday September 16th. It was the sad duty of our Chairman, Professor John Hibbs, to ask those present to stand in silent memory of two departed friends, Associate Member L. Gordon Reid and Professor Jack Simmons, founder and first editor of the *Journal of Transport History*.

In his opening remarks, the Chairman was pleased to announce that Graham Boyes of the Railway & Canal Historical Society had been elected President of that Society, and in his absence he wished him well on behalf of the Conference.

The Hon. Secretary reviewed the numbers on roll, and welcomed four new members to Conference, one of whom, Andy Axten, was present and had put on a small display of memorabilia. Gordon referred to recent correspondence he had had with the late Gordon Reed's son with regard to his father's collection, and he assured Conference that the collection was safe, and that at a future date there might be a collection of papers related to transport management for which a home would be needed.

The Chairman suggested that a future colloquium might be worthwhile on the subject of the care and maintenance of records, and he referred to the continued preservation of the Institute of Transport's historical records as 'a battle won'. He felt that the items would now have an assured future, and spoke of his recent conversations with Alasdair Trail, a member of the working party set up by CIT.

John said he had but two items to record. The first was that Brian Chappell (Omnibus Society) had drawn his attention to an archive held by the Goldsmith's Library of Economic Literature, part of the University of London Library, which has a section devoted to transport. There was no printed catalogue but information could be found on the website (www.ull.ac.uk) or telephone 020 7862 8500. The original collection had been made in the last quarter of the nineteenth century, and modern additions have concentrated on the period prior to this, with particular emphasis on railways and canals, but there are road transport and 20th century publications too.

The second was to advise of a new index that had been produced by the Omnibus Society, which listed items published by that society in *The Omnibus Magazine* and various other booklets produced

by it since 1931. Tony Newman pointed out that he knew of numerous OS publications that had not been included, and there was some discussion regarding the merits of this new venture.

Professor John Armstrong gave a progress report on the *Companion*, reminding Conference that the work was to be submitted in January 2002. The tasks of proof reading and refereeing were soon to be organised, but members were reminded that there was still time for contributions. It was affirmed that all submissions would be edited to conform to a 'house style' which had been discussed with the Science Museum. It was agreed that it was time to seek a list of potential sponsors in the road haulage industry.

The Hon. Treasurer circulated a current list of members (names only) and there followed a brief discussion as to whether or not a list of members and their interests should be more widely distributed (i.e. to all members). Roger spoke of the increased frequency of publication of Newsletter, and how this was seen as an improved service to the membership, some of whom found it difficult to attend meetings. This instigated a discussion which aired a number of topics: should Conference use the *Newsletter* for a Question & Answer service (something done by the Tramway Museum Society in its Journal), should Conference have a website (a subject previously mentioned and which is still to be addressed), should Conference increase the membership fee to provide a better service? After various members had spoken on this latter topic, it was moved by Ian Yearsley and seconded by John Armstrong that it be put to the next AGM (2001) that the subscription be raised to £30 for Corporate Membership and £10 for Associate Membership for the year 2002 *et seq.*

The Hon. Editor next confirmed that it was now expected that Newsletter would appear regularly four times per annum; namely in February, June, September and October/November. The issue being circulated (No.22) had 20 pages. The arrangements for printing *Newsletter* were proving very satisfactory and the price was stable. As we had passed our 21st issue and the advent of year 2000, it was felt that the time was ripe to publish an Index. It was resolved that this be a separate publication (not an annexe to issue 24). The most suitable form for the index was currently under consideration.

Ron also outlined how a recent article had been received by E-mail, and within an hour had been typeset for issue 22. This method was certainly 'the way forward' in circulating information. From issue 23 the Society Officers with E-mail facilities would have their addresses shown on page 1. Several articles concentrating on road freight transport were in the pipeline.

In connection with the forthcoming Symposium, it was hoped that the papers would be published, and John Hibbs was in contact with Kevin Hey concerning this

The Hon. Research Co-ordinator drew the attention of Conference to the fact that those using the CIT/ILT library (now housed at 11-12 Buckingham Gate, London SW) were required to pay a fee if they are not members. He also spoke of the help given to our member Lady Gibson in connection with her family's earlier involvement with British owned tramways abroad, citing this as an excellent example of the help which Conference could give through the "cross curricular" interests of its members

Ian produced a recent booklet, the *Millennium Guide to Trams in the British Isles*. This is reviewed elsewhere in this issue.

Richard Storey raised two items of AOB. The first drew attention to the *Directory of British Associations*, which he described as a useful source book, and he suggested that Conference be listed therein. The second item concerned the implications of the petrol crisis which had taken place during the current week 10th-16th September. The Hon. Editor agreed with the views expressed by Richard, and suggested that these should be written down to form an article in this issue. (see opposite)

The final business before the close of the morning session at 12.55 pm was to set the date for the 2001 AGM and next business meeting. It was decided that this should be 10th February 2001, at Coventry.

The afternoon session commenced at 2.00 pm and there was time for four presentations. All the speakers sought to raise new issues, in the way we have come to expect of these talks.

John Hibbs produced and read from the listing of items of transport interest from *The Eastern Chronology*, a work which sets out events in the Suffolk town of Ipswich. The first entry was 1585 (first stone pavement laid), but regular entries did not begin until 1785 (the establishment of Ransomes' Orwell Works). The list continued to 1922. This presentation will be reprinted in *Newsletter 24* in a revised form, omitting items not concerned with road transport.

Gordon Mustoe next gave an illustrated talk on tar spraying vehicles, explaining in detail the technology involved and showing diverse horse drawn, steam powered and petrol/diesel driven vehicles in use in Great Britain and abroad. Once again we were entertained and educated about a product we see every day and yet know so little about. This talk is presented in this issue in revised form.

Also reprinted in this issue is Michael Baines'

presentation entitled *The Shadow Culture of the Road*. This examined the various shady practices which carriers used in the fifteenth century and the mid-twentieth century, and led to an interesting discussion. The points raised from the floor are printed after Michael's text

Finally, Ron Phillips sought to raise certain questions about (horse) buses. The subject is set out in the illustrated article on page 12 and comments are invited. (By letter or E-mail.)

Conference adjourned for tea at 4 pm. Once again we must thank the Museum of British Road Transport for their kindness in supplying the venue, and we look forward to reconvening at Coventry on 21st October for the Symposium.

News from the 21st Century

The Nation Protests

A Personal View by Richard Storey

At the business meeting on 16th September the Conference was pleased to note the increased recognition of the significance of road haulage brought about by the recent protests against the level of fuel tax. The meeting itself was smaller than normal, presumably some members were short of fuel for their cars, several days after the country had been promised a return to normality within twenty four hours. Almost any comment on the events of those previous ten days is bound to be 'political', if not in the party political sense, but that should not inhibit some general observations. For government and media to be surprised by the swift turn of events, together with the frequency of comments about 'panic buying' suggests an inexcusable lack of awareness of how modern commercial society operates, with just-in-time deliveries not only to production lines, but also supermarkets, small as well as large, and filling station forecourts. This unawareness on the part of government is all the harder to account for, given the creation of the Road Haulage Forum, the ending of the (Conservative-introduced) fuel tax escalator and the reduction in VED at the last Budget.

