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DEEP-FRIED HILLMAN IMP

Preface

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PREFACE

Preface by Pat Kane

Cyberspace, I find, increases the pester-power of the geographically remote but determined. Having cheerily promised Chris Harvie a preface to his pathology of Scottish transport, I found myself pinned down with unending commitments. Harvie scanned the virtual archive and keyed in the following. We both think it works. Note that Harvie, a historian and teacher, seems to have made himself more expert in this huge area than many who are paid fat fees for daft schemes. Harvie says he's a bear of little theoretical brain but got there by 'playing trains', and when you get to the end of the book you'll find that his terminus isn't far from my own current concerns with formulating a 'play ethic' which will energise our common culture, what the American guru Jeremy Rifkin calls the 'third sector' of voluntary effort, trust and – what the hell - fun.

Our lethal car culture

From SUNDAY HERALD, March 12th, 2000

BY Pat Kane

I do not drive, I have never driven, and I do not intend to. Coming from the mouth of a 36-year-old professional male with a wife and children, these statements - to certain audiences - might seem eccentric, even faintly embarrassing. What, can't you manage it? Aren't you coordinated enough? Didn't you want to when you were 17? You let the wife drive you to Safeways, then?

Yes, I've heard them all - and I have a variety of responses to hand, from the highly moral to the limply camp ('I do not drive, darling I am driven'). But when I see stories such as the one last Friday - the drunk BMW driver getting eight years for killing a mum and baby in the Clyde Tunnel - my response is acute sadness, followed by a huge and very selfish sigh of relief.

At some point in the future I may well be roaring drunk in public - solid prediction there. But at least I know I'll never be in charge of several thousand kilogrammes of lethal metal at the same time. Yet I could easily be a passenger in my wife's car, going down that very same Clyde Tunnel roadway, as we merrily trill our way to another pebble-strewn plowter around Loch Lomond.

No matter whose hands were on the wheel, we'd be just as defenceless as Mary and Keri Stewart were when Colin Clark lost control, flew into the air and sliced the roof off their car.

From the perspective of the non-driver, it does seem as if there's an air of collective madness about car culture. An addiction to this risky, foot-away-from-disaster mode of getting around that goes way beyond reason.

You notice it especially when you are a regular user of public transport. It makes you feel differently. As we commute we walk, climb steps, wait, sit down with others, then surrender

ourselves to the regular rhythms and rituals of transportation (ticket, evening paper, staring out the window, cellphone).

It's a pattern of activity that pleasingly mixes contemplation and exertion, the mental and the physical, and I'm not ashamed to say I actively like it.

Tony Kaye's 1980s adverts for British Rail tried - successfully - to tie into that rich experience (the chess-playing rabbi, the kicked-off shoes). And remember the slogan 'Let the train take the strain'? Compared to this easy, confidence-inspiring way of getting around (not yet subverted, I would claim, by our recent string of train crashes), we have the driving experience. Which, from my back-seat perch over the years, turns the words 'road' and 'rage' into synonyms.

Of course, all you self-consciously good drivers will now be saying, he will only remember the close shaves - the moments at the limit which blemish even the most Reginald Molehusband-esque of driving records. But surely the point is that the close shaves are part of a general potential danger that is much, much higher in cars than in other ways of moving around.

I have observed too many apparently placid drives, with apparently placid drivers, where death was only a wrist-flick, a fumble or a tired miscalculation away. The A-road down which lorries hammer towards you, late at night, like a procession of monsters; the slipway on to the motorway where nobody will slow to let you out; the sporty fleet car, crammed with casuals, that overtakes you on a single-lane road and misses the oncoming juggernaut by yards. Inches, even.

It's absolutely staggering, when you honestly think about it, how much we have threatened our lives and those of our loved ones by choosing to drive to our destinations. It's like a mass death wish. Just why do we subject ourselves to such daily lethality?

Cars are obviously not anti-community per se. Infirm grannies, or tiny babies, need to be transported with care and attention. Taking the family estate to the out-of-town shopping centre cuts out a wearisome foot-trail through a heaving high street, releasing more time to be a family rather than be consumers. And in rural areas, locals have the right to use their roads as basic infrastructure and not be unnecessarily penalised for doing so.

However, when the toll of children dying from car accidents is higher than the toll of children who die of drugs and when there are 377 road deaths in Scotland in 1997 but only 17 are charged properly, with the rest downgraded to 'careless driving' - well, we have to start getting tough somewhere.

The prescriptions are obvious. Much tougher sentencing for a start. We should support the Scottish Campaign Against Careless Driving in trying to get section three of the Road Traffic Act amended to include a new charge of 'careless driving causing death or serious injury'. That would sober them up.

Next, the technical fix. Cars should be engineered to go no faster than the agreed speed limit (which should itself be lowered). Car efficiency, rather than car safety, should be emphasised -

people in cars which are marketed as safer drive faster: fact. Satellite monitoring of all car speeds, with instant penalties for infringement, should be introduced - now that it is eminently feasible. The recent child road safety campaigns have been brilliant in thudding home the point that at 40mph, only 3% of children survive the impact.

You have, literally, no excuse now. Last, the governmental deterrent. More speed bumps, less road-building (shame on you, Lord Macdonald), tougher pollution standards.

Here's an even more outrageous position. Most of the money we privately spend on cars should be turned into public spending on collective transport systems.

And for that we would deploy something called taxation. Remember?

And don't you dare accuse me of being a Luddite. If, in the wireless age, every cafe is an internet cafe, then every train or bus is also a place, a 'third space' where we will be able to put our lives in order online. Public commuting is about to become - hey! - a prime new marketplace for e-commerce.

Easy for him to say all this, come the sneerers. Non-driving scum! Sorry, but I like to call myself pro-human. And particularly pro the father of Keri Stewart. The reports last week said David screamed all through the night when he heard the news about his family. Keep that scream in your mind, dear driver, as your key slips into the lock today.

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Preface II Chris Harvie

This book had its origins in a submission to the Scottish Transport Ministry's strategy document for *Scotland's Passenger Railway*, issued in October 2000. In the course of drafting it I found myself drawing not just on nearly forty years' activity in pro-railway groups in Britain, but in particular on the study of recent railway developments in Germany. This seemed to provide a prototype for a co-ordinated system which could be applied to the transport problems of central Scotland, the region in which <most Scots live and work>. In place of projects for specific routes and urban areas, it seemed important to study the transport needs of the region and its people as a whole. This centred on the applicability to Scotland of what's been called 'the Karlsruhe model' (see Chapter 12) but wasn't exclusively to do with it.

The activity of writing about the contemporary situation, I found, raised general questions about Scottish preparedness for technological adaptation. Not only had the British political structure

been as drastically undermined as the British nationalised railway, but our society's familiarity with technology was far less than it had been in the 1960s. This book has three contributions to offer: first, it provides a historical background to the problems of modern Scottish transport and the (distinctly mixed) record of political intervention in it; second, it studies the current lively field of technical innovation in Germany, and suggests ways in which this might be adapted to Scottish needs; and third it examines the sort of reconstruction work needed to reindustrialise Scotland sufficiently to make new transport techniques aid, and be aided by, national regeneration.

ACKNOWLEDGEMENTS:

Chapter 1 was published in the *New Statesman* when, for a few months in 1999-2000, it showed an interest in Scotland. Chapters 2 and 3 are derived from contributions to the *Sunday Mail History of Scotland*. Parts of Chapters 7, 9 and 10 first appeared in the *Scotsman*, and Chapter 8 in the *Guardian*. Chapter 11 featured in the *Herald*. Many of the points on transport and the environment came from work on a two-part radio documentary *Whitehall and the Boffins* which I scripted for the BBC in 1997, and included interviews with Prof David Pearce and Sir John Houghton, then Chairman of the Inter-Governmental Panel on Climate Change. Elements of the final section were first aired in a chapter of the booklet *The Borders and the Waverley Route* which I edited in 1999 with Eberhard Bort, and which was published by the International Institute for Social Studies at Edinburgh University. My thanks for permission to reprint go the relevant editors, and for his admirable efficiency, to my publisher Derek Rodger, and to Pat Kane, who has picked up Schiller's notion of *spieltrieb* and, in the tradition of the likes of R L Stevenson and A S Neill, run with it.

In a more general sense, I am indebted to fellow workers for rational transport policies, over the last four decades, for information and advice: to Tom Hart, Dr Iain Frew, John S. Wilson, Andrew Boyd, Dr Paul Salvesson of Transport Research and Information Network*, Mike Marwick*, Councillor Laurence Marshall*, Frank H. Neville, Petra Biberbach and Bill Jamieson of the Campaign for Borders Rail, Douglas Sutherland of the Scottish Railway Development Association, Hugh Walker, Allan MacLean of Virgin Rail*, Prof Iain MacLean of Nuffield College, Oxford and earlier, of Tyne and Wear Metropolitan Council and the Welshpool and Llanfair Railway. Richard Clements, former Editor of *Tribune*, gave me my first chance as a transport journalist, over thirty-five years ago, and Alastair Moffatt, during the *New Statesman's* Scottish foray, and George Kerevan of the *Scotsman* commissioned some of the more recent pieces. Paddy Bort has acted as my Edinburgh office as well as keeping me up-to-date with transport as reported in the German media, and Christine Fresch, my research assistant, has managed the planning and revision of the manuscript (if an electronic attachment can be so called) with great skill and – bearing in mind its constant alteration – tolerance.

* For their websites see the Bibliography.

INTRODUCTION:
THE DEEP-FRIED HILLMAN IMP

In 1845, as a result of the crazy speculation of the Railway Mania, the Waverley line between Edinburgh and Hawick was promoted. Four years later, the first train steamed over the Moorfoots, into and out of the Tweed Valley, and reached Hawick two-and-a-half hours after leaving Waverley. Nowadays the bus takes just about as long to make the journey, and the Borders are trying to get their railway back. They have got L 1.9 million for surveys and legal costs, and may get a line as far as Tweedbank, twenty miles north of Hawick, by 2007, or eight years after reopening was mooted.

In the new millenium we have dynamite, we have earth-movers, we have public bodies and private bodies promoting transport innovation, and more departments of transport studies than I would care to count. To encourage them, we have congestion and climatic crises which will make life in Scotland vary from uncomfortable to unbearable in the next century, perhaps in the next couple of decades. In the case of the Waverley line, we also have an unbroken, <1845-49> engineered trackbed more or less all of the way. Why is reopening this line going to take twice the time that Victorian engineers and navvies, lacking all these benefits, required? Why, for that matter, has it taken Edinburgh Council the same time – it now appears – to decide *not* to build a rapid-transit system which will give access to the city's airport and growing industrial area, and end a situation in which the unrestricted growth of motor traffic is making Edinburgh one of Europe's most polluted capitals? The fact that the Council's CERT busway was a minimal-cost eccentric, spawned by the Tory Scottish Office's general pro-private transport policies, is of course relevant. But it doesn't account for the time it took not to appear.

And why, because no one else is doing so (at least at book-length) is an expatriate Scot, resident in Germany, having to write about the matter in terms varying from (I hope) the helpful to (I fear) the abusive? Partly because, in a region, Baden-Württemberg, which derives most of its income from engineering, the nuts-and-bolts of applied technology are always to hand. I urge railway reopening because I've seen close-up what new rail technology can do.

If you fight the public transport corner you are an eccentric - 'an Anorak' - somewhere between Adrian Mole and Swampy Mole. I plead guilty. Viva los Anoraks! When I gave an address at Edinburgh City Chambers in October 2000 – forty-odd there, a good turn-out, compared with those days when the platform party outnumbered the audience - I was struck by how many friends I met from the battle against Beeching in the 1960s. Yet Anoraks have been comparatively well informed about transport problems (look at our web pages!) while the rail industry has been balkanised by privatisation, travel journalism has been corrupted by its association with travel agencies and tour operators ('Gulliver travelled to Lilliput as the guest of Air Lilliput ...') and motor journalism, never serious anyway, went right off-the-road with the likes of Jeremy Clarkson.

What we have in Scotland isn't just a transport crisis. It's also the crisis of a branch-plant 'screwdriver' economy whose specialisations have become far removed from the engineering that the safety of Scots society requires. Sorting ourselves out in an epoch of self-government

means re-learning techniques and ideas which we've forgotten about. At the end of this little book I will propose a comprehensive transport plan for central Scotland based on the interlinking of 'heavy rail' and a light rail/tramway system. The result will be a logical division of journeys between rail, bus, cycling and walking in ways which will divert capital from driving other people's vehicles uselessly around the place, to the detriment of our health and social solidarity, to re-energising a modern and adaptive industrial economy. Such a system already exists where I live and work. It is perfectly realisable in terms of our taxation and public investment resources, and I hope people will find it an attractive prospect. But it's not there as a cut-and-dried scheme, but as one possible future. There may be other options, but these will only materialise if we look rationally at what we want our transport system to do.

I wanted to inform the Transport Ministry about the progress made in South-West Germany in creating a convenient and high-speed transport network based on reviving urban electric trams and local railways. An early attempt to do this sort of thing – the pamphlet *The Borders and the Waverley Route* - had been very successful as part of the campaign to restore a railway link to the Borders. Then it struck me that nothing was available in compact printed accessible form which not only gave the arguments for restoring rail as the central element in public transport, but also placed this restoration in the context of the decline in public transport itself.

This was a matter of perception and publicity. There isn't a lot that's accessible on the case for public transport. There are recurrent campaigns by newspapers, but these are slight compared with the motoring columns. Motorists like to feel that they are a 'silent majority'. Some journalists tried to change last autumn's blockade of road fuel supplies into 'the people's protest', falling silent when stage two of that campaign flopped completely. Meanwhile they had shifted into mourning mode, much of it truly gruesome in its hypocrisy, on the sudden death of First Minister Donald Dewar, whose attitude to the blockade had been one of uncompromising hostility. Looking over my press cutting file, it was all too clear that, under the hype of successful public 'presentations', by transport undertakings and government, and equally emotional reactions to railway accidents, was the reality of a deindustrialised society, no longer capable of putting together the sort of technology – a combination of high-tech and traditional craftsmanship – which a modern and environmentally-sustainable country required. Achieving this was anyway going to be an uphill task, as Scotland possesses, as well as an ageing population, an unenviable record among European states for its citizens' health, its recycling of waste, its schoolkids' failure to master foreign languages and their alacrity in taking to drink, cigarettes and drugs.