These concessions, however, were not enough to reduce the general public's resentment at the highest fuel tax in Europe, a 'hidden' tax, indirect and therefore regressive; such resentment had been increased by attempts to present the tax as an enlightened 'green' measure. In the face of the higher atmospheric pollution occasioned by air travel, by the USA's profligacy in the use of petroleum products, and by the pollution from the traffic chaos of many of

the world's largest cities, this attempted environmental justification of the level of fuel taxation was bound to meet with a cynical reaction in the UK. It is noteworthy that the government changed tack, to trade fuel tax levels against levels of provision of public services (neatly avoiding the question of levels of direct taxation). Yet some commentators and letters to the press continued to dwell on this 'green' theme, coupled with exaggerated claims for the likely effects of a return to rail.

Confusion also reigned in the analysis of events: there were no trade unions to blame and no single central organisation of protesters (indeed close reading of the trade press over the past year and more would have revealed the tensions, dissensions and hostility between the trade associations and protest movements involved). Those commentators who drew a parallel with the French Poujadist movement of small businesses in the 1950s were probably nearer to the truth than most, for such an explanation allows room for the farmers whose initiatives played a significant role in the fuel 'blockade'.

The oil companies, under great pressure from the government, appeared inscrutable and scored an incredible own-goal when Esso announced a price rise (soon countermanded) as the blockading eased. Yet two important factors have to be taken into consideration when their attitudes are under review: it is one thing for a tanker to leave a blockaded refinery under police protection, but another to take the risk of its inflammable load running into potentially violent demonstrations en route. Secondly, much fuel distribution is now contracted out and such drivers might not well respond as readily to pressure from the producer as would in-house drivers. For the present an uneasy truce reigns until the Autumn budget statement, with the government investigating stronger emergency powers.....

(With the exception of the opening sentence, the views expressed above are those of the author.) RS

Last Mini is built

After 41 years of production during which 5.4 million of them were built, the Mini (sometimes a Morris, sometimes an Austin or Wolseley or Riley, and latterly a Rover) has ceased production on 4th October 2000. A people's car once fashionable with the famous, it is to be replaced by an upmarket and totally new vehicle built by BMW.

Last Hovercraft 'flies' the Channel

Only just a road vehicle, this, but a notable British invention which made its last public service 'flight' across the Channel on Sunday 1st October 2000. Hoverspeed services have been replaced by one of multi-hulled 'Sea-Cats'.

COVER STORY

Lincoln High Street,
4th March 1929

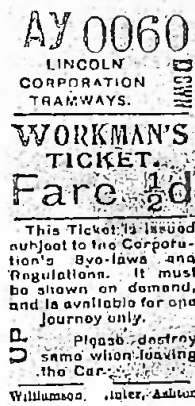
The view is of High Street, Lincoln on 4th March 1929, a Monday afternoon and the day the Last Tram made its final trip with due ceremony to the depot at Bracebridge. Prominent in the picture is Leyland TD1 Titan no. 31 (VL 847), one of seven such vehicles purchased the previous year for tram replacement. Leyland Motors, who used the slogan "Bury a tram with a Titan", sent along their photographer to record the event. In late 1927, Lincoln had taken delivery of the first (production prototype) TD1 which survived until it was broken up in 1952, and which may (by a curious irony) have lasted longer than any of the electric cars it helped to replace. (The electric line opened in 1905)

Lincoln had used the Griffiths-Bedell stud contact system of current collection until December 1919, so the tramway overhead is less than ten years old and of the neat and unobtrusive kind often used in the twenties. The bus carries an ill-fitting (ex tram?) route board for Bracebridge, and is showing the route number 7 in a number box which sits uneasily on the piano front of the Leyland open staircase body. These boxes were later removed.

Note (on the left) the 30 cwt truck belonging to Battles, Chemists, Lincoln, (at centre) the Ford T-type bus overtaking the horse and cart, which is itself overtaking the badly parked touring car (right) which carries trade plates 072 FE. The width of the street is remarkable for a provincial city. No question of trams causing congestion here! Congestion was caused, however, by two railway level crossings. The Lincoln tram route, approximately one and three quarter miles in length, was virtually flat and straight throughout.

On the opposite page we show a tram ticket which by a curious co-incidence carries advertising for the owners of the truck on the left of the photo. Workman's 1/2d. single ticket AY 0060, dark green in colour, carries the instruction "Please destroy same when leaving the car." The advertising is for a lethal form of destruction, and reads "70 mice killed by one 3d. BATTLE'S VERMIN KILLER. J.S. Battle, Lincoln.. Sold by Chemists Everywhere 3d. 6d. 1/-"

The ticket comes from the Roger Atkinson collection, and the photograph on the cover and on the opposite page from the photographic archive of the British Commercial Vehicle Museum, Leyland.



Bury a Tram with a Titan !

The Leyland Motors slogan may not have been used at the time of the Lincoln tramway closure, but the Company arranged for a photographer to be present, and a series of pictures, two of which are shown in this edition of *Newsletter* were taken

The City of Lincoln transport department had only a small fleet of single deck buses when in late 1927 the first (the production prototype) TD1 Titan bus was supplied to the city. The "selling point" was its ability to pass through a mediaeval gateway, the Stone Bow. Once the Transport Committee had seen that a modern double deck bus could be used in the city, the way was clear to be rid of the single route of tramway. The decision to abandon trams was taken on 2nd August 1928, but not implemented until 4th March 1929. The last service cars ran on 2nd March, a Saturday, and none ran on Sunday (they never did in Lincoln). The closing ceremony therefore took place on a Monday afternoon.

BELOW: Lincoln's last tram, fully enclosed car number 6 is seen awaiting departure from the town terminus for the last run to Bracebridge on Monday 4th February 1929. The car is bedecked in a similar fashion to many inaugural cars 30 years previously. Conductor and driver, however, show uniforms which are of the period. Note the conductor's whistle, needed for use on open top cars. An unusual feature of the tram is the twin cowls to accommodate the hand brake and controller handles.

(Leyland Motors.)



The *SHADOW* CULTURE of the ROAD

by Michael Baines

The text of the presentation made to the September meeting, in which Michael "compared and contrasted" two periods. Vehicles and goods carried may have changed, but human nature had not.

The activity which is road freight transport has a history which goes back further than is often thought. Dyos and Aldcroft record that "In the mid 15th Century...road hauliers at Southampton were already despatching cartloads...fairly regularly to destinations as far off as Gloucester, Oxford, Coventry and even Kendal.

John Taylor, being aware in 1637 that freight travelled by road, took it upon himself to compile a directory of carriers, which he called the *Carrier's Cosmography*. He visited the inn yards of London and was subjected to, in his own words, "harsh and unsavoury answers". The outcome was that the *Cosmography* was produced devoid of actual names. The reasons for this reticence are fascinating but outside the scope of this paper. The salient point was that Taylor was aware of a system whereby freight was despatched and delivered between numerous locations. He showed the existence of over 200 carrier services to London "from any parts, townes (sic), shires, and countries, of the Kingdomes (sic) of England, Principality of Wales, as also from the Kingdomes (sic) of Scotland and Ireland". It is obvious from all this that traffic was transferred between carriers as a matter of routine.