Grasping for a title, an image of indigestible failure hove into view: the country's ghastly diet, coupled with its last attempt at the motor age: the deep-fried Hillman Imp. With its resonances of the last days of Elvis, and a hint of cannibalism – Alasdair Gray's 'man is the pie that bakes and eats itself' – this suggests that 'driving around with the radio/and no particular place to go' does indeed have a terminus, for Scotland and the rest of us: the edge of a cliff.

CHAPTER 1

GOING DOWN TO HELL IS EASY

I

Sarah Boyack has not had the easiest of runs as Scotland's Minister of Transport. But, after nearly three years, she has been Minister for longer than any Westminster equivalent. Her ideas about the environment are long-range, and could give Scotland the policy-anticipating role in Europe which we badly need. But she is - in the populist run-up to the election - lonely, subject to ceaseless attacks from tabloid journalists, universally white, male motorists of forty-or-so. Gus MacDonald - Blair's fourth Transport Minister since 1997 (all of whom have been, oddly enough Scots: Strang, Reid, Liddell and MacDonald, since you ask) and, significantly, banged up in the Lords - is seemingly trying to drop commitments of New Labour to reducing car use. Far from distancing Scotland from 'British' policy the SNP's Kenny MacAskill regularly accuses Boyack of picking on the Scots motorist: Oi for Scotland! Clarkson style. The Conservatives have done nothing to redeem their reputation as dimwitted wreckers of British public transport. From time to time they mutter *sotto voce* apologies about the mess they made of rail privatisation, while protesting against any effort to restrict the motorist's ability to go, untaxed, where he pleases.

Ex-lefties (Nat or Brit) as well as righties have a yen for total systems. MacDonald's goal is America and its mass car-ownership. But - to hell with Rio and Bonn - the USA is still churning out greenhouse gases, and more and more of these come from motor traffic. Expect a change with Texas's own George Dubya? Don't joke. Even if individual (new) cars are theoretically cleaner (where did all these thuggish, gas-guzzling four-wheel-drives come from, then?) the growth in their numbers, and the persistence of second-hand vehicles, means that pollution gets worse, global warming steadily increases.

Electricity supply and power stations - which have in the past accounted for the biggest damage - are being radically improved. My town, Tübingen, has power-and-heating generators which are 90 % efficient, and a new generation of small and decentralised 'combined cycle' power-stations (a gas-turbine whose exhaust works a steam-turbine), are increasingly providing neighbourhood heating. These could replace Britain's giant orthodox power-stations, which are only 37 % efficient. Homes can be insulated, further reducing electricity demand; Freiburg, on the other side of the Black Forest, even has a prototype energy-positive house which produces more power by solar panels than it consumes. But cars remain in principle souped-up Model Ts, four-wheeled environmental timebombs. 15 % of the world's people own 85 % of the world's cars. This is already meaning global warming and repeated storms and floods, like the devastating Hurricane Lothar, which hit Europe on Boxing Day, 1999. Behind this could be something much worse, the 'threshold effect': the ending of the Gulf Stream flow. If this happens - and it could, within a couple of decades, through the melting of parts of the Polar icecap - Scotland's climate could rapidly come to resemble that of Labrador.

II

Enough said, surely. But 'forty-year old male motorist' politicians still defend the 'liberating car'. We travel about 6,700 surface miles a year, 300 % more than we did in the 1960s, and up 40 % on the mid-1980s, more than 75 % of them by car. Are we happier, or more liberated? The poll data suggest not. We have the school run, the out-of-town shopping centre, the foaming effluent

which follows the act of Sunday worship, the tyre mountain - 37 million discarded annually in the UK - and a car-borne generation of kids overweight and lacking social skills, living in the tacky subtopia that Matt Groening nails so accurately in *The Simpsons*. Mrs Thatcher's 'great car economy' seemed to accompany her notion that 'only individuals and families' mattered, yet car ownership growth hasn't strengthened the family; it's done the opposite. Car growth has been coming from fewer nuclear families and more small households: in Scotland up since 1976 from 1.9 million to 2.7 million. The Germans are cannily re-inventing the bubble car - the Mercedes A or the Smart - for this reason. But most of the rise in vehicle miles is due to 'going for a spin', fleeing from what Thomas Carlyle once called 'the monstrous ocean-moan of ennui'.

Carlyle 150 years ago hit on the primitiveness of travel-addiction. Motorised societies are about as socially evolved as Clarkson. Sao Paulo, in Brazil, where people worship mobility, is a hell-hole whose élite fly over their foetid streets by helicopter; in Bangkok the jams are so bad that the wise motorist has an Elsan in his car. By contrast, that haven of free enterprise, Switzerland, has the highest European rates of public transport use, with the car kept mostly in the garage, lorry traffic banned at weekends, and firms compelled to move freight by rail. Zurichers take 410 trips by bus, tram and train annually; in Manchester, and most of Scotland, the figure's around a third of that.

A private-transport dominated system is in fact a rather inept free market conspiracy. It offloads social costs on to the individual, with resulting economic inefficiency. Driving demands (I hope) full concentration, yet companies - British ones in particular - perpetrate a diseconomy by bankrolling company cars, through which executives are *de facto* subsidised for not working. On German trains, executives bash away at their laptops or read memos or the country's deeply serious newspapers. On some, they can fax and e-mail as well. Some years back I analysed my own economics as a mobility junkie and calculated that if I travelled my annual 30,000 km by car instead of by train, and paid my costs at the usual claim rate for car use, I'd be about £ 3000 a year worse off. If I added in the money I could make out of say 150 hours in trains, reading essays and theses, reviewing, correcting proofs, and writing annoying stuff like this, the car option would be horrendously unprofitable.

III

The motorist is taxed far more than he gets in road investment, runs the response of the AA, the RAC, the *Sun*, etc. But the global costs of road transport - congestion, pollution, accidents, land-take - estimated by Prof David Pearce of London University for Chris Patten as part of a programme originally undertaken in 1988, and published in *The Real Costs of Road Transport* (1995), outrun direct costs by a factor of three. We are buying transport - by road and air in particular - too cheap, with payment deferred to the next generation.

Even so, we're paying more than enough. In the 1960s transport accounted for 10 % of Scottish family expenditure. It's now nearly 16 %, four-fifths of this being on motoring. In cash terms the cost of motoring, at £ 2033 per household per year, and with 2.7 million households in Scotland comes to a staggering £ 5.5 billion per year. At a time when government policies must improve education, take decent care of the elderly, and cope with social exclusion - catering for groups

almost by definition non-motorists - such excessive expenditure is as big a menace as the money sunk in booze and fags. Lord MacDonald has claimed that wider car ownership can 'lessen social exclusion'. In *Faith In The Poor* (1998) Prof Bob Holman found that in Glasgow Easterhouse car ownership was stuck fast at 20% between 1986 and 1996, with no prospect of ever being increased.

The British transport mess seems at first glance largely down to the Conservatives and assorted heralds of free enterprise. Dr Madsen Pirie of the Adam Smith Institute, the man who did to economics what Jeffrey Archer did to English literature, wanted to rip the railways up and replace them with roads, when *Trains à Grand Vitesse* were already hurtling about Europe at three times the speed of British motorway traffic. Disastrous semi-corrupt privatisations (not my opinion but that of a former Tory MP - Jerry Hayes in the *Guardian* - and even of a man from the *Economist* I heard addressing Bavarian Christian Socials) have cooked up a witches' broth of disorganisation, unclear chains of command, undisciplined greed and technological failure which has evidently made the likes of MacDonald give up and settle for whatever will get Mondeo Man to put an X in the right box.

You have to go back to John Stuart Mill to sense what's gone wrong. That decent 'socialistic liberal' wrote in the 1860s that if nations couldn't organise their transport they wouldn't remain nations for long, and this seems true of the UK. No statistics are more damning to the Union than the contrast between capital investment in transport in the London area - Chunnel Link, Jubilee Line, Crossrail, etc: £ 23 billion and climbing - and in Scotland, where Railtrack's expenditure would fall from £ 179 million in 2000 to £ 53 million in 2007 its 'network enhancement' budget forecast for 2007, was £ 2 million.

Still, what's required is comprehension, not condemnation, and the important thing is to realise how we got here, how a country which was on the leading edge of European transport innovation at the beginning of the twentieth century, became a basket case by the end of it. This has multiple causes, and in the first part of this book I want to analyse them. How much is it a consequence of being first in the field, with all the problems that this causes? How much was it the result of the misconceived transport policies of a state which used private transport as a means of controlling the mixed economy, while being less than clever about either building cars or providing any adequate infrastructure for them? And how much the product of the delirium of the 1980s and 1990s, when the family silver was squandered out of sheer ideological mania? First, let's go back to the glory days of Scottish industrialisation, and find out where this experience got us.

CHAPTER 2

THE BURDEN OF HISTORY: SCOTLAND'S RAILWAY AGE

I

The railway arrived where romantic Scotland ended. It was to dominate the industrial age, when providing railway equipment made Scotland a world-leader, and then be almost forgotten about by a country wounded by the rapidity of its industrial collapse in the mid-twentieth century.

Modernising Scotland's railways isn't just a matter of proposals and schemes. It involves re-learning the skills that we once generated, in engineering and innovation as well as in social planning and local government, as part of our industrialisation process.

Hanoverian infantrymen must have wondered, while dodging claymores, what the rails and little trucks were doing there, in the fields by Prestonpans. On the 21 September, 1745 General John Cope positioned his cannon along the embankment of Scotland's first railway, the Tranent and Cockenzie Waggonway - only to be overwhelmed by the ferocity of the Jacobite charge which installed Charles Edward at Holyroodhouse. The wagonway had already been there for twenty-three years to carry coal to the harbour and salt-pans, built as part of a South-Sea Bubble speculation called the York Buildings Company. It was narrow gauge - 3'3" - probably because its trucks were pushed by hand into the mines. In later decades coalowners built more railways of this sort to connect their pits to the Forth Estuary, around Dunfermline, Alloa and Falkirk. Wooden rails gradually gave way to cast-iron 'plates', but the Scots system was small, compared with the ramifying colliery lines of Northumbria or the tramroads of South Wales. It was a Scot, however, the great Thomas Telford, one of a generation of civil and mechanical engineers whose European influence was truly revolutionary, who first started to advocate horse-drawn railways as an alternative to canals and roads, in the 1780s, as well as regarding his engineering projects as 'a great working academy'. His pupils Joseph Mitchell and William Dargan would build the Highland Railway and most of the Irish system. The ironworkers trained on his Gota Canal would become the founders of Swedish industry.

When Robert Stevenson, grandfather of RLS and master lighthouse engineer, wrote about railways for the *Encyclopaedia Britannica* in (1823) he considered them as possible passenger-carriers as well. Stevenson himself built scarcely any lines, but he surveyed several projects, including in 1817 an ambitious horse-worked line from Glasgow via Lanark, Peebles and Kelso to Berwick. More importantly, he got the idea of the railway as an independent means of transport into print, in inspiring the *Britannica's* Charles MacLaren, also editor of the *Scotsman*, who was seeing it as early as 1823 as a world-changing instrument, equally effective in peace and war.

II

The Scots lines actually built were modest mineral-carriers. The first Scots railway act authorised a plateway which connected Kilmarnock with Troon. Opened in 1810, an attempt to work it with a locomotive failed when it crashed through the cast-iron track. On Stevenson's advice, wrought iron was used a decade later for the Monkland and Kirkintilloch, from the booming coalfields around Coatbridge to the Forth and Clyde Canal; but only in 1831 was the first locomotive-worked line, the Garnkirk and Glasgow, opened, with engines by George and Robert Stephenson. By 1840 there was a small but growing network of such mineral lines in Lanarkshire, built to the 'Scotch Gauge' of 4' 6" (two and a half-inches narrower than George Stephenson's gauge, a piece of Scottish independence that thankfully didn't last), the horse-worked 'Innocent Railway' from Edinburgh to Dalkeith, and the rural Dundee and Newtyle.

But at the same time the English network was booming. The Liverpool and Manchester of 1830 with its revolutionary 'Rocket' was connected to London in 1838 by the Grand Junction and

London and Birmingham lines. On their model came the first large-scale Scots projects, from Glasgow Gorbals to Kilmarnock, Ayr, and Greenock and in 1842 from Glasgow Queen Street to Edinburgh. After some rationalisation, a lot of sharp practice, and manic speculation, a massive construction boom began.

III

In 1848 this crossed the Border. Robert Stephenson built the North British Railway and the York, Newcastle and Berwick Railway up the East Coast, and Joseph Locke took the Lancaster and Carlisle and Caledonian over the summits - Shap and Beattock - of the West. This meant the immediate end of the 'Scotch gauge', but it brought a rather awkward system. The mountain-summits on the West Coast Main Line still slow express trains down, and for many years the only junction between the western and eastern routes was Motherwell, from where the Scottish Central ran to the Edinburgh and Glasgow at Castlecary, and on to Perth and Dundee. In Glasgow several separate terminals were not linked up until the 1870s, and the north had to be reached from Edinburgh via ferries across the Forth and Tay, which were made to carry trucks by an ingenious engineer called Thomas Bouch.