I now wish to move on a great number of years to a time when the motor lorry started to reveal its true potential as a mover in its own right as opposed to a feeder to other systems. The daily life of the lorry driver, in the 20 or so years after the Second World War, was much more solitary than that of the modern day counterpart. Although the lorry driver of today is still, usually, the sole occupant of the cab, communication with others is not denied. The two way radio, mobile 'phone and fax machine have made base to vehicle dialogue as commonplace as that in any other industrial environment, in some cases possibly more so. Indeed, the progress in information technology over recent years has achieved a perverse type of logic whereby a mechanical or electronic defect, for example in a refrigerated vehicle, can be detected by

notified to the driver by fax or 'phone.

The isolation of the driver up to a generation ago was very real by any definition. It is probable that those who undertook the work in such an environment could not only tolerate it, but were, as individuals, comfortable with a working life which demanded self confidence and independence. There was, however, a paradox in that such independence, to the point of being described as stubborn, translated into comradeship and a propensity toward mutual help when the opportunity presented itself.

Under normal circumstances the usual meeting places for drivers were, cafes, lay byes and overnight stops. In addition to exchanging pleasantries and small talk there would also be an exchange of more useful information. Advice on where to stay, or avoid, overnight would be offered, as well as contacts for return loads. Locations of speed traps or ministry log sheet checks, in the days before the tachograph, were also passed on; this may seem unacceptable to some readers, but it must be remembered that commercial vehicle speeds were severely restricted at the time. Similarly, although some operators and drivers abused the legislation the majority simply wanted to get on with the job in hand. It must also be understood that on matters of enforcement the law abiding are often in danger of prosecution due to error or oversight, just as the persistent offenders often seem to go undetected.

Technological advances have, generally, improved vehicle reliability and lengthened service periods to the point where maintenance away from base is rarely necessary. In addition the support services available from manufacturers, dealers and tyre companies, coupled with the communication facilities now available mean that the responsible and viable operator and his drivers are not stranded without help. This was not always so, when vehicle technology was at a lower level drivers were required to add running repairs to their skills. To a driver on the road the sight of another driver in trouble usually produced the thought "there but for the grace of God" in his mind. In this way assistance was given, freely and voluntarily, and the recipient would usually repay the favour indirectly, by helping someone else another time.

A practice which sometimes took place out on the road was the exchanging of traffic. Although this certainly would not have met with overt management approval, it would require an extreme level of naivet   to think that managers and proprietors were unaware of it. Drivers on outward journeys, meeting en route, would transfer small or divisible consignments between themselves, such that only one of the vehicles

would need to visit a particular site or area. In this respect the result was a more efficient vehicle utilisation resulting in a win/win situation, whereby the drivers gained an element of spare time and the haulier gained from a reduction in mileage operated, with its associated costs. The exchanged traffic would still be signed for as delivery notes would also be exchanged and returned to the rightful driver at some calling point on the homeward journey.

One source of back loading from London, which worked efficiently and effectively during the 1950's and 60's, had no officially recognised status. Long distance drivers from all over the country would congregate in the region of Tower Hill. The police were very tolerant of this practice, but on one occasion a driver was prosecuted for the deplorable crime of "obstructing a horse trough". There was a row of public telephones which the drivers monopolised in search of traffic. The numbers of these were also known by various freight forwarders and clearing houses, who would use them to locate a driver returning to somewhere they had traffic for. When one of the telephones rang the nearest driver would answer it, ascertain the traffic's destination and shout along the queue to locate a likely candidate.

One particularly well known character was called Les Whitman who had a small office in that area. He handled both local and long distance traffic and had a reputation for playing fair. Very often he would ask a driver to move some local traffic, either through the books or by working a foreigner, i.e. cash in hand. Drivers who obliged in this manner were then certain to get a lucrative return load homewards. Again, this was bending the rules but resulting in a win/win situation for all concerned.

This has been but a brief overview of human behaviour, albeit with examples that are many years apart. It can be seen, however, that in both cases the individuals concerned proved adept at showing initiative, and working largely without anyone to supervise, advise or instruct. This piece of work leaves the road haulage industry as it was in the early 1960's. It would be very interesting to research the present day to ascertain whether the technology which allows global position tracking, and telephones and fax machines in the driver's cab, (or should we say workstation?) have brought about the demise of the shadow culture. Perhaps it still exists, albeit subdued, in some enclaves of today's road haulage activities.

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Points raised in discussion

After Michael Baines' paper, various members recalled further examples in support of the thesis that long distance drivers enjoy the solitude and 'freedom' of the job and thrive on the chance to earn a little extra money. It was pointed out that when the telegraph was first introduced, it was much resented by ship's captains who had hitherto been responsible for arranging return cargos.

Coach drivers were cited as men who like the independence of their job, and despite the poorer wages, prefer it to regular driving hours on stage carriage work. Several members pointed out that coach drivers often have arrangements to sell theatre tickets to their clients, and take their passengers to café stops advantageous to themselves. John Hibbs recalled an instance when two Corona drivers returned to their coaches parked in London to find them full of irate passengers who had paid 2/6d per head for a sight-seeing tour of the metropolis. The touts had long fled the scene !

However, he recalled a more lucrative trade in the early post war period. Coach drivers on the weekend holiday routes between Birmingham and the Suffolk coast had a two-way trade. Chocolate, which was in abundant supply in the West Midlands (from Cadburys) was taken east, whilst cigarettes, which were in abundant supply in Suffolk (from Gallaghers) was taken west.

John also drew attention to a presentation at an early meeting of the Conference in which it was revealed that on the Exeter-London packhorse service, the proprietor organised payment at the inns by means of bills, to avoid misappropriation of monies by his men. Gordon Mustoe said that currently the most common unofficial activities by drivers are selling pallets, fiddling diesel fuel and swapping tyres. There was still co-operation between men: for example letting other lorry drivers out of side turnings or into a place in a line of traffic, and when loading heavy machines, moving machines on behalf of others. The habit of helping out another driver whose machine had broken down on the road was now uncommon, as the pressure of schedules and modern methods of servicing vehicles had seen the demise of such camaraderie.

Another aspect of lorry driving discussed was the camaraderie generated at cafés and lodgings, and at clearing houses. A former driver when speaking to the Hon. Editor recalled a time when he went to a agent in search of a back load, and found that the agent was very anxious that a certain load be delivered immediately "after hours". This was done, and thereafter, much to the amazement of his colleagues, he always received a back load when visiting the same town. 7

ROAD SURFACING, DRESSING and TAR SPRAYING

by Gordon Mustoe

The text of the presentation made to the September meeting, in which Gordon outlined the history of the use of tar on roads and the vehicles used to apply it.

Tar has a long history. This story will start at first patent in 1681 for making pitch and tar from coal, and the patent of 1791 for distilling coal tar for commercial use. Another landmark came in 1818, when the Gas Light & Coke Company took out a patent for distilling tar by evaporation, which had a relevance for the growth of a chemical industry based on the compounds derived from tar, including dyes and aspirin.

Tar was first used in Britain as a surface dressing for roads in 1838, by one Cassell, but this man was ahead of his time. It was in the early years of the 20th century that tar came into general use as a surface dressing. Frederick Bristowe certainly deserves much credit, partly because of his invention of "Tarvia", which was produced to a relatively consistent and known quality, and partly because he introduced a mechanical means of applying it.

Tar became the accepted method of preventing the dust nuisance created by the increasing use of motor vehicles travelling at higher speeds, which caused the binder to be distributed as trails of dust and damaged the macadam structure.

Brodie, the then Civil Engineer for Liverpool (1) surfaced two miles of road leading to the docks with tar. He reported that the road could carry a considerable commercial traffic with no problems, that the surface dust had disappeared, that the tar made the road waterproof and that frost could not damage the foundations. In addition, with the right type of chippings, the surface was skid-proof.

The application of tar to roads

Tar has to be heated to between 220F and 260F for satisfactory spraying. At first it was sprayed from cans, and it was soon found that a flat wedge nozzle gave better results than a rose. It was spread by brushing or using a rubber squeegee. It was important to spread in only one direction, to give an even thickness. The earliest method of transporting the tar from the distillery or works was in 40 gallon barrels. It was melted to working temperature by tar boilers, which came in various sizes. Some could be moved by man-power, boilers of up to 320 gallon capacity

could be pulled by horses, and the largest of 420 gallon capacity were hauled behind tractors. Early models relied on hand pumps and hand held hoses to deliver the tar, but this was extremely hard work. The next step was to mount the boilers on steam wagons (and later motor wagons) which used pumps or compressed air to apply the tar through spray gear.

Care was needed to prevent the tar being spoilt by overheating or boiling, which would drive off the light oils which gave it some of its properties. It is also very relevant that the vapour could cause problems for the operators. Boiling tar could start a fire, and to prevent this a typical boiler had an upper tray which held the cold tar. When this was warm, it was fed progressively into two cauldrons which brought the tar to the right temperature in two stages. This system ensured a continuous supply of tar, at the correct temperature. Tar which was cooled would cause streaking of the road surface, and chips would not stick correctly.

The operatives had to be very careful with these machines. It was essential that they be parked on a level and stable surface, otherwise they might tip over with disastrous results, particularly when hoisting up a barrel of tar by means of a davit. Care also had to be taken when on the move with a horse drawn tar boiler, to make sure the camber of the road did not cause a tip over.

The chippings were also a critical part of the tar spraying process. One ton of half inch chippings were enough to cover 100 square yards, with one gallon of tar enough for six square yards. The quantities varied according to the size of the chippings. The surface to be sprayed had to be clean, and free of horse or other animal droppings. One firm, Johnston, developed a mechanical road sweeping machine to assist their surfacing business, and eventually sold out their road surfacing interests to Mowlem in order to concentrate on the manufacture of road sweepers.

Surfaces to be tarred also had to be dry. In the early days, work was curtailed by wet weather, but from the 1920s it became practical to use road heaters to reduce delay. One disadvantage of using steam wagons was that they could drip water and drop ashes onto the road. Today, the use of water bitumen sprays means that rain or damp are less of a problem. Incidentally, the replacement of tar by bitumen based liquids also ended the benefit of using steam wagons as the basis of the tar sprayers (their steam kept the tar hot and stopped the sprays from becoming blocked. On modern sprayers, the pipework is kept clear by flushing with creosote).

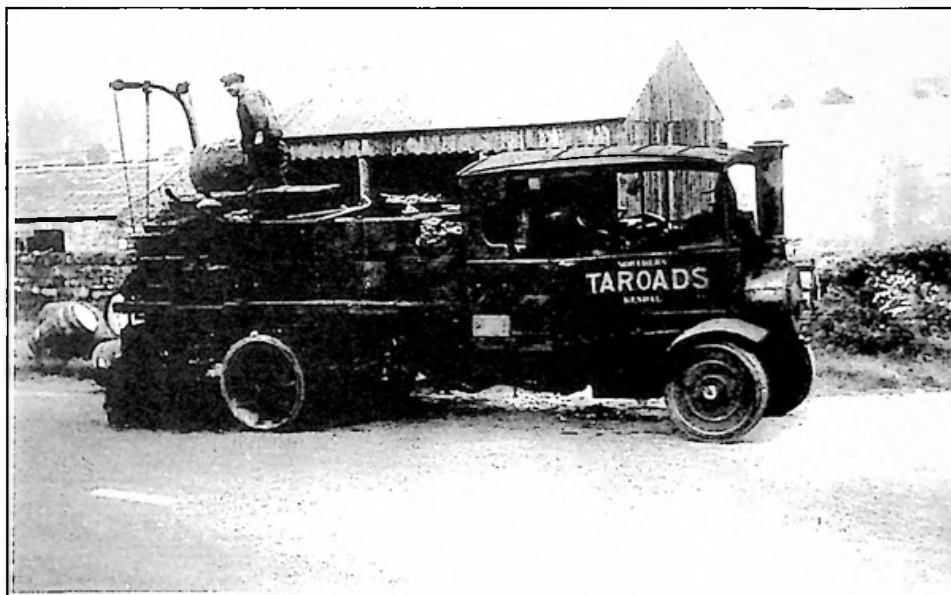
The latter also has a part to play when a dressing is applied to a concrete road. First the cracks have to be filled with a high viscosity tar and small chips,

the, before spraying commences it is practice to apply a coating of creosote, one gallon per twenty square yards, followed by a tar coat with fine chippings.

The type of chippings used depended on the location of suitable quarries. In much of the United Kingdom granite is readily available, but some areas have to use gravel or limestone, and in steel making districts it was found possible to use crushed slag. Chippings have to be clean, but colour is of no importance! Good chippings have four triangular faces.

The crews of the tar spraying wagons had to be very skilled as well as strong! The vehicle was equipped with a rev counter in the cab and a conversion chart for the driver to calculate the required speed of his vehicle when spraying a given quantity of tar to the correct density. Insufficient tar would not hold the chips applied, hence flying chips, too much tar would bleed in warm weather and would spread and even stick to tyres.

At one time, all the major road surfacing contractors used steam wagons, followed of course by a



ABOVE: A Foden C type 6 ton wagon is the basis of this tar boiler, seen here in its last season working for Northern Tarroads, Kendal. Note the coal bunker behind the cab, the tar tank and the barrel being hoisted by the davit at the rear. The pump seen above the spray bar is steam driven. Brushes, shovels and cans used by the crew abound.

BELOW: This road heater/planer was one of several designed and built by W.& J. Glossop Ltd. The four burners would soften the old road, then the horizontal blade would scrape the surface. The rear conveyer would carry the removed material into a wagon towed behind. This semi-trailer was originally hauled by a Sentinel steamer, but the ex W.D. Scammell seen here is one of seven obtained c.1959.



steam roller which would make about ten passes over the new surface. Each had their own ideas for the spray gear: the most successful were Glossop, Johnston Brothers (who used a mechanical tar spreading brush) and the London Gas Companies, who were responsible for improving the standard of tar application.