In 1851, looking at an immense North British excursion train steaming over the Royal Border Bridge en route to the Crystal Palace, Haddington's own Samuel Smiles, author of *Self-Help* and *Lives of the Engineers* marvelled at 'the cementing of the Union'. Radical medic turned railway company secretary, and Britain's first industrial historian, Smiles would laud the engineer as the modern hero demanded by Thomas Carlyle. Pretty soon the Scots were hammering on the doors of this pantheon. Innovation tended at first to come from the South: from the engine shops of Manchester and Newcastle. But by the middle of the 1830s Glasgow's general engineers, building textile and marine engines, were turning to railways, and after the 1860s Springburn, in particular, became Britain's locomotive metropolis, supplying every sort of engine, from the little 'pugs' which shunted trucks at collieries and tiny narrow-gauge engines (such as those which still run on the Darjeeling-Himalaya Railway) to massive compound-articulated freight engines for India and South America. The trouble was that the standard by which the Scottish system was measured by was the ten-ton freight truck, something out of date elsewhere in Europe by the 1890s. The European loading gauge – not the track gauge but that governing the actual dimensions of the trucks, was about a third greater than the British standard.

The crack designers of Victorian locomotives - ferocious bearded men like Patrick Stirling, the Drummond brothers, and J F MacIntosh - were household names and their creations, the Great Northern's 'single-drivers', the Caley's 'Cardeans' and 'Dunalastairs' were the stuff of prints, cigarette-cards and models (though most of the last were, ominously, 'Made in Germany' by Bing and Märklin). Again, these were built to meet requirements moulded by British society, the mobility of the upper classes, not millions of troops and their supplies, or Europe-wide freights – though the heavy freight engine was the work of an expatriate Scot, John Haswell of Vienna.

IV

What effect did this undoubted technical advance have? Don't exaggerate the 'democratising'

impact: right up to World War I, most people walked to work from their warren-like tenements, and the poor were likely to suffer rather than benefit from the driving of the railways into the city centres. Thousands were displaced, from slum to slum, by the building of Glasgow's St Enoch Station in the 1870s. Nor were long-distance trains either fast or cheap. In the 1880s an Anglo-Scottish express carried only a few more passengers than a double-decker bus, and a return third-class fare to London was more than a worker earned in a month. It would be under poor, much-maligned British Rail in the 1970s that fares, relative to earnings, reached their lowest point.

In Scotland, however, Victorian railways catered for the third class passenger long before their English counterparts, who usually confined cheap fares to one (very slow) train a day. It's possible that the flexible 'can do' attitude of the Scottish artisans who carried through the modernisation of shipbuilding and engineering between 1850 and 1880 had a lot to do with this improved mobility. Huge works outings arranged by train were a 'paternalist' way of promoting orderliness and discipline, while from the 1880s on surplus rolling stock hauled fans to away matches every Saturday.

Scots railways were, otherwise, mainly for freight. Old maps show the density of lines in the coalfields. Powerful six-coupled tender engines hauled coal and raw material relatively short distances from mines to ironworks, ports or depots: Dalmellington to Ayr, Shotts to Dalziel steelworks, Leith grain elevator to the breweries at Craigmillar. These were the megafloes. The rest of the national system was more significant when it catered for a prosperous agriculture and its products. Its early breakthrough was in 'live meat', as the weight of cattle and sheep didn't diminish during rail transit. Then rail captured the fisheries traffic and milk for the towns, and fertilisers to the country; barley to the distilleries and whisky from them. So the system was initially biased to the countryside. Huge networks ramified in the Borders and the north-east.

Lacking this staple traffic, it took longer to push the iron road into the Highlands. It was the 1870s before the Highland got to Wick, the 1880s before the Caledonian reached Oban, the 1900s before the North British reached Mallaig. But their opening-up provoked a huge new market: high-grade tourism. As the 'Twelfth of August' approached, the well-off would hire 'family saloon' carriages from practically every English company. Twenty-coach trains, from ten different companies, converged on the Perth-Inverness line, en route to shooting lodges and hotels. The growth of this traffic from the 1860s on, and the opening of a third cross-Border route, the Midland from St Pancras via Sheffield, Leeds, Carlisle and Hawick or Kilmarnock to the central belt - with third class on every train and its huge American-style Pullman Cars - made the Anglo-Scottish run bigger business. There was a northward movement in business, politics and culture - Gladstone winning the Midlothian election in 1880 helped - not to speak of annual politicians' pilgrimages to soften up 'the Widow' at Balmoral, and exhibition after great exhibition in Glasgow and Edinburgh.

This helped promote the building of the great bridges, something that brought mixed fortunes. When Thomas Bouch's badly-constructed Tay Bridge collapsed in 1879, there was an almost panic move towards guarding against all possible strains and stresses: the Forth Bridge of 1890 was about twice as strong as it needed to be. Continentals or Americans would have undertaken stress testing and wind-tank work, and produced standard designs which were universally

applicable. No way was Fowler and Baker's cantilevered melodrama a prototype of mass-produced engineering.

V

Up front were the 'Railway Races to the North' after the Forth Bridge opened, but the railways also began to mechanise city life. Suburban trains weren't new - in America and Australia there were often suburban railways before there were cities, let alone suburbs, but the small but affluent Scots middle class could afford the fares, in its quest for space and health. Glasgow had a system of world-class dimensions, taking in much of the Clyde estuary and entering the city by two steam-worked underground lines (a cable-hauled tube followed in the 1890s). Edinburgh had its Leith and Barnton lines to Princes Street station and its suburban circle to Waverley. Even Aberdeen had a Dyce-Cults shuttle. This zenith was short-lived, however; by 1900 the electric tramcar with its cheapness and convenient city-centre stops was biting into its traffic. Glasgow's 'caurs' were one of the 'socialist' wonders of the world, just like Robert Owen's New Lanark a century earlier.

Then came war, and huge rises in freight, forced inland by U-boat raids on coastal ships. To supply the Dreadnought bases at Invergordon and Scapa, long-distance freight trains thundered through the Highland night. Munitions works opened up in the countryside, one of the largest being on the Anglo-Scottish frontier at Gretna - also the scene of the worst-ever disaster on Britain's railways, when 227 soldiers met their deaths in a collision and fire on 22 May 1915. Scots engines - standard and narrow-gauge - could be found behind every front line: the North British goods engine 'Maude' (now with the Scottish Railway Preservation Society at Bo'ness) ended up at Baghdad.

But the war also brought an industrial crisis: an economy grotesquely concentrated on guns, tanks, high explosives, destroyers, turbines and fighter planes: the heavy industries in spades. The greatest of the pre-war railway managers, George Watsons-educated Eric Geddes, who had 'Americanised' the North-Eastern Railway with much more efficient use of locomotives and rolling stock, became the organiser of rail supplies to the western front and in 1919 Britain's first Minister of Transport. He proposed in 1921 the creation of a separate Scottish Railway Company. But the economy was now in collapse. Scots, trade unionists as well as businessmen, realised that the system was as run-down as the country, and facing new competition from road haulage. They got feart, and pleaded for amalgamation with the south. In 1923 the Caley, South-Western, Highland, North British and Great North vanished, with their distinctive liveries. The red LMS took over the first three, the green LNER the others. Three years later, in May 1926, steam-powered Scotland came out on strike, but its petrol-powered competitor kept the place running. Gresley pacifics and Coronation Scots (and there weren't a lot of either) notwithstanding, the reign of the railway was coming to an end, although the spirit and much of the equipment of the old pre-grouping companies was to last almost half-a-century longer.

VI

The 1920s were in fact years of great technical advance for rail: they saw the electrification of

entire systems in Switzerland, Holland and Norway, the integrated design policy of the German Reichsbahn which culminated in the Flying Hamburger diesel railcars (they remained in service until the 1990s), the application of dieselisation and of modern streamlining techniques by the first generation of industrial designers such as Raymond Loewy. Almost all of this passed Scotland by. The NB Loco, never the great success that its size promised, continued to produce classic steam engines for home and imperial markets, but where were the diesels, the electrics, the railcars? Scottish railways were marginal to the British system, museum-like collections of romantic rolling stock. They survived because the situation in World War I replicated itself in 1939. Scotland, out of bomber-range and on the route to Russia, was even more industrially important.; its pre-war competitors, whether shipbuilders or locomotive-builders, were being bombed to rubble.

CHAPTER 3 THE LONG HANGOVER

I

The horse-buses and suburban railways of the Victorians were the preserve of the middle classes. The workers got ‘paddy trains’ for coalminers, and some bigger factories, like the giant Singer sewing machine works at Clydebank, whose women workers travelled from Bridgeton, had private stations. Convicts at Peterhead had their very own specials to Stirling Hill quarry, where they cut the stone for the harbour’s great breakwater.

Even the electric tramcar – ‘the gondola of the people’ – which most Scots towns of over 30,000 population got after 1900, served the suburbs rather than the close-packed working-class areas. Almost as important, and catering for the same skilled worker, teacher or clerk level, was the safety bicycle, in use from the 1880s and much developed by the Scots John Boyd Dunlop and Kirkpatrick Fleming. In its way it was revolutionary, as it broke down the barriers between the sexes, and loaned itself to political agitation, in the combination of tourism, fun and socialist agitation which was the Clarion Cycling Club, formed by Robert Blatchford’s *Clarion* weekly. Such radicals got furious after 1900 about the horseless carriage, roaring along unmade roads in a cloud of dust. The preserve of the very-well-off, it was quickly taken up by Scots manufacturers who crafted big machines like Arroll-Johnstons and Argylls, weighing from 3-5 tons and – as the survivors on show in the Kelvin Hall Transport Museum show – as elegant as Cunard liners or Dunalastair express locomotives. Their builders would have agreed with the great Gottlieb Daimler that car numbers would be constrained by the lack of chauffeurs: he thought there might be only 50,000 for the whole of Germany.

II

World War I changed all that. Motor-bikes and trucks became essential, and thousands of soldiers learned to drive and maintain them, which would give them ideas for post-war enterprise. But government still thought along the old lines. It proposed a major programme of railway extension as into rural areas, including narrow-gauge lines which would use the tracks which had fed the

front line. Arran, Skye and Lewis would have got their lines, though how long they would have kept them was a different matter. Scotland's few narrow-gauge passenger railways – at Campbeltown, Rothesay and Leven - had gone down to the buses by the early 1930s.

Instead a huge network of bus routes developed, often served by solid-tyred boneshakers with an Army background. They were cheap and convenient, and they made a killing when the trains stopped for the 'nine days in May' of the General Strike, 1926. The reaction of the cash-strapped railways, the LMS and LNER, was to buy them up – something aided by the Railways Act of 1932 - so that pretty soon the network was a semi-monopoly. Consumers disliked this: the railways were unpopular because of their high rates, but they argued that so uneconomic were their Scottish lines it was a miracle they were there at all. Buses took over from trains on a few hundred miles of rural lines – to Lauder, Fort Augustus, Moniaive – and a combination of diesel ships on 'trunk' routes and bus connections was used by the partly-railway owned David MacBrayne to replace their old coastwise steamers.

If the 1930s was the golden age of the Clyde steamers, with a new generation of powerful turbines and paddlers – the 'Queen Mary II' and the 'Jeannie Deans' supplanting the sixty-year-old 'Columba' and 'Iona', it was also the decade of the tour bus, boosted partly by holidays with pay (1936) and partly by the 'bona-fide-traveller' dodge of progressing from one squelching hotel lounge to another. Cars there were, of course: perhaps 150,000 (counting motor-cycle combinations), or about one for every forty people. Next-to-none were Scottish. Luton and Dagenham, Cowley and Longbridge had seen off the Scottish motor industry.

III

World War II ran on rails – so much so that people got thoroughly fed up with unending, blacked-out journeys, and congestion due to the diversion of coastal cargoes to rail. War made many into drivers, and also into pilots, and this time there was the notion that new transport modes, cars and aircraft, would belong to the peace: something evident in the regional development plans that the Labour Government commissioned. At Prestwick the Scots could see what a really big international airport was like, and with a bit of ingenuity a British car might even be purchased. (The Harvie family's second, a seven-year-old Hillman, had been shipped out to Malta in 1952 and quickly repatriated to Britain, but not before the southern sun had crazy-paved its green paintwork).

Car numbers rose, with a hiccup around the Suez adventure in 1956. By 1960 these were causing a problem, and the low investment on roads was being compared with the guzzling of subsidies by the nationalised railways. Meanwhile the pioneer Forth and Clyde Canal was closed down in 1962 and partly filled in, a move which – just in advance of a huge boom in leisure sailing – was simply daft, but alas fairly typical of the immense social damage inflicted during that decade.

CHAPTER 4 BEECHING THE BUTCHER?

I

The railway map of 1900 was scarcely appropriate for a much more urban society. The surviving 1500 souls of the long-declined mining village of Muirkirk still had their branch line, Drumchapel, with the population of Perth, had not. The £ 2.3 billion British Railways Modernisation Plan of 1955 did little to meet these changes. Some branch lines were closed, others got dinky little railbuses on the German pattern. The various regions were allowed to interpret what new technology meant - different sorts of electrification, different types of diesel. The first stage of West Coast Main Line, electrification, thankfully got electric traction on the French 25,000 volts AC system, as far as Crewe, as did Glasgow's Blue Trains. Yet all this was done with no coherent financial structure which could show whether or not its policies were working.

The Suez crisis of 1956 brought on recession, which bit deep into the old industrial areas and their bulk traffics. By 1959 the Plan was in chaos. Regionalisation meant that technical developments weren't large-scale enough to be reliable. 230 new diesel locomotives involved fourteen different designs; there were 53 different sorts of diesel railcars. Old steam-age firms like the NB Loco (which went bust in 1961) simply couldn't cope, and many of the engines were washouts. Diesels were certainly much cheaper than steam - 16.7 pence per mile compared with 50 pence for a steam train - but electrification (with only 1,450 miles proposed in 1955) and diesel railcar operation, were almost an afterthought.

The loss in 1960 was over £ 70 million and Prime Minister Harold Macmillan called a halt. The Guillebaud report on railway pay in 1960 concluded that railwaymen were badly paid, but that to bring their wages up to a tolerable level would require levels of investment unforeseen in the 1955 plan. The answer was to reduce manning levels by rationalising the system, music to the ears of the Minister of Transport, Ernest Marples, who held the post for an unusually long stint, 1959-64. As Postmaster-General Marples had inaugurated the Premium Bond, the government's first toe in the water of state-sponsored gambling. By 1960 he presided over a profoundly anti-railway ethos at the Ministry of Transport, represented by its Permanent Secretary Sir James Dunnett, and backed up by the Treasury.

II

Marples' eye lighted on the 47-year-old Dr Richard Beeching, Technical Director of ICI (traditionally the paradigm of 'responsible' manufacturing capitalism). The upshot of this was the Transport Act of 1962, the demolition of the Commission - and the appointment of Beeching in March 1961 to head the new British Railways Board, at the then unprecedented salary of £ 24,000 per annum (Macmillan himself was paid only £ 7,000 and Marples £ 5,000). The government promised to write off the accumulated debt since 1955, and end the railways' obligation to carry any traffic offered, in return for a profitable system. Beeching believed he could deliver this. With a team stiffened by much recruitment from the non-railway industries he undertook a rapid survey of the rail system and its management. His report *The Reshaping of British Railways* came out on 25 March 1963. It found a mass of equipment doing next to nothing. One-third of the route mileage carried only 1 % of freight traffic and between 4-5 % of passenger miles. Of 18,500

corridor coaches, mainly inherited from the Big Four, about 7,000 were in regular use, a million trucks were acting as fitfully mobile bunkers for the coal industry, as they had done since railways began. While a freight lorry would run 400 miles in 30 hours; it took the average rail truck ten days to cover 40 miles. Between 1952 and 1963, BR's loss of traffic was 29 % of ton mileage, while Germany's *Bundesbahn* gained 26.5 % of ton-mileage, and France's *SNCF* gained 51.9 %. Where BR lost 3.4 % of passenger mileage, Germany's increased by 21.6 %.

Beeching believed the railways had a future; he was perceptive about the containerisation revolution which was then fundamentally altering dock-work throughout Europe; he took up, from the inter-war Reichsbahn, the concept of liner-trains for bulk transit of heavy, low-value, goods such as coal, cement and stone. The key was freight traffic, still the source of most of BR's income, at 88 million tons per year. Beeching's team studied the 223 million tons going by road, of which 93 million was possible. This would still give rail about 25 % of freight, and a much higher proportion of long-haul runs. Beeching had an acute actuarial intellect and persuasive management skills, but his grasp of technology was limited, of diplomacy less.

Decentralisation and regionalisation were out, but so too was investment. Beeching could only modernise by rationalising, so duplicate and rural lines, about a third of the network, were doomed. The masochism of *Reshaping* which was warmly - almost ecstatically - welcomed by the press, the liberal-minded *Observer* and *Guardian* in the lead. This shock tactic had immediate success, but long-term drawbacks. Beeching soon realised the effects of a public investment policy which would progressively favour road freight as the motorway system was extended. But by then he was the Axeman, identified with Tories to whom the public sector mattered less as a system for development than as a grab-bag full of assets which could profitably be sold off.

It wasn't his priority, but Beeching was successful in developing express passenger traffic. He could not fail to be, as the electrification of the main London to Birmingham, Liverpool and Manchester line was completed in 1966. It had gone way over budget, from £ 75 to £ 161 millions, helping provoke the 1961 crisis, but it launched the concept of the InterCity train. Even in 1965 BR was running 600 trains at more than 60 mph, compared with 115 pre-war, far better than the record of the *SNCF*. He got on well enough with the unions, though staff fell by nearly 40 % between 1963 and 1968, and closed deals on some bulk flows of freight traffic - oil, cement, coal, mails, cars - with *éclat*, but with variable commercial success. But wagon-load traffic (still two-thirds of freight income) declined rapidly, and he didn't anticipate how the railways could actually benefit from road improvements, by moving transport depots to the edge of towns.

III

Finally his closure programme, although it accorded with a prevailing establishment mood, provoked a mighty reaction. The 1955 Plan itself had envisaged about 1,600 miles of line closures. Beeching trebled this. About 50 % of these closures were justifiable: why run a line to serve the 300-odd souls of Comrie, let alone modernise it? But why did Beeching also propose to wipe out all lines north of Inverness, and to leave the 40,000 inhabitants of the Scottish border burghs 40 miles from the nearest railhead? Later on, Beeching would regret the closure emphasis, on which he let Marples have his head, while still stressing the need for rationalisation. But his

underlings ran amok: they concocted revenue calculations which gave threatened lines no chance. According to *Reshaping*, a branch line would need 10,000 passengers per week to survive if it had a freight service, and 17,000 if it had not. This was dubious for a start: getting rid of freight could reduce track and signalling costs. But Beeching was uninterested in the 'basic railway' very successfully pioneered by Geoff Fiennes on East Anglian lines and then extended nationwide. Calculations were rigged. The losses of the Stranraer-Dumfries line, potentially an essential link to Ireland and badly missed in the 1980s, were put at £ 122,260 per annum. It had never seen a diesel, which could have brought these down sharply, but even so they were really £ 29,940. In *Reshaping's* criteria, issues such as pollution or road congestion figured nowhere, only profitability. And despite productivity gains of 26 % by 1965 this seemed increasingly elusive. As part of the input for 'Beeching Part Two', the Board played around with a horrendous draft showing a 'profitable' network which stopped at Leeds, leaving Newcastle at the end of a single-track, freight-only branch. Politically, this was imbecile.

The Railways Board seemed determined to disregard opponents, but the Tory government, now under Sir Alec Douglas-Home, was rattled and declared a one-year moratorium on closures. In vain, as far as the election of October 1964 was concerned. Equally vain was Beeching's offer to Harold Wilson to survey transport economics in Britain, to secure a 'level playing field' between road and rail. Axeman he lived, and Axeman he died. G F Allen, editor of *Modern Railways*, regarded him as unjustly maligned:

It is a pity that for a good many of the public the verb 'to beeching' or 'do a beeching', which has slid into the vernacular, connotes more or less blind butchery (...) he transformed British Railways from a browbeaten, rather aimless social service into the making of an aggressive modern industry.

His concentration on making BR a business *first and foremost* tended to obscure other factors. If the European economic miracle depended on rail, coastal shipping and canal, not on road (although the latter was forging ahead by 1980) why was such rationalisation not undertaken in 1955, and why was the reshaping process sold in an emotive way that alienated as many people as possible?

It wasn't dynamism but dysfunction: a short, traumatic, isolated episode which ultimately defeated its own intentions. The Channel Tunnel was for the first time seriously on the cards, but no-one seemed to notice that the chief of its planning group was Louis Armand, the *polytechnicien* who had carried out a drastic railway rationalisation in post-war France, when virtually the entire secondary railway system (6,000 miles) of narrow-gauge lines and tramways was replaced by buses and lorries, with the main lines electrified and speeded up, along with suburban service improvements. Beeching sanctioned 'Britain going it alone'. He made the railway manageable, according to Peter Parker, and in so doing saved it, but he alienated himself from many who *au fond* would have been his supporters.

Beeching's technocracy afflicted the two main parties, but his threat to Scottish rural lines proved the first blow in the break-up of Britain. In 1955 the Conservatives had been the majority party in Scotland. In 1964, following a noisy campaign by the 'Scottish Vigilantes', they lost seven of their

31 seats, mainly in the Highlands. Moreover, profitability remained a *fata morgana*; Beeching's cuts had prevented the total economic collapse which continuation of the old railway had promised, but the deficit continued. The quest for commercial viability remained quixotic while government funds were poured into air and road.

CHAPTER 5 THE GREAT CAR ECONOMY

I

A rail boom of a sort – which Beeching didn't foresee – came in two areas: the very successful electric Blue Trains around Glasgow, which started in 1959, and the clever pricing strategies of British Rail – railcards and saver fares – which saved long-distance passengers. But in freight there was a hands-down victory for road haulage. Beeching's Freightliners, on which he had staked so much, were reduced to trips to docks. Otherwise only a few bulk haul routes survived. The rise of road freight remains (almost incredibly) devoid of any sort of reputable history. Perhaps the operators, a notably powerful political group, with a concealed subsidy drastically reducing their costs, preferred it that way. Not much more defensible was Scottish airport policy. From the 1960s

on the charter holiday flight revolutionised air travel. Scottish movements rose from a tiny number in 1960 to 5.5 million at Glasgow Airport alone in 2000. But in central Scotland there were three airports, all lacking rail connections. This may have been because Scottish air policy was deflected north-easwards in the 1970s, to cope with servicing the north-sea oil and gas fields, but it was a mounting disadvantage. Perhaps the image of what had gone wrong was the Hillman Imp, built in the Linwood factory that had produced the Blue Trains, but too far away from the motor accessory industries of the English Midlands to make sense. The second Scottish motor industry would last less than twenty years.

Only six months after the Beeching Report, the 'kind cop' reported. Colin Buchanan authored *Traffic in Towns*. It was a masterly presentation. The man seemed appalled by the impact of the motor-car - 'the monster that we love' - on British towns and cities, but he thought that the car was marvellous, and attempted to reconstruct Britain around it. Car and pedestrian and retailing decks would be carried above a vastly-expanded urban road system. Natty drawings in spindly line and colour wash showed bouffant-headed girls trotting along elevated walkways, folding their elegant legs into neat Austin Minis beneath architect's cabbage-trees. Buchanan argued that small towns like Newbury (pop. 21,000) could do without any sort of public transport at all, and built a car-friendly Bloomsbury on paper, producing something free from downdraughts from its skyscrapers and fumes from the vehicles which ploughed through its concrete intestines. It was a sort of Anglican version of Le Corbusier's harmonica cities, with little bits of heritage - churches, cemeteries, guildhalls - stuffed and mounted in concrete.

A prestigious assessment committee, headed by the former editor of the *Economist*, Lord Crowther, commended Buchanan without qualification and demanded the full implication of the strategy that it offered. It threw in a scheme for regional government, almost as an afterthought,

with everything knitted together by motorways. However remote from the spirit of Patrick Geddes, Buchanan was also timely for town planners, who had been encouraged by Labour between 1945 and 1951, flowered briefly with the New Towns and the Festival of Britain, and then lapsed into obscurity under the Tories. With Macmillan's regional development policy of 1961 planning was back in fashion; Buchanan gave it its new charter. Then the construction industry, well-orchestrated by the British Road Federation, and out for large-scale urban development, did the business. Government, local authorities (nearly all Labour), construction firms and, not least, architects, were all lured by the swathes of land which would be affected - sterilised would be closer to the mark - by urban motorway schemes. These included John Poulson and his cronies: Labour's 'King of Newcastle' T Dan Smith, who saw his handsome town as the Venice of the North, urban motorways doing duty as canals and cars as gondolas, and Gorgeous George Pottinger of the Scottish Office.

Buchanan soon went into private practice, and the BRF bear-led him around the country. Contracts for road projects came flooding in. Glasgow, Liverpool and Leeds became 'motorway cities of the seventies'. With the trams scrapped, the corporation bus was now fair game; despite subsidies under the 1968 Transport Act, the demoralisation and decline of provincial bus services was foredoomed. But in came 'land-use-transportation-planning'. An American notion, which arose out of the reaction against the moralism and rural utopianism of the Geddes-Mumford school, this 'went with the flow': it attracted social democrats, by appearing to grant equality by distributing mobility through physical planning. As long as the citizen, usually male, had a car. Under Labour, hundreds of such plans duly appeared.

The car population began to shoot up. The UK had 1.7 million in 1946, 6 million in 1960; this doubled by 1970, reached over 16 million by 1983, and 20 million in 1992, although their distribution was always qualified by social class and urban situation. Less remarked on, but astonishing, was the drop in bikes from 6.7 million in 1961 to 4.1 million in 1965: cyclists learning that staying on the roads was unhealthy. After the 1960s the onus of proof in investment policy was laid on public transport. High returns on rail investment were demanded, while the roadbuilders had money to burn.

This transport revolution had political roots; the Conservatives were starting to become 'garagistes', with policies adapted to suit, trading on the difference between what citizens wanted as civic goals, and their own private desires. They might want better public transport - in an ideal world - but they wanted *now* was more and cheaper motoring. A political sequence took over in which the weight and environmental damage of road traffic led to a concern to get it off existing roads. Projects of a near-utopian sort, involving trams, monorails, dial-a-buses, would be drafted, area by area. Then the professionals - local authority, Ministry of Transport, consultants and building firms - moved in, wiped out the utopian element, and put in parkways, interchanges and distributor roads. These forces saw road-building as not just important but essential to their own existence.

Town planning of the Patrick Geddes sort got a commendation or two with regard to the heritage bits. But it promised stability, not an expanding market. Demolition, road construction, interchanges, parkways, planning blight (which forced development on to other areas): these were

dynamic, promising continual activity, more jobs for town planners, engineers, and men driving big trucks. These lay behind that surge of investment into undercapitalised firms with realisable real estate assets which powered the likes of Jim Slater and James Hanson, and rose to a dizzy peak in 1973. The moderate left lost out, as usual, on the cash, but thought that popular affluence was a good thing. Environmentalists, Tony Crosland sneered, wanted to draw up the rope ladder of progress before the people could get their hands on it.

VI

Buchanan remains a hero-figure of the age, Beeching an ogre. Of the closures the latter demanded, scarcely 20 % of track-miles escaped. In Galloway, the Borders and North East Scotland most of the system simply vanished. If the Buchanan bulldozer descended on the flagging Atlantic cities, watching the last of their coal and ships drift away, and seeing the new roads as a sort of cargo cult made concrete, along which would flood a new prosperity, it was rural Scotland that faced an attenuated closure procedure, where the Minister's word was law. Locals protested, but councillors usually gave in. The actual economies gained from closure, around £ 18 million, were much less than forecast, and might have been made up by Fiennes' 'basic railway' techniques plus an openness to local buyouts. Even when lines were closed, the trackbed might have been used, but the demolition of bridges and haphazard sell-off of lines in small sections for building dissipated a potential national network of minor roads and cycleways. Of 19,150 miles in the UK open for traffic in 1955, only 11,537 remained in 1972. Roughly 1,000 miles were duplicates - the old Great Central or Midland routes to Manchester, the Caledonian from Perth through Strathmore to Montrose. As the Waverley closure showed, these could still hit a lot of communities *en route*. But while the middle-classes were activated by the threat to rural lines, working people on unglamorous routes in the central belt were rarely heard from when services to Alloa or Grangemouth, Larkhall or Leven, were abandoned which had been lifelines, replaced by buses which were easy victims of car congestion and competition. They suffered too from the scrapping of the carriages which had once supplied specials to the seaside or football matches, and from the loss of jobs in communities once proudly made up of 'railway people': Inverurie, Riccarton, Barassie, St Rollox.