The larger companies built their own burning and planing machines, and this work was often done under a separate contract. Not all road redurfacing work is carried out by contractors: county councils and some cities do their own work. For example, the

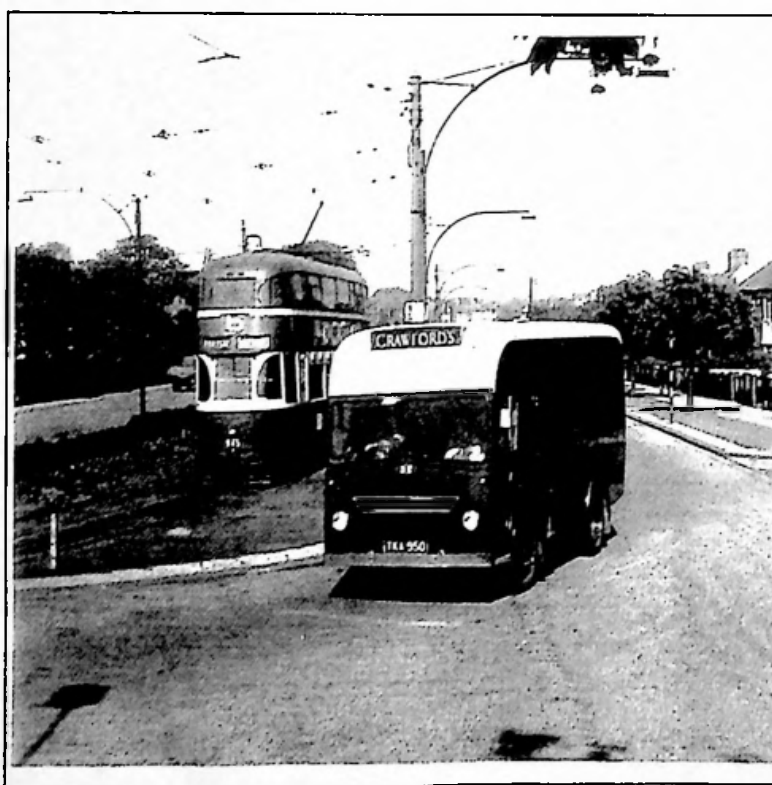
Leicestershire County Council recently completed a contract resurfacing a busy two and three lane road using a Mercedes articulated outfit. Even the tipping lorries bringing in the chips were LCC property.

Road resurfacing was the last industry to employ steam road wagons to commercial advantage, but the use of bitumen based mixtures from the sixties onwards, coupled with the extra time and effort required to fire up steamers, saw their economic advantage disappear.

(1) see below and right for further notes on Brodie.



ABOVE: The way road surfacing is done today. This photograph was taken by Arthur Ingram in Chatteris in Summer 2000. The sprayer now uses a bitumen mix, the chippings are spread mechanically, and then are pushed in by the rubber tyred roller. The process is quick and causes minimum delay.



LEFT: It was Brodie who introduced tram tracks on reservations to the suburbs of Liverpool. The first such track was that to Bowring Park, and this scene shows a car at Broadgreen. The van on the left is using the in-bound carriageway which still remains, but the former tramway and the out-bound carriageway have been allowed up by the M62 !

John Alexander
Brodie
1858-1934
Liverpool City Engineer

John Alexander Brodie was the Liverpool City Engineer from 1898-1926. His memory was recently honoured by the installation of a "blue plaque" on his former Liverpool residence, but not, very probably, for what he would of thought of as his major work. The plaque commemorates his 'invention' of goal nets.

The citizens of Liverpool have a daily reminder of his skill and foresight as a town planner and engineer as they drive along the many broad suburban avenues which once carried trams on their central strip. Curiously Brodie Avenue, which bears his name, never had a tram service, but Aigburth Road, Broadgreen Road, Childwall Road, Edge Lane Drive, Longmoor Lane, Mather Avenue, Menlove Avenue, Mill Bank, Miurhead Avenue, Prescott Road, Townsend Avenue, Utting Avenue and Walton Hall Avenue all did.

As these avenues stretched out like the veins of a fan, they were interlinked by Queens Drive (when built, it was the outer semi-circular ring road around the city, from Aigburth to Bootle, mostly dual carriageway) and it was substantially completed by 1926. The section from Prescott Road (A57) north to Seaforth was the main feeder to the (then) biggest of the Docks. It is part of this road which is mentioned in Gordon Mustoe's foregoing article and, indeed, none of Queens Drive was ever paved with stone setts, but always with a smooth tarred surface. Parts of the Prescott Road dual carriageway (A57), however, were paved with setts until the sixties, as this tramway reservation was installed in 1922.

The very first Liverpool tramway reservation in the median strip of a dual carriageway was opened in 1914, along the length of Edge Lane Drive and Broad Green Road to Bowring Park. The illustration (left) is at a point where the left hand roadway was macadam with sprayed tar until the fifties, meaning that all but traffic for access was made to use the right hand roadway which had a concrete foundation.

4 more
things that need
doing

Four more research tasks suggested
by Ian Yearsley at 1999 Symposium

Newsletter 21 reprinted the research topics raised by Ian Yearsley at the 1999 Symposium, but lack of space meant that his final four points were not included. So here they are, better late than never !

First

Many experimental producer gas vehicles, both passenger and freight, were built during the 1930s. During the 1939-45 war producer gas trailers were used with buses in many places. Most people were heartily glad to see them go, which may be why so little has been written about them. There is room for a well researched history here, including also the various town gas and creosote fuel experiments.

Second

Reserved sleeper tracks for suburban tramways were built partly to save costs and partly in response to town planning legislation. There is scope for a comparative study, looking at Birmingham, Manchester, Bradford, Leicester, South Shields, Sunderland, Leeds, Sheffield and elsewhere, in the light of Brodie's pioneering work at Liverpool. When congestion came, were reserved tracks needed at the city ends of routes rather than in the suburbs ?

(See also left-hand column.)

Third

The trade associations and their conferences provide a mirror to the concerns of the industry. Is there scope for a history of the various associations that came together to form the present-day Confederation of Passenger Transport ? Or perhaps it would be best just to study the annual conferences and what was said.

Fourth

A study of the careers of municipal tram and bus managers could show how operating methods and vehicle designs were taken from one undertaking to another. Horsfield, Pilcher, Moffatt, Chamberlain, Marks and Ralph Bennett would be examples among many more.

Some thoughts on Early Omnibuses

by Ron Phillips

At the last meeting I raised various queries concerning the earliest buses used in France and Britain. The Shillibeer bus of London, 1829, was a box-like vehicle with a rear door, and is known only from artists' impressions. It is said to have been an importation from France (the idea, if not the actual vehicle) and Mr. Shillibeer later ceased to operate buses and took up the manufacture of horse-drawn hearses, whose configuration was not dissimilar to that of the early buses.