The services offered by the lines and stations which remained shrank. In 1949 two-thirds of BR's income had come from freight, but in 1965 freight receipts dipped below passenger for the first time since 1851. By 1971 freight trains had disappeared from about a third of the system, and in certain areas - sundries, parcels, single-waggon loads - the road hauliers cleaned up. In the 1930s the long distance lorry had been a curiosity. After 1945 nationalisation and licensing policy were directed at keeping freight on the rails. A million freight waggons had fallen to under 300,000 in 1975; this number would dwindle to under 30,000 two decades later, when less than a quarter of BR's income was freight-derived. By the late 1950s the juggernauts of the booming road haulage industry were taking to Marples' motorways, and a decade later they had ousted not just the railways but coastal ships and canal barges from all traffic save for a few types of bulk goods. Who could have imagined that by the 1990s the coaster beloved of Neil Munro, Kipling and Masfield would be all but extinct?

V

British Rail survived due to three things: the indispensability of the railways to power generation, their contribution to the functioning of London, with its demand for commuter transport, and the investment which had fortuitously been made in what became known in 1966 as InterCity trains. Semi-automated 'merry-go-round' trains were now in continual circulation between mine and power station. Any attack on the million-odd London rail and tube commuters would cause appalling trouble for the Conservatives in their most solid seats; so - particularly after the Orpington by-election of October 1961 - no attempt was made to do anything more than trim the system in the South East. After electrified tracks connected London, Liverpool, Manchester and Birmingham in 1966-67, winning a key sector from air competition, InterCity reached a position from which it would be difficult to budge.

A change in railway policy, from sustaining country branches to catering for the cities and conurbations in which most people now lived seemed inevitable, but no attempt was made to switch resources to improving urban rail links, save in Glasgow, Liverpool and London. Remodelling of services was not coordinated with town planning and the dogmas of the Buchanan Report were swallowed whole. For about a decade the road lobby had things all its own way. Labour said it would restrain this process, but under Harold Wilson after 1964 closures continued, and were in fact accelerated: even involving lines which Beeching hadn't intended to close. In fact the Labour establishment regarded rationalisation, along Beechingite lines, as its *forte*. Nothing sickened Richard Crossman more than the reprieve of the mid-Wales line from Llanelli to Shrewsbury - unless it was the granting of a Secretary of State to Wales. Beeching went in 1965, not because he was anti-rail but because he might favour that elusive 'level playing field'. He suggested his review of transport costs and funding, but the Cabinet - led by Crossman and Frank Cousins - revolted, and he went back to ICI. Cousins was far more anti-rail than Marples. 'They ought to close down the lot and put the traffic on the roads' said the leader of the road workers' Transport and General Workers' Union, with about five times the NUR's membership.

Only Barbara Castle, appointed in 1966, attempted to assert herself. She tried to get rid of pro-road bureaucrats (but failed); she introduced younger advisers more expert in public transport affairs, such as Christopher Foster; and she tried to counterbalance the Buchanan road-building drive by subsidising and replanning urban transport through Passenger Transport Executives (PTEs). Some of this worked. The Transport Act of 1968 was the biggest piece of legislation of its sort, dividing British Rail into a 'commercial' and a 'social' railway, hiving off the loss-making sundries traffic to a separate publicly-owned industry, introducing subsidies for the National Bus Company. She tried to encourage the use of rail by a system of 'quantity licensing' which would apply to trucks of over 16 tons travelling distances of more than 100 miles. Her successor, the crypto-Tory Richard Marsh, dropped this, as well as closing the Waverley Route. Far from fostering rail investment, Castle was forced by the Treasury to diminish it to the lowest point, in 1967, that it ever reached.

VI

The Waverley closure - leaving 40,000 people forty miles from the nearest railhead was a closure

of a severity that no Conservative government had undertaken. Plans for transport coordination, readily visible across the Channel, particularly in Holland and Germany, were rarely followed up. The management of the National Bus Company remained committed to competition and allied to groups like the British Road Federation and even the Railway Conversion League. The National Freight Corporation, formed by Castle to take over BR's sundries traffic, ditched its rail operations. In 1972 the Heath Government even toyed with halving route mileage to 6000. The railwaymen forced it not just into retreat, but into paying subsidies to put freight back on rail from private sidings. Further consolidation was enabled by entry to the Common Market, which while demanding a 'commercial' railway, allowed under regulation 1191/1969 passenger services to be subsidised by a Public Service Obligation. Not before time: the fuel crisis which followed the Yom Kippur war in October-November 1973, pushed up oil prices fourfold.

Labour came back in February 1974, with Tony Crosland whetting his knife. He wanted 'a smaller, sensible little railway', stopped work on the Channel Tunnel, and actually commissioned a loony report (by Professor Peter Hall, then a leading Fabian) on replacing the lines out of Liverpool Street by roads. Crosland, however, also appointed Peter Parker, a former Labour candidate, and successful chairman of Rockware. Exuberance was Parker's *forte* - the man was a product of the international phase of British engineering - and while the rewards really came with his successor Sir Robert Reid - a man who actually liked railways wanted to expand them into a dynamic and innovative industry. Which was just as well, because the problems that confronted him were formidable. He was in fact confronted with a slate of problems which the neotechnic railway was bound to throw up. New technology, particularly in signalling and locomotive-control, offered a cheap and safe railway, but a much reduced workforce. The unions were divided and defensive, notably the train drivers, ASLEF, whose war with the NUR was even drawing them close to the anti-railway TGWU.

The railway was by 1975 pre-eminently a passenger-carrier; therefore marketing and image creation were of vital importance. Parker managed this remarkably well, although many breakthroughs, such as the influential InterCity brand, had been the work of his predecessors. He got electrification to Glasgow via Edinburgh, Leeds, Norwich and Weymouth under way and kept the Channel Tunnel option alive, in secret discussions with the French SNCF. He tackled the unions over single-manning and flexible rostering, designed to make full use of new vehicles and enginemmen (who might spend only half their working time actually driving), and after several bitter confrontations, particularly with ASLEF, got concessions.

When Parker left in 1983 it was evident that, after two depressing decades, the industry had a future again. The statistics were at one level humbling; at another highly inspirational. In 1938 there were 20,000 route miles, run by nearly the same number of steam locomotives, hauling 43,500 carriages and over 1,200,000 freight waggons. When Parker quit in 1983 there were 10,500 route miles, fewer than 3,000 locomotives and 4,000 carriages, about 11,000 railcars and only 54,000 waggons. But since passenger miles had only fallen by around 10 % on their 1938 level, and the number of railwaymen had fallen from 400,000 to around 150,000, the level of productivity was remarkable: about three times that of British industry as a whole in the 1960s and early 1970s, and much more impressive than that of most European railways.

On the other hand, subsidies continued to be curtailed; good housekeeping did not lead to government *largesse*. In 1981 Parker's requirement of 42 High Speed Trains was cut to 32 sets. In 1983 subsidy was scarcely a third of the continental level, and during the decade it went steadily downward. But while freight figures went into the black, rail's contribution to overall freight transport continued to decline, with the crumbling of the coal industry. Although the Freightliner system handled 45 % of traffic from the ports in the 1980s, its role in internal container freight was slight, and it lacked capacity for new hi-cube 9'6" tall containers. One steeply-growing traffic was, ironically, the carriage of aggregate for road-building, but by the 1990s even such bulk traffic was under threat, with National Power claiming that it could get coal moved by road for 5p per ton-mile compared with twice that by rail.

Parker's biggest disaster was the failure of the Advanced Passenger Train – the 'tilting train' that was supposed to put Glasgow within four hours of London - in 1983. A comparison between it and the French TGV showed that the British project was technology rather than economics-led, that it was carried out at a distance from Railways Board policy, where a rival project, in the shape of the more conventional HST 125 existed. Fear and loathing lay between the boffins, as much as between ASLEF and the NUR. But APT's huge, gyroscopic-controlled bogies were pre-microcomputer. They were also articulated, meaning that the train either worked or didn't work as a whole. The French could draw on the common political socialisation of the *Polytechnique* and the SNCF, and on the 'arm's length' attitude of government to railway management, and on a coordinated transport system which barred coach lines and concentrated traffic flows on to the railway.

Parker puts the APT's losses at £ 37 million, others as high as £ 150 million. It was not a hopeful overture to the inquiry Parker wanted into long-term rail funding, chaired by Sir David Serpell, which cast a pall over his last months at BR. Despite this, the railways didn't follow the APT into the scrapyard. Indeed, they ended the 1980s in far better shape than they began the decade, with falling losses and greater utilisation of brand-new stock. 'Leisure' use of the system, something craftily boosted by railcards which locked new groups into non-peak hours - the Senior Citizen Card came in 1976, followed by offers for families and students - and competitive pricing policies increased. Management was sectoralised into Railfreight, InterCity, Regional Railways and Network SouthEast; systems of data collection and exchange <were> worked out, and European Community and Passenger Transport funding gained for modernisation projects. In 1990 the railways were actually handling more passengers than they had done in 1960.

The government began to realise that a new train took only a year to put into service, while a by-pass took ages, and annoyed more people than it helped. But this could only hold while the economy was expanding, and after 1988 it was not. The longest-ever British slump had begun, and after 1991-2, there was a collapse of investment, in InterCity alone, from £ 229 to £ 70 millions. £ 225 millions were needed <to keep the system healthy>, yet even in 1992-3 the division turned in an operating profit of £ 82m on £ 889 m turnover: a unique record in Europe.

VII

The railways might have come quite healthily out of a slimming cure. Not so the rest of British

transport and the society it served. Cycling dwindled fast in the 1960s, bikers being literally forced off the roads. 90% of kids walked to school in 1971, about 10 % in 1995. Even where it worked, motorised Britain was being criticised for producing homebound, overweight, initiative-less citizens. Yet Scotland's poorest saw little evidence of individual mobility. In Glasgow's Easterhouse scheme in 1985 only 20 % had a car, in 1995 it was 21 %.

The situation was improved for the railways, though not for anyone else, by the fashionable dogma of privatisation, carried through by Mrs Thatcher's 1985 Transport Act, and the bequest of Malcolm Rifkind at the Scottish Office. Bus-miles run went up by a quarter, but far from boosting use, passenger numbers fell by about the same proportion in a decade. Rail privatisation would produce a fair crop of scandals, still properly to be investigated, but the Scottish set-up remained comparatively state-controlled, because of the role of the Strathclyde Passenger Transport Authority. Again at a cost. It was impossible to get a through train from Edinburgh or Glasgow to the continent, although the losses on the Channel Tunnel, after it opened in 1993, dwarfed anything Beeching had dealt with. But this was part of an even stranger global picture.

A BBC friend, trapped in a snowstorm on the M8, went into the service area and asked for a sandwich. Sorry, he was told, 'We haven't any. The lorry that was bringing them from Salisbury is stuck at Shap.' All cafes in this chain were serviced from a centre in Wiltshire, an example of the logistic obsession to be found throughout European industry, in the age of 'just-in-time' and 'lean organisation'. The logistic centres of several Scottish industries aren't even in the British Isles. Transport has been the endlessly elastic band enabling this sort of organisation, at way below its global costs. What happens when the band snaps?

CHAPTER 6

THE THATCHER YEARS: MISSING THE TRAIN

I

In the 1960s and 1970s, I tramped the country urging, as an official of the then Scottish Railway Development Association (now the Scottish Association for Public Transport), the retention or reopening of passenger services on local railway lines. A thankless business. Beeching had made the local railway look as anachronistic as the stagecoach, and the sheer density of the bus services in the central Scottish belt - two or three an hour, where the trains managed one at best - didn't help. I particularly remember inching my way around pitch-dark Bathgate, looking for a church hall in which I was supposed to convince the Church of Scotland Men's Society of the wisdom of putting trains back on the Bathgate-Edinburgh line and, in the 1970s, a few years later, nearly being killed by a vicar (an amiable man, but the worst driver I've met) running me to a rally to demand the restoration of the railway line from Oxford to Bicester. The irony was that under that in the next decade, under that notorious railwayphobe Margaret Thatcher, Bathgate got its trains back - and the West Lothian folk went beyond all estimates in their patronage - and Oxford-Bicester reopened in 1986. By 1990 some London underground stations were closing because they had *too much* traffic to be safe.

Bathgate and Bicester in a - sadly minor - way dramatised the fact that all over Europe there was a railway renaissance. A few lines were still in danger in the 1990s and, especially in ex-Soviet Europe, some closed, but these were, for the first time in long enough, counterbalanced by reopenings and new projects. The pollution and congestion caused by road vehicles were prompting undertakings much more ambitious than anything the great Victorians - even Brunel and Stephenson - attempted. Starting in 1979 the French *Trains à Grand Vitesse* or TGVs spread out to all parts of the country, putting Biarritz within five hours of Paris. The Deutsche Bundesbahn gave Germany a series of north-south links which first compensated for lost orientation of the old Bismarckian rail system on Berlin, and then, very quickly, linked the Neuen Bundesländer in. The Italians completed the Rome-Florence *direttissima*; and the Swiss planned lengthy Alpine tunnels to replace the mountain lines of the 1880s.

With the Channel Tunnel - a project which had been on and off since the heroic days of the 1860s when Sir Edward Watkin, a more-than-usually megalomaniac railway tsar, first mooted it - the new age even promised to reach Britain. Or did it?