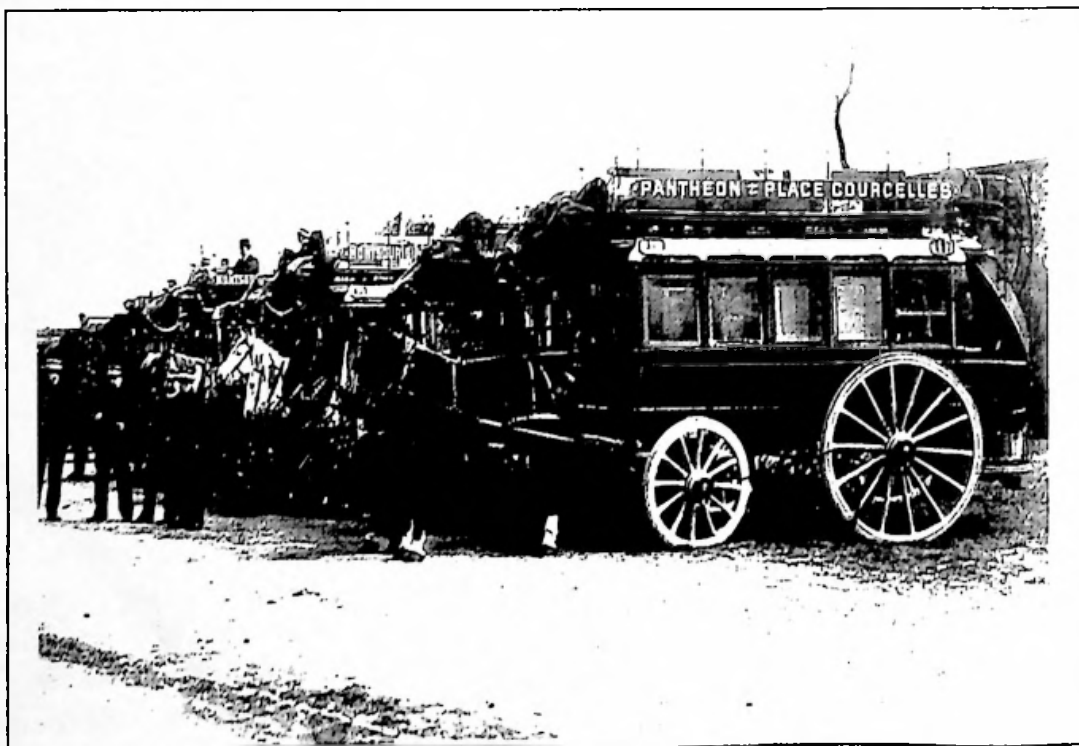
Shortly after the introduction of the Shillibeer omnibus in London, the Liverpool - Manchester Rly. began running passenger trains. The carriages were derived from stage coach designs (as indeed, from artists' impressions, were/was the carriage(s) of the Swansea - Mumbles Railway which is alleged to have a passenger service as early as 1804). The influence of the stage coach carried on in railway carriage design for many years and so called "compartment" stock is no more than a series of stage coaches mounted on the same underframe, and such stock still (just) persists today.

The French omnibus was reintroduced to London by the Compagnie Générale des Omnibus in the 1850s, and this time there was a change to double deckers. The French influence was later cast aside as

the company became the London General Omnibus Company and London coachbuilders influenced the construction of the vehicles. The French double deckers, as seen in the illustration on this page, were different in a number of ways. The roof of the lower saloon was of the "turtle back" design, the raised portion being covered by a longitudinal bench seat, as found on early (American influenced) horse trams. There were no "decency boards" on the sides of the upper deck. The effect of this roof arrangement lowered the overall height of the vehicle slightly. The very large rear wheel raised the saloon floor to the extent that a rear platform was needed to allow passengers, especially women in long dresses, easy access to the saloon by a further step. Gentlemen and the more agile ladies could then reach the upper deck (or outside) by climbing the iron ladder, which later became a staircase when fitted with decency panels in the form of solid risers.

The London double deck bus differed in that a flat upper deck floor equipped with forward facing "garden seats" caused the vehicle to be both higher and wider than the French counterpart. Another difference was the fenestration. The French buses are equipped with wooden framed panes which can be lowered into the side of the body, akin to railway carriage and stage coach windows. The English buses were equipped with fixed panes, allowing for thinner sides and more slender pillars, and reducing weight. Perhaps the overall weight was the same, however, because the English buses had upper decency panels, often covered in advertisements and stair-risers were also used to carry advertising as well.

A rank of Paris horse drawn double deck buses at Vincennes, probably gathered "off route" to serve an event (horse racing ?) Date of the photograph is given as 1900.



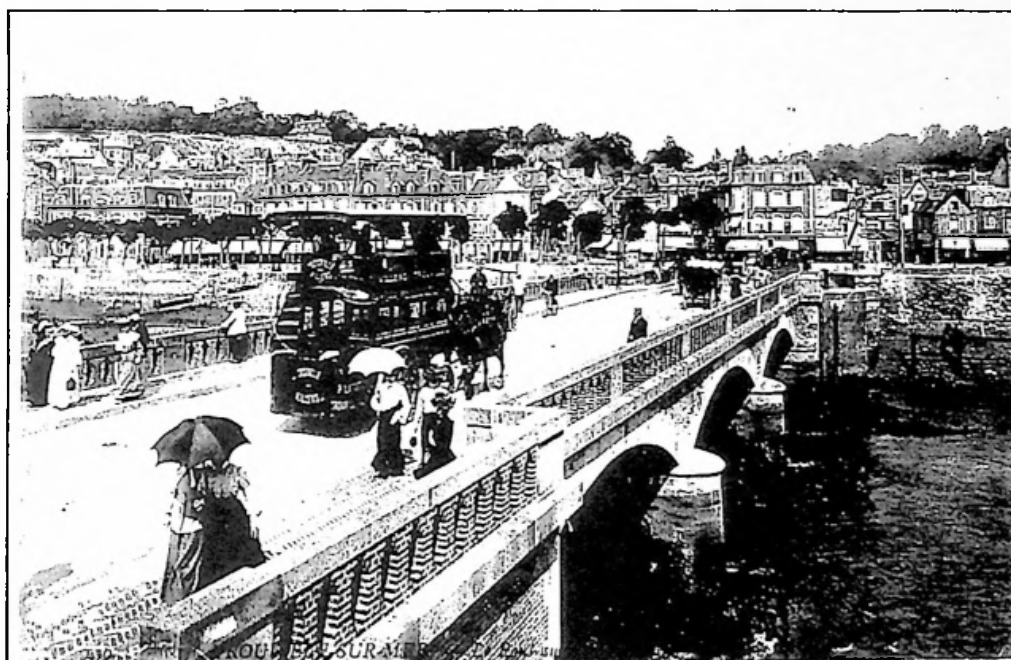
The French design of horse bus appeared in covered-top form (although not fully enclosed) as is seen in the upper illustration of what is probably a former Paris bus translated to the provinces. This bus is lettered for a route between Trouville and Villiers. The shape of the lower saloon roof is clearly shown, as is the simple bench seat (rather than the close-slatted "knifeboard" seat which is unnecessary here because of the light roof). What I find really interesting about this bus is the fully enclosed rear platform, with a rear central doorway, giving loading from the street

rather than the kerbside. Of course, loading like this persisted for many years in the Paris motor bus fleet, although doors were not fitted. Another feature which might be said to have been carried over to the Paris motor buses is the high central driving position.