II

There were some favourable signs: the electrification of the East Coast Main Line; the reopening of some local lines; the building of the London Docklands Light Railway; and plans for rapid transit systems in the Manchester, Sheffield, and Birmingham districts. If reports that Mrs Thatcher came into office with the notion of concreting over every mile of track are correct (and her then policy adviser, Sir Alfred Sherman, used ceaselessly to propagate this notion) then she seemed to have relented a bit, and was even sighted *on a train* en route to a Young Conservative conference at Scarborough). But the main benefit Thatcher brought to rail was the mess her ministers made of bus services. Deregulation of bus routes brought a totally unexpected traffic boost to suburban railways as baffled passengers retreat from the roads in the face of disorganised, unpredictable 'competition'.

But the fact that the railways benefitted from a government policy backfiring was ominous. Thatcher made it clear, even to a dynamic rail manager like Peter Parker, that private enterprise cars and lorries were good, and trains (which she seemed to accept would have to be state-owned) were for that reason bad. Grant support for rail was drastically cut while road investment grew, something dramatically evidenced in Scotland by the Dornoch Bridge saga, where the chance of an inexpensive rail-road link was sacrificed. Less spectacularly, but far more seriously, the Freightliner depots built by Beeching in Aberdeen, Dundee and Edinburgh were closed, and the Speedlink network of waggon-load freight scrapped. In no major industrial country in the EEC did such a large proportion of freight travel by road. British Rail expected that freight traffic with the continent would increase sixfold within five years of the Channel Tunnel being opened, but where was it to be loaded and unloaded? There was by 1990 only one general merchandise rail depot in the whole of south-east Scotland.

British Rail's success in meeting Thatcher's rigid financial demands was achieved by selling land, scrapping equipment and sacking staff. The system found it more and more difficult to operate adequately, inflicting on all too many Anglo-Scottish journeys one to two hour delays caused by

'staff shortage', 'delays in rolling stock turnround' and 'line closures for repairs on Sundays'. The system was operating on the margin of its tolerances. The spectacle of a smart Inter-City 125 weaving into a station through webs of derelict track was not a happy one, but it was the landscape of British Rail.

Thatcher said she encouraged capital investment instead of revenue support, but although investment rose, it was still (allowing for inflation) only a fraction of the funds allocated to railway modernisation by the Conservative government in 1955. The modernisation plan of that period suffered from 'Conservative decentralisation': the regions were allowed to select their own technologies, sacrificing the benefits of coordinated planning, experiment and design - and it took years to sort this out. In the 1980s the government's desire to transfer construction from British Rail Engineering to the private sector did less to re-invigorate Britain's once-great locomotive and rolling stock builders than to burden the system with inadequately-tested and incompatibly-equipped vehicles.

III

The Docklands Light Railway in London was an object-lesson. It was offered as the 'cheap' alternative to the extension of the underground into the Isle of Dogs, its small articulated vehicles - capacity no greater than a single underground car - were totally unable to cope with average, let alone peak demand, its electric third-rail system was compatible neither with the underground nor with the Southern electric system nor with overhead tram-style lines like the Tyneside Metro.

Transportation planning had already got a very bad name during the 1960s and 1970s. The right didn't like the idea (although in Britain planning had Conservative rather than socialist origins) and the left thought that public and community interests were being ripped off by consultants and the road lobby - a few reopened stations and rapid-transit lines being the sweetener for acre after acre of urban motorways, suburban shopping malls and car parks. But transport planning was now a fact of life in every European state, against which Britain's short-term pragmatism looked increasingly eccentric.

The crunch would come with the Channel Tunnel. Mrs Thatcher's rhetoric about the project shifted from the sceptical to the sublime, but government support would be the minimum compatible with enabling a passenger train physically to travel from London to Paris in the anticipated three-and-a-half hours. The Tunnel debouched on the Southern, the most antique part on the British rail system, with a type of electrification incompatible with French Railways and restricted clearances and sharp curves. The cost of upgrading the London-Dover stretch <had> wrecked the project last time around, and now there was even less public money on offer.

Which brings us back to that eminent Victorian Sir Edward Watkin. Watkin not only schemed for a Channel Tunnel, he tried to do something to offset the biggest problem it raised, the fact that the continental (or Berne) loading gauge is several inches greater than its British equivalent (in other words British waggons could circulate on the continent but not *vice versa*) and thoughtfully built a railway, the Great Central, to connect his lines around Manchester with London. The Great Central never paid, and Beeching ripped it up in the 1960s. But the big, purple brick bridges

which arch over abandoned cuttings between Aylesbury and Sheffield are all built to continental clearances.

Scotland needed then, and needs even more today, a high-speed link to the Channel Tunnel. Such a scheme may be, as far as passenger traffic is concerned, a non-starter. But, for freight, massive capital investment really is necessary to provide a network of lines, reaching the main cities and industrial areas, which can accommodate continental waggons. Such stock can only operate efficiently and economically when it is 'pooled': ready to carry any available load from where it happens to be. Without such a network the Tunnel would only deliver yet more juggernauts on to the road system, as indeed it has done.

Transport was an area where the simplicities of New Right 'market economics' could not work, which is presumably why it figured little in Mrs Thatcher's 'revolution'. Yet a proper transportation plan - with the emphasis on the railway network - offered as remarkable an opportunity of modernising Britain's manufacturing technology as the building of the railway network itself in the 1840s. Nothing was done, and the hapless Major proceeded to make matters even worse.

CHAPTER 7

RAIL PRIVATISATION: THE TWILIGHT OF THE NERDS

I

In 1993 the Channel Tunnel opened for traffic, costing £ 8.1 billion instead of an 1986 estimate of £ 4.5 billion. It has, even today, minimal loadings on its Brussels services, and promises of connecting services to Scotland, the Midlands and the West Country have evaporated. The big trains built for these services provide a summer shuttle between King's Cross and York, the green sleeping cars have been sold to VIA-Rail of Canada. The taxpayer's pocket was duly picked to sweeten the transfer of British Rail International to the private sector. After years of debate, the course of the high-speed link from the Chunnel to London was settled in 1999. If its costs were estimated at £ 4.2 billion in 1994, how much will these be by its possible opening date of 2005?

Meanwhile the whole of the British railway system, its track, stations and signalling, was sold off in 1996 for less than a quarter of the cost of the Chunnel. Railtrack went for £ 1.8 billion, less than a tenth of what Gordon Brown got in 2000 by auctioning mobile-phone licences (the economic situation demonstrated by this is so bizarre it can't even be contemplated ...) The story of privatisation is the sort of thing that would have appealed to Edward Gibbon. After an unexpected election victory in April 1992, John Major (whose only, though convincing, appeal was that he wasn't *her*) saw his economic policy collapse in September. His cabinet had men of ability and honesty in it, but the inability of his apparently corrupt party to cling on to even the safest of southern suburban seats induced a sort of 'let's-pull-Valhalla-apart' death-wish. British Rail was the closest sacrificial victim to hand, and got it in the neck. Rail privatisation had no grounding in transport policy; it wasn't cheap; it wasn't popular – not even in the Tory party. It was a sort of Mania in reverse: Anglo-British capitalism digging a grave, sitting down in it, and

asking the public to fill it in. But there was a new element of urgency, even emergency: a series of horrendous environmental reports – most significantly that of the Royal Commission on Environmental Pollution in 1994 - flopped on to ministerial desks. Grasping at some – any – justification, Major would claim that only private resources could possibly cope with this.

II

Railway privatisation didn't just turn out to be what one sensible Tory MP, Robert Adley, called 'the Poll Tax on wheels' (he died suddenly, and the government's relief at the silencing of this critical voice probably outweighed the fact that his seat went to the Liberals). Like the Poll Tax, it was a notion of the Adam Smith Institute, which Thatcher had sensibly kept her distance from, but whose shamans had access to Major. Its notions (initially intended to wipe railways off the British landscape) were tidied up, made pro-rail and given an economic gloss by Sir Christopher Foster, now with the accountants Coopers and Lybrands, who had travelled far and fast to the right since his days with Barbara Castle in the 1960s. In place of the engineering-and-operational co-ordination enforced on the railways since the mid-nineteenth century, they would be privatised completely, with co-ordination achieved through commercial transactions between market units. The problem was that no-one wanted to buy any of the bits of the dismembered system that were on offer, and the wretched Tory MPs were only induced to vote the thing through on the promise that British Rail could come back into play and run it.

But the privatisation of the buses had created groups – Stagecoach, First Bus, National Travel - which had done pretty well out of flogging off the associated real estate, took care of their public relations, and cultivated bankers, particularly Scottish ones. On the freight side the acquisitive Wisconsin Central Transport Corporation, which had made a success of taking over otherwise ailing state railways in New Zealand and South America, bought over most of BR's freight operations and announced an ambitious investment plan. A combination of management buy-outs, foreign incomers (France's Compagnie des Eaux, Barbados' Sea Containers), and the always-eager-to-please Richard Branson – the People's Plutocrat – were persuaded to get the show up and running, but Branson himself appeared as the buyer of the West Coast line and Cross Country only weeks before the Conservative party crashed out of power in the greatest defeat in its history. Something like £ 400 million (a sum not far from that which can yield an efficient central Scottish railway system) had been spent on lawyers, financial experts, public relations men, to secure an unproven and probably unworkable structure. But the City of London wasn't complaining.

III

Taxes can be reversed without physical damage. What has happened since 1992 has the crass finality of a toddler's attempt to repair a TV. The dismemberment of a technically-logical structure into competitive economic units runs against the whole practice of engineering organisation. Undertaken partly out of marketist dogma, and partly to provide outdoor relief for a City whose takeover business collapsed in 1991, it proved inordinately expensive, and concentrated authority on a weak ministry held in almost-universal contempt.

The most immediate aspect of this scorched earth strategy was the collapse in the value of Railtrack. When the Railways Act became law in 1993 it was around £ 7 billion; by spring 1995 it had fallen to £ 2.5 billion. The Treasury was lucky to clear £ 1.8 billion. This was the result of a series of policy changes supposed to make life easier for the privatised train operating companies or TOCs. The initial notion of a 'commercial' Railtrack - to satisfy the Treasury - meant that high costs would be passed to the train operating companies, and if these were not to close down, to government. So the Ministry slammed this particular engine into reverse, and favoured the TOCs by cutting Railtrack's access charges by £ 1.5 billion over 5 years, while subsidies increased to £ 500 million per annum.

Leave aside a foot-in-mouth record which made pre-privatisation Railtrack the least-loved in the horror-show of Tory utilities: real investment - the £ 900 million installation of Automatic Train Protection promised and then denied by the Ministry, the £ 1 billion upgrade of the West Coast Main Line - had stalled. The Private Finance Initiative was paralysed; its boss, Alastair Morton, had to take his leave in September 1995 when Eurotunnel went technically bust (though he would re-emerge in 2000 as Chair of Labour's Strategic Rail Authority). The scheme for motorway tolls and road pricing, which Major's transport minister John MacGregor claimed was imminent, and which might have given some sort of 'level playing field', vanished from view.

The more subsidy and debt write-off that Railtrack needed, the lower went its sale price. Perhaps Railtrack was actually colluding, piling on its burdens so that, when floated, its knock-down price would bounce upwards. And it came to pass.

IV

What are we left with after this unreassuring tale? The paralysis which accompanied rail privatisation ended substantial railway electrification, and finished what was left of the British railway engineering industry, emphasising the fact that Britain was now at the end of its technological rope. Of the equipment now used in our transport system the overwhelming mass is of European or North American origin. Where rolling stock factories exist, these are now multi-nationally owned, and the research and development is done abroad. Scotland's last locomotive works, Barclays of Kilmarnock, is a subsidiary of the Austrian Jenbacherwerke.

The result of this galloping de-technologising of our society has turned the fragmentation of control over the railway system into technical necrosis. This has expressed itself in a failure to coordinate at all levels and ultimately, in late 2000, in the physical collapse of *both* the road and the rail systems. Nor were white knights from overseas reliable. Unobserved by anyone, a boardroom coup in 1999 in middle America, at Wisconsin Central Transport, removed Ed Burkhardt, whose 'can-do' spirit seemed to revolutionise freight prospects on Britain's railways. The man was spending too much time 'growing rail freight' and wasn't doing enough to boost 'shareholder value'. That said it all.

At the same time the gloomy ecological factors which produced the underlying shift towards rail during the privatisation process – the vanishing of the Madsen Pirie 'rip em up' ethos – remained, even intensified. It did not seem to occur to New Labour, about to embark on its own

devolutionary voyage to an unknown destination, that a huge organic support of Britishness had been wantonly chopped down, any more than it occurred to Gordon Brown that infrastructure depended on skills in unfashionable metal-bashing being maintained and made accessible.

Privatisation of the total sort that Major carried through involved the franchising of the 25 Train Operating Companies (TOCs) among twelve franchisees, and the creating of Rolling Stock Companies (ROSCOs). It did wonders for Scottish banks, notably the Royal Bank of Scotland. There were scandals, such as the rise from manager to multimillionaire (and subsequent complete obscurity) of Sandy Anderson, who turned a £ 100,000 stake in a ROSCO into £ 36 million - the sort of thing otherwise only seen in Yeltsin's Russia. As Chris Green, of Inter-City and later Scotrail and back these days as General Manager of Virgin Rail, prophesied, privatisation of this sort created a total chaos where there had once been a logical chain of command. The disaster of autumn 2000 was in this sense, programmed. More seriously, in terms of innovation, the state's once-for-all divestment of its railway assets made it impossible for it to use them as collateral for funds raised elsewhere. (Such financial wizardry has played a major part in the renaissance of German regional transport).

At the same time, it would be fair to say that some of the new companies were imaginative and experimental, where British Rail had often tended to be monolithic and authoritarian. They set up liaison bodies with local authorities and paid heed to groups with ideas for development, and a culture emerged which seemed far more positive than that which threatened in the mid-1990s, when the busmen first came in. In 1994 Brian Souter of Stagecoach, interviewed by the Transport Select Committee, talked unguardedly of his hopes for the wholesale replacement of railway lines by buses; two years later one of the managers of National Express, which gained the Scotrail franchise, thought that even major cross-country services like Birmingham-Cambridge ought to be scrapped. This sort of talk vanished, perhaps for the most logical of reasons: road congestion and bus chaos meant that rail was attractive, and passenger growth went up by 25 % in the post-privatisation period. The losses registered on services through the Channel Tunnel and the huge cash demands of investment projects around London, amounting to over £ 23 billion by 1998, would make Beeching-type actions political dynamite.