The second picture on this page shows the Place du Casino, Trouville, probably about 1910, perhaps some five or six years later than the first picture which lacks any automobile traffic. On the rank are several motor taxi cabs, and horse drawn "omnibus" of the Shillibeer design

UPPER PICTURE: A covered top double deck horse bus crossing the bridge at Trouville-sur-Mer. Date approx. 1905.

LOWER PICTURE: "Voitures de place." Taxi-cabs and omnibus await customers at Trouville, c.1910.



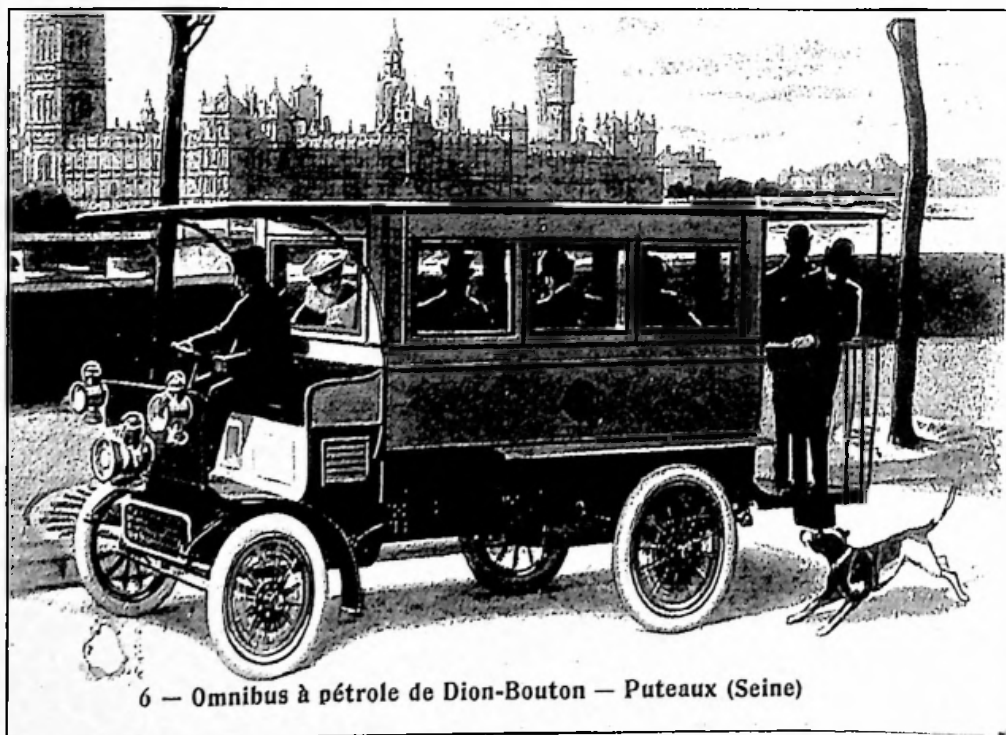
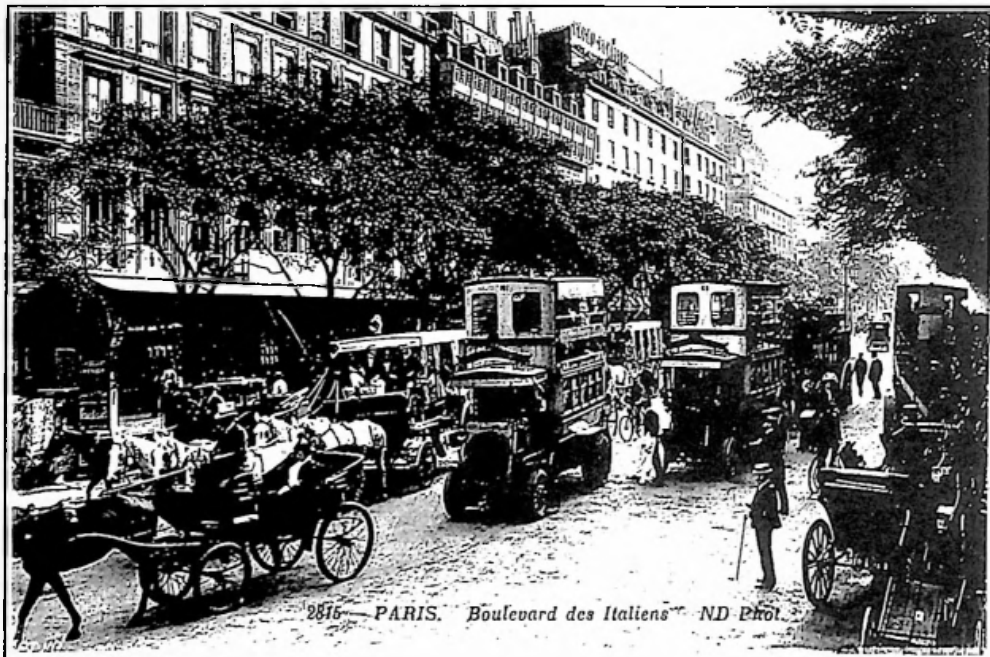
The illustrations on the previous page show how the designs of the single and double deck bus in France were fundamentally different. The same may be said for the early motorbuses in that country. The upper illustration shows Eugène-Brillié covered top double deckers of the Compagnie Générale des Omnibus (CGO). The body design is similar to that of the horse bus at Trouville. The driver is placed in a high, right of centre position. The only innovative feature is the glazed front to the upper deck. At the rear, the platform and staircase are minimal. To the

right of the bus nearest the camera is an interesting horse drawn omnibus built to the "covered toastrack" design, although maybe known in French as a "char-à-bancs." This was probably used for private hire, but vehicles of this type ran in route service in Lisbon in competition with open-sided toastrack trams.

The second picture shows a single deck motorbus in the Greater Paris area. The box-like body very much a "motorised Shillibeer", with longitudinal seats inside. There is a rudimentary Paris style platform at the rear.

UPPER PICTURE: The Boulevard des Italiens, Paris, is thronged with horse drawn carriages and motorised and horse drawn buses, c.1905. Traffic speeds must have been very low at this time.

LOWER PICTURE: For the outer suburbs, narrow bodied single deck buses like this were sufficient.