On 2 May 1997 New Labour came to power and hopes rose of decisive action. Yet despite earlier white promises John Prescott's huge Department of the Environment, Transport and the Regions was strangely tentative, in its *New Deal for Transport* paper of 20 July 1998. The privatised railway set-up was left - Railtrack would cost too much to take back into the public sector. In Scotland, we had other priorities, with the devolution referendum and the Scotland Act, but there soon came the rather unreassuring news of the million-pound donation to New Labour of Bernie Ecclestone, boss of Formula One, an organisation concerned with the glamorisation of a 'cigarettes and fast cars' lifestyle. There were legitimate doubts about how serious New Labour was about its environmental agenda, and Prescott's initiatives on local transport were initially deeply hostile to any rail-based solutions. (Even the Tories had allowed some regional tramway schemes to go ahead). It was this policy irresolution which kept projects like Edinburgh's CERT Busway on a sort of life-support system. Only in 2000 did things start to look up, with a change in policy which favoured light rail, but a lot of time had been lost.

What caused this is, like much of the internal politics of New Labour, obscure. It probably had more to do with big business manoeuvring within the corridors of power than with the facts of the case. But the upshot was continuing vast expenditure on projects like the Greenwich Dome (whose costs and losses could have paid twice over for a Central Scottish rail system: and as for the costs of the Jubilee line and the Heathrow Fast Train, don't ask...)¹. It's evident that the Prescott mega-ministry and its quangos have brought little movement into transport policy compared with the task they face. Knocking lumps out of deeply unpopular private operators, or raising 'human interest' safety issues, are things that grab headlines and give employment to the cohorts of *Spinmeisters* on both sides who (more than engineers) dominate the politics of British technology. Analysing overseas developments, or proposing important but boring legislation which would, for example, abbreviate the planning process for public transport improvements, isn't the stuff of presentational politics.

CHAPTER 8 KEEP ON TRUCKIN'?

I

In autumn 2000 not *Spinmeisters* but truckers became the honoured vanguard of Middle England and Middle Scotland, protesting against fuel costs - though the whole business was just a little surrounded in mystery. This was a 'People's Protest' - right? But oddly lacking in People. 500 outside Grangemouth Refinery was reckoned by the *Scotsman* a 'mass turn-out'. 1500 demonstrating for a Scottish Parliament would still have got the 'unrepresentative handful' bum's rush from the likes of Michael Forsyth. Hauliers and farmers demonstrated and blockaded - as we shall see, with good reason. Mondeo Men, trapped at the pumps by the blockade, moaned in unison to the nearest opinion pollster and left it at that, without becoming any the wiser about how they got into this state of dependency.

Road freight transport dominates. Agreed. It shifts over 92 % of British inland tonnage and about 88 % of tonne-miles. Rail, which in the 1950s was carrying over 40 %, now gets the measly remainder. The rise of road freight, however, is a territory almost wholly unknown to commentators, politicians and historians. Every railway line is documented down virtually to the last truck and siding. Gavin Booth of Portobello, authority *extraordinaire* of the *Red Bus Book*, knows the type, tonnage, capacity and probably crew of every bus that has ever run in these islands. But with the exception of a few very high-profile operations, this vast industry is unknown. The *Economic History of Baden-Württemberg* has no entry on Willi Betz of Reutlingen, five miles away from my home. Betz is only Europe's biggest road haulier ...

The reason for this is doubtless the cowboy quality of much of that history, something evident in one of the few documentary efforts, Graham Coster's *A Thousand Miles from Nowhere* (1996). Even today a police descent on trucks on the *autobahn* nabbed a third for being overweight, with

¹ If you do ask, the relevant sums are (rounded off...) £ 1 billion for the Dome, £ 2,5 billion for the Jubilee Line, £ 0.5 billion for the Heathrow train.

badly secured loads, or with drivers on overlong hours. Even Betz isn't immune. A couple of years ago he bought over the Bulgarian state haulier and now employs drivers on Bulgarian wages on his European routes. But Betz these days is typical only in keeping his obscurity. Modern road haulage is now dominated by international logistics concerns using multiple modes – ferry, rail, barge and ‘independent contractors’ - and the last have become in effect a high-technology ‘lump’.

III

A few statistics are now in order. In 1988 lorries of under 25 tonnes carried 682 million tonnes of freight in Britain. This dropped over the next ten years to 382 million tonnes. Meanwhile the tonnage carried by juggernauts – over 25 tonnes – rose from 971 to 1248 million tonnes. In fact, total tonnage carried fell slightly over this period, from 1653 to 1630 million tonnes, but tonne-miles run went up from 125 to 152 thousand million, or by 13 %. In other words bigger lorries are carrying less traffic more miles. This chimes in with the growth of ‘just in time’ sourcing, where warehousing of goods is kept to a minimum, and lorries run extra miles to ensure that these arrive exactly when required. In Baden-Württemberg tonne-miles were reckoned to have gone up 50 % 1985-95, as warehouses and rail sidings were abandoned for ‘just-in-time’ deliveries. This may be great for the profits of manufacturers, wholesalers and supermarkets, but it offloads much of the social cost on Joe Public, and much of the economic cost on the truckers themselves.

The job-for-life TGWU driver is history. Since the ‘liberalisation’ of EU road freight in 1998, the logistics businesses can juggle the modes, cut overheads with a knife, and on the receiving end are the ‘independent contractors’ and those who have to share or pay for the roads that the juggernauts are pulverising. Capitalism being fiendishly clever – only its enemies really appreciate this – it replicates what the cotton-masters did when power-weaving came in, 180 or so years ago. Don't waste money converting to the new technology. Instead, hire the poor buggers who are being ground down by it, wanting some work, any work, which pays a wage, and screw *them*. The hand-loom weaver *de nos jours*, friend, is the forty-two tons of Volvo now bearing down on you ...

IV

The wrinkle in all this is twofold: what the juggernauts don't carry, and what they do to the roads. As to the first, it's reckoned that at any given time, half our lorries are carrying air. For the second, a juggernaut inflicts 50,000 times the road damage caused by a car, and pays for only about a third of the global costs it inflicts: pollution, road damage, congestion, accidents. Prof David Pearce of London, commissioned by Chris Patten during that period, around 1989, when Mrs Thatcher decided that she had been chosen to save the world, came up with this calculation (see Pearce et al, *The True Costs of Road Transport* (1996) broadly echoed elsewhere, which eventually provided the basis for Ken Clarke's fuel escalator.

It is possible to get out of this cul-de-sac. Deliveries and routes can be computer-planned to obviate unnecessary journeys, as with the freight transport policy of Cologne, centred on the giant road-rail Eifeltor freight transfer depot. Or rail can be reinvigorated, as those Valhallas of free

enterprise, Switzerland and New Zealand, have shown. Inter-modality is the buzz-word. But it's a goal that can only be reached by co-operative planning, investment in alternatives, and by charging real costs. At which point the big logistics concerns dematerialise, leaving the little man to take the rap, governments to take the blame, and *Sun* journalists, trailing their knuckles along the gutter, to move in on 'eco-freaks'.

Brynle Williams, the Welsh farmer who led the picket at Stanlow, movingly told a *Times* reporter he was fighting for small farmers, local markets, the notion of neighbourhood. Socially, the 'independent contractors' maybe fit in here, but the system that uses them wouldn't give two minutes thought to this stuff. Shell directors only seven years ago took off the oil trains to Aberystwyth, Oban and Fort William, shoving more tankers on to winding and overloaded roads. Mall-owners have been devastating the town centres of middle England while looting their captive markets. We have seen what Europe's most widely-travelled cows have done to British agriculture. And some bampot somewhere has made a case for sending sarnies from Salisbury to Newhouse. Logical logistics? You must be joking.

CHAPTER 9

THE EUROPEAN CONTEXT

I

The cumulative failure which followed the 1993 Act shows UKPLC well past its sell-by date. But it may provide a possible way out. In a rapidly-unifying Europe, is a national British railway system - state or private - any more tolerable than national systems elsewhere? The growth of road transport has been aided by technological co-ordination, and a small number of vehicle manufacturers. Yet throughout Europe divergences of railway practice still replicate the bad old British past: something that can only be rectified by a European transport ministry planning a European arterial railway.

Figures first: by 2020, according to the Institute of Civil Engineers, new and upgraded lines and the co-ordination of electrification and signalling could make possible a fourfold growth in traffic on a 30,000 km European network. This could quadruple passenger-kilometres from 110 billion at present. Building on the success of the French TGV lines, trains capable of covering up to 1000 km (say, from London to Munich) in 4-5 hours by day, and 2,500 km (say, from Glasgow to Budapest) in 8-12 hours by night would be possible. These could give rates of return between 10 % and 28 %, with for example 80 % of London-Paris journeys being made by rail. At the moment, it's 63 %, compared with about 40 % in 1997. The pollution and congestion inherent in road or air underlines the advantage of rail, and most European countries are drawing the correct inferences: by 2002 it will be possible to travel from the Chunnel mouth to Stuttgart or Marseilles by high-speed route, with only a few miles of gaps. Which country is the laggard? You needn't ask.

In Britain a European-owned railway could provide a 3,000-kilometre arterial system, as far as Aberdeen, Stranraer and Plymouth. At present only 3 % of UK-Europe freight traffic goes by rail,

and 90 % of British manufacturing is road-dependent; congestion accounts for 30 % of distribution costs. This gives great scope for productivity increases, not to speak of a reduction of between 1,000-3,500 HGV journeys per day. This arterial system, plus some high-speed stretches, would provide both rapid services to the continent, and bind British ports into the European freight network. Trains from Scotland could reach the Channel Tunnel mouth in less than three hours, while by incorporating the major airports into the rail network, much of the pressure for their continuous expansion could be relieved.

II

Does this sort of thing involve impossible sums? Berne gauge conversion means enlarging bridges, platforms, and electric wiring. Narrowing the Spanish RENFE from 5'6" gauge to standard (now under way) is reckoned less complex, but would still cost \$ 4.7 billion. Yet none of these projects is more expensive than getting oil out of the North Sea, which consumed £ 60 billion between 1970 and 1990. A Berne gauge link from the Chunnel to Leeds would cost £ 62 millions; a skeletal national system, according to the engineers Steer Davies Gleave, might cost £ 210 millions: no more than developing a moderate-sized oil field. In contrast with the Newbury By-pass horror, the use of existing track minimises land take. But such a programme requires precise technical and economic coordination. The last thing it needs is Railtrack being run by Jeremy and Nigel in the City.

III

The ball may lie in Brussels' rather than London's court. The chaotic state of British transport policy, the impotence of Whitehall, and the direct threat that this poses to Scots, Welsh, Irish and Northern English interests might make it imperative for national and regional governments to press for a European consortium to take over Railtrack, as the first step towards a real federal rail authority in Europe. Steered by the provincial governments, this could be headed up, say, by the semi-privatised Deutsche Bahn (which has DM 50 billion to hand for investment), the SNCF (which already runs British Rail International), Adtranz, Asea Brown-Boveri or GEC. Such a decisive breach with the City ethos is particularly important in view of the complexities of Scots-European freight. The artificial cheapness of road freight, brought about by ignoring climatic factors and screwing the labour force, has caused an escalation in long-distance logistics. Some major businesses have only one European supply centre, from which lorries make very long journeys, often without return loads.

Are there alternatives for Scots-European traffic: passenger and freight? For example, could a cost benefit study assess (a) a dedicated freight line from the Channel Tunnel to Scotland on the Berne gauge (perhaps involving the Settle and Carlisle and Waverley Route, with a branch to Stranraer and maybe a tunnel to Ulster). This would free freeing up the East Coast and West Coast lines for passengers? Or is it worth considering a non-rail solution for freight, for example fast ferries carrying at around sixty knots lorries, containers, and rail trucks from continental hubs, notably Rotterdam, to a Scottish terminal? Should we be rationalising our road provision - getting car traffic transferred to bus or rail to free up major roads for freight or buses? Unless we manage to evolve a policy about our links with Europe we are going to find ourselves, in an era of

expensive fuel, perilously on Europe's edge. 'Too far out', as Stevie Smith once put it, 'and not waving but drowning.'

The sense that transport collapse is isolating Scotland may, however, bring one benefit: the creation *as an immediate priority* of an internal system which is appropriate to the needs of the country. What my historical treatment has – I hope – shown is the way that in the central belt several different transport types have been piled up on top of each other. These have served coal-mines and shipping, the well-doing bourgeoisie, or municipal reformers, consumer-goods industries, dodgy land-use transportation town planners, instant millionaires created by asset-stripping. What they didn't serve, in any coherent way, was the mass of people crammed into this region, who need transport which is simply-organised, non-polluting, frequent, speedy, and reliable, if they are to have decent life-chances. To adopt the tripartite division of a celebrated Scottish Council Foundation report of 1998, the current system makes 'settled Scotland' insecure, diminishes the chances of 'insecure Scotland', and keeps 'excluded Scotland' firmly excluded.

CHAPTER 10 BUSSED OFF?

I

I am old enough to remember when Central SMT buses had clippies, wonderful women out of Bud Neill who did astonishing things to the uniform caps with hairpins and wore bootlace fluorescent pink ties. They (forget the drivers) ran buses called Lodekkas, dwarfish double-deckers which could crawl under the railway bridges of west central Scotland, and offered about six different ways of getting from Motherwell to Glasgow: long lawless roads past black churches, flaring pubs on every block.

Things have changed, as I found when I travelled in 2000 from Motherwell to Melrose. Yes, it is possible, and desirable (we'll come to that) but it requires a rare flair for research. There are no longer Lodekkas in central Motherwell, though there are lots of mysterious multicoloured wee buses scurrying about. There are also four bus stops round Motherwell Cross, not one with a timetable. The public library had only one for First Scottish, but produced a few pages from a remarkable guide to all British bus services, published by something or someone called Southern Vectis and costing a small fortune, but (at least as far as Lanarkshire was concerned) free to me. Avanti!