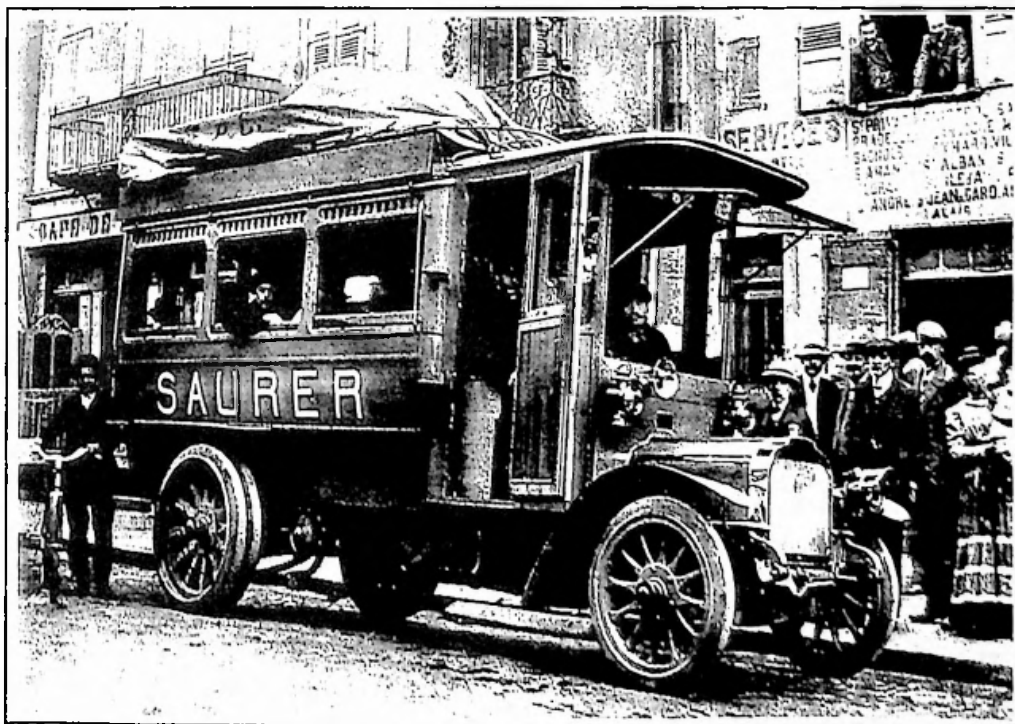
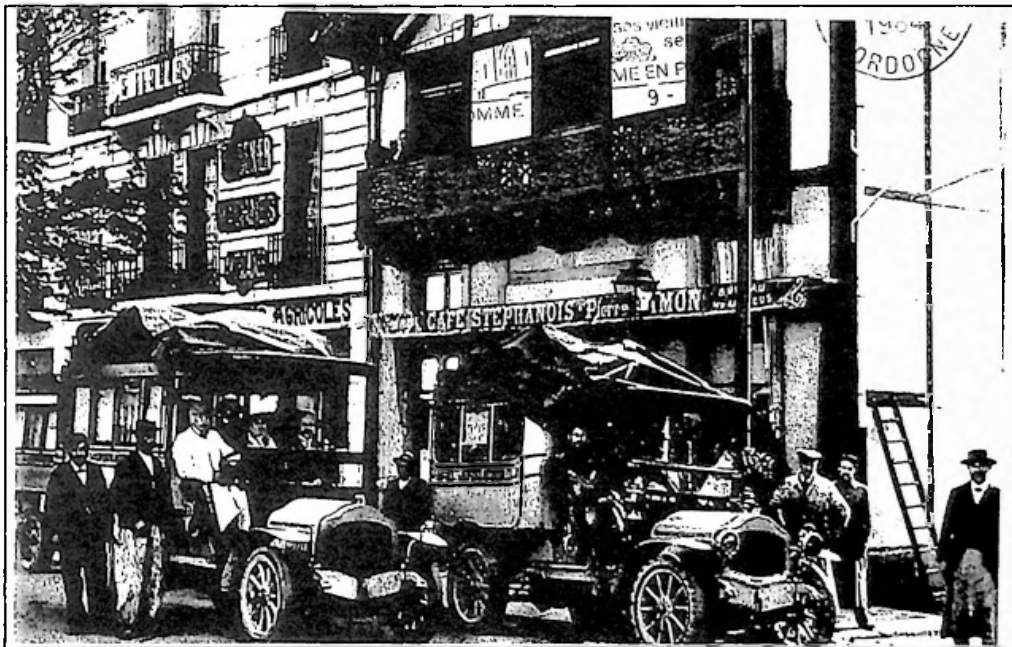
I will conclude this article with two more pictures of "interurban motor buses" both dated circa 1910. The upper picture shows quite small vehicles which would come under the British classification of "heavy motor cars". The leading one has a body looking like a stage coach, although probably entered at the rear. The significant fact is that passengers are placed facing forward and the bodies are wide enough to allow this, probably because these vehicles have small wheels which barely protrude into the body space.

The lower picture shows a heavier vehicle on a bus/lorry chassis which still has a narrow body with longitudinal seating. The rear wheels are placed partly under the side seats. Derived from the Shillibeer, this body boasts an enclosed cab. On the wall can be seen a list of destinations served by this Saurer, described as "forerunner of the Pullman."

This article, like the talk upon which it is based, is intended to provoke comment as much as to instruct. Over to you !

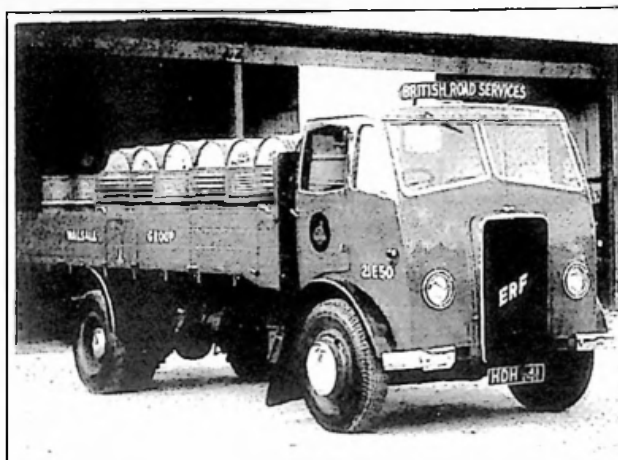
(to be continued)

UPPER PICTURE: Two early interurban buses with loaded luggage racks are seen in 1909. **LOWER PICTURE:** This larger vehicle of Saurer manufacture is seen in 1910 outside its "dépôt", premises where passengers gathered and luggage and goods were deposited.



IMAGES OF THE TWENTIETH CENTURY

The Diesel Engine



In the last of this feature, we take a look at the history of the diesel engine. At the start of the 20th century, the petrol driven spark ignition engine was in its infancy, and hardly in evidence as a means of driving heavy goods vehicles. It reached maturity during the First World War.

As the fourth decade of the century dawned and the road haulage industry was beginning to challenge the supremacy of rail, manufacturers began to consider the marine diesel engine in a modified form for use in lorries and buses. Operators found the engines powerful and reliable, although heavier than petrol units, but the fuel was cheaper than petrol. Diesel engines were adopted by Leyland, AEC, Dennis and Crossley (who all built their own engines). Other makers used Gardner or Perkins diesel engines. Some manufacturers of steam wagons turned to diesel engined lorries. One such was Foden; another, who set out from the start to build only diesel engined machines, was ERF. The top photograph shows a post war ERF in British Road Services livery: HDH 141 of Walsall Group. fleet number 21E50.

In the last 25 years, great strides have been made to refine the diesel engine, and it is now available in private cars. One major improvement was the introduction of turbocharging for extra power, but great reductions in noise levels and emissions have also been made under legislative pressure. In buses "encapsulation" of rear engines and coupling to automatic gearboxes has become the norm. The lower photograph shows the ultimate Leyland product, an Olympian rear engined double decker with Eastern Coachworks body, seen on demonstration in Dublin. Photo by K.Fenix.