II

Stage one. 13. 15: Motherwell to Lanark. Two competing buses – Hughes and MacKindless - leapfrog each other through Wishaw, Waterloo, Law Hospital and Carluke to snaffle a handful of passengers, before setting down at Lanark bus station. I could have done the run twenty minutes faster by train, nipped through a gate in the platform and got the Biggar bus. Good co-ordination, but who's advertising it?

Stage two. 14.17: GBM Buses Lanark to Biggar. Twenty-seven seater, fairly full of locals.

Nogood Boyo bound for Symington gets on, gargling barley wine. ‘That’s his third,’ tut-tutts a neighbour. Staggers scowlingly off. Memories come back of Biggar’s best, Hugh MacDiarmid, carefully set down at Brownsbank after an evening’s refreshment with MacCaig and Goodsir Smith, thirty-odd years ago.

Stage three. 15.00: First Bus to Peebles: after the schoolkids get off, our twenty-seven seater is almost empty by the time we hit the Upper Tweed. This is the country of John Buchan’s *Thirty-Nine Steps* – Richard Hannay came over the slope south of Broughton, with the Black Stone Gang at his heels. In the late August sunlight, it’s entrancing. Every glance at these great bald hills, wind-caught woods and swirling river is worth a hundred Edinburgh Festivals. At Stobo four women from the health farm get on, otherwise involved in beating the fat out of our over-mobile, under-energetic rich.

Stage four. 16.30: Peebles Post Office – pensionerville, with lots of tweed caps and headquarters waiting in the sun. First Bus from Edinburgh to Melrose limps in, swirling exhaust. ‘It’s finished, ah’m no taking that thing further.’ Says the driver, and indeed the bus is about thirty years old, and showing it. Another is fixed up and off we go down the Tweed Valley, by sad Innerleithen and Walkerburn and the vestiges of a textile industry so prosperous, so recently. 17.50 and I’m into Melrose. A four-hour-odd run, an hour of it spent hanging about bus stations, but through these delectable mountains, all the driving was done for me.

III

I was nearly £ 10 the poorer. If I had been travelling to Melrose to see someone in the Borders Hospital, and had to come back, I might have had to shell out £ 15 in day returns. Patronage of Scots buses has slumped by a third since Malcolm Rifkind privatised and deregulated them in 1985, and I could see why. I’d bet that Rifkind hasn’t been on a bus since then, but for about a third of the Scottish population they’re still the only possible form of transport. Only 62 % of Scots adults are licence-holders, and the percentage of those on and below the poverty line with car access hasn’t changed in two decades.

Other mysteries have to be explained. Not just the belief in Lanarkshire that timetables can be picked up by osmosis. The old nationalised Scottish Bus Group was flogged off to little minnow companies. The likes of Brian Souter and First Bus then made themselves millions and the darlings of the City by swallowing them up – not always by kid-glove methods. But now the minnows are back. Staff have peeled off to run their own firms: MacKindless, GBM, BusKers, Munros, often with more modern buses than the big boys, at lower fares. Why so? Do the locals know their market after all? Or is a constant roundabout of takeovers and demergers there to keep young City slimeballs in Porsches?

So, a village might now find it has ten buses a day, run by three different companies. These refuse to recognise one another’s fares, like day returns, so costs are actually more than they were. Too many buses chase too few passengers, without a notion of how to catch more.

IV

We do that kind of thing better in Germany. There is a plan for transport in each Kreis or county, set by the local authority, with routes contracted to state or private operators. Key groups – hospital or local authority staff, schoolkids, pensioners - are encouraged to use buses by concessions of up to two-thirds off; an overnight in a hotel or ticket for the theatre or orchestra can come with a free local bus ticket thrown in. The ‘school run’ is reckoned as misbehaviour, and quite right too, since parental cars milling about school entrances are properly regarded as a pest.

Fares can be offset against tax at the same rates (80 pfennig per kilometre) as public transport, though they’re usually far lower than in Britain: the Motherwell-Melrose run would have set me back about £ 6, and at weekends a Land-wide runabout costs as little as £ 3. I have yet to see a German bus-stop without its timetable. In our town we also get a local one free through the letter-box, and can plan a journey from the nearest bus-stop to any other stop or railway station in Baden-Württemberg by accessing the Web <www.efa-bw.de> At non-peak hours we can phone up and get a ‘sammeltaxi’ or ‘dial-a-bus’ (in fact a Mercedes taxi) at the ordinary fare, or free to season-ticket holders.

V

In Scotland we can’t do all of this in a oner. But we can try straightaway to fill the buses that we’ve got. We can distribute timetables, and we can have the sort of website that enables a call to the local library to give accurate times. We can have half- or third-off cards for off-peak travel, and conduct transport audits of major employers, so see which to-work journeys can only be made by car (not a lot) and subsidise the rest. We can set up hotel and guesthouse deals, and theatre and music tickets which throw in free public transport. And as for Nogood Boyo, given to trashing bus stops in his spare time, community service should mean him maintaining the things, timetables and all.

In autumn 2000 we had a ‘motorists’ revolt’. Correction: we had guerrilla action – very effective – by farmers and self-employed hauliers, both being ground down, but for different reasons. We have also had a moan-in by Mondeo Man, a tiny handful of whose friends actually got off their butts to join a picket, and whose arguments, when articulated, rarely rose above the Jeremy Clarkson level. So, think:

One: forty-year old male motorists are an affluent minority, not ‘the people’. Why should we let them make our transport policy for us?

Two: when – before this - did you last read about travelling by bus in Scotland?

CHAPTER 11 BUSWAY TO NOWHERE

I

Edinburgh's out-of-town Gyle development wasn't a triumph for public transport. When a firm relocated there from the centre its employees' use of buses fell from 36 % to 11%, and car travel topped 80 %. But in 1996 Edinburgh Council had got hold of £ 122 million from selling its stake in the Gyle Shopping Centre, and proposed to blow at least £ 40 million of this on building a guided busway to the airport. The only such *Spurbus* in Germany has operated (rather fitfully) in the Ruhr town of Essen. After five years' discussion in Edinburgh, it remained unique, when in January 2001, Edinburgh's preferred bidder, First Group, pulled out. The busway has never been copied outside of Essen, Adelaide and two short stretches in Leeds and Ipswich. Why?

The guided busway seemed attractive because of its low initial cost: modified buses run along a road with kerbs on either side which act as rails along which small guide-wheels direct the bus wheels, and at either end they operate as normal in the streets. But the problem is that buses remain buses, pushing out polluting fumes and carcinogenic diesel particulates; carrying a maximum of sixty people not always in convenience or comfort; prone to get snarled up at either end of the busway in the traffic congestion for which Edinburgh is now, alas, memorable; and not very fast. Bus technology – as a mass-transport mode - has got as far as it can get.

What about the cost? Busways have been costed at £ 2 million a kilometre, but Adelaide cost £ 5.8 million, but Burkhard Huttel of the Munich transport consortium estimates the cost of a double-track tramline, with overhead electrics, at the same. A three car state-of-the-art tram (capacity 200) costs £ 1.35 million, while a modern bus (capacity 60) costs £ 300,000. But the advantage of the tram is that its speed enables more intensive use of the vehicles, and labour costs drop by a factor of three. The German planners' rule of thumb is that a traffic volume of 10,000 passenger journeys a day along a corridor justifies a tram. But they also found out that while only 3 % of motorists driving along that corridor will transfer to a bus, 40 % will transfer to a tram. So an existing volume of 2-3000 passenger journeys by bus or conventional railway can be boosted to the 10,000 level.

II

Another critical point is time. In a *Scotsman* article in early 1997 I asked how long Edinburgh's busway would take to construct. As it involves a separate track, public inquiries and protests, maybe two to four years? Four have passed and not a concrete beam has been laid, not a bus built. It takes Munich seven months actually to lay track along the streets, and even less when existing rail tracks can be used. In 1996 a consortium involving our own county council in Tübingen rebuilt the derelict 17 kilometre Schönbuchbahn to connect the northern part of the town with the big Daimler-Benz plant at Böblingen. This involved eleven new stations, four new bridges, a depot and a completely new track. The cost, together with four 80-seat railcars of the latest type (effectively diesel trams) came to £ 11 million. Construction took six months.

A well-run bus system has much to contribute. Over fourteen years, Tübingen's public transport has gone from the primitive to the near-utopian. In a town of 80,000, nine routes with a bus an hour have become twenty-three, with five-minute frequencies on the main drag (the No.5 route from the station via two university campuses and the hospitals to the main housing estate - on

which, *nota bene*, is sited one of Europe's best art galleries). Timetables are *there* and are kept to (through on-board computers) and dial-a-buses run on demand throughout the evening and night. Even so, the Council and the University are now planning to replace the No.5 bus with a tram linked into the regional railway system.

Edinburgh once had an admirable bus system running on five-minute headways; now, under competition, some bus-stops tell you times and destinations, others do not. St Andrews Square bus station, a latrine in 1997, had vanished completely in 2001. If Edinburgh Council wants to spend its windfall on buses, it ought to improve the system as a whole, enforcing co-ordinated timetables and fares on all operators, turning them from competitors into contractors, and chop the busway. If its buses become as popular as Tübingen's, a level of traffic will be generated which demands rail transport.

III

There are more fundamental problems with buses. Attractive because of relatively low capital costs and route flexibility, buses need replacement, or total rebuilding, after about five years of service. Their timekeeping is unreliable, because of car congestion; even bus lanes can never be 100% effective because of commercial vehicles loading or unloading; traffic filters giving priority are not always possible. With growing traffic, stops and terminal areas become increasingly congested. A Princes Street bus stop might have six buses queueing up for passengers. As buses have to reverse and circle, terminals become awkward to control. Finally, they aren't as popular as rail. This isn't wholly rational. But the customer expects from rail smoothness, comfort, ease of interchange (not having to clamber up to the bus platform, or wriggle to the door while the vehicle is in motion; having comfortable seats, a quick and absolutely predictable journey time). A busway project such as the CERT might be able to meet some of these desiderata: but it would always be only a section of an otherwise unreliable mode.

CHAPTER 12

RELAUNCHING THE GONDOLA OF THE PEOPLE

I

New Labour has spurned Blackpool, and with it one reminder both of the great days of municipal socialism, and of the urban transport future: the electric tram, Richard Hoggart's 'gondola of the people'. Ripped up by councils - alas, mainly Labour - in the 1950s, Glasgow being about the last to go in 1962, the rails are back in the streets of Manchester and Sheffield, Birmingham, Wolverhampton and Croydon. But the renaissance has been tentative, all but stymied by the free-for-all which the Tories dogmatically imposed by the 1985 Transport Act. In Germany a *conservative* council, operating a carefully-planned local transport network, has taken a veteran technology, and made it an effective way out of the chaos of semi-motorised, wholly unmanageable urban chaos. Karlsruhe is, in the urban transport world, where Glasgow was a hundred years ago: out in front.

II

Karlsruhe (population 268,000) is an eighteenth-century planned city on the edge of the Black Forest, resembling a huge cartwheel, streets radiating from its baroque palace, once the capital of the Duchy of Baden. It's more than provincial, for it's also the seat of the German constitutional court; while the area of the Karlsruhe Verkehrsverband (Transport Federation) covers an area of 80 km by 60 km, comparable with - say - Central Scotland from Clydebank to Musselburgh, and Dunblane to Lanark. Karlsruhe entered the 1980s with an old-style middle-of-the-road tramway system. Elsewhere in Baden-Württemberg, most towns had got rid of their trams, in favour of buses, while in Stuttgart, the trams were after 1981 progressively converted into an underground.

The town had suffered from suburbanisation, with car commuters living up to twenty miles away, and public transport journeys were only 12 % of total journeys. This meant in 1988 that 8 million passengers a year required a subsidy of DM 30 million. Now the city's trams and buses are carrying almost five times that number for DM 50 million, over a third of total passenger journeys. Bus routes and trips have gone up, but the main instrument has been the tram.

III

Dieter Ludwig, the boss of the *Verkehrsverband*, is the same sort of transport impresario that Glasgow's James Dalrymple was in the 1890s, combining business skill, inventiveness and publicity flair. His product, the *Stadtbahn*, has the convenience of the tram, reaching most places in the city centre, but has also the speed of a proper train in the countryside. This brought problems of adaptation, with different technologies of motors, wheel dimensions, radio frequencies and signalling. Most trams have doors on the pavement side, and a single driving position, requiring a turning-circle at terminals. The *Stadtbahn* has controls at either end and doors on both sides, like a train. Producing it called for Swabian skills in 'tufteln', fiddling about with widgets, but in 1992 a three-car tram stood ready, looking like any other tram, but with the two outer cars driven at 750 volts DC, and the centre car driven at the railway voltage of 15,000 volts AC.

Karlsruhe had the advantage of owning the Albtalbahn, a former narrow-gauge line to a spa in the Black Forest. In the early 1980s its cars were integrated with the city trams. Then the first line was chosen for upgrading. This ran to Bretten, about 20 miles off: a typical rural branch, carrying about 2000 passengers a day in 1992, on diesel railcars. Ludwig built 11 new halts, took the line right to the centre of Bretten, and at the Karlsruhe end linked it to the town trams. The result was 12,000 and then 14,000 passengers a day, 40 % of these former motorists. After Bretten came Pforzheim, then Bruchsal. Lines have been built to Wörth, on the other side of the Rhine, and Baden-Baden; and in 2000 Ludwig's trams reached Heilbronn, thirty miles away. The Heilbronn extension, running to the Audi works at Neckarsulm, involves a new town tramway, just about to open and reviving a system closed down in the 1960s. Hitherto a problem of opening tramways had always been the need to build new works for maintenance; Heilbronn's trams will be repaired at Karlsruhe.

But Heilbronn is only one town turning to the *Stadtbahn*; in Baden-Württemberg, the systems at

Freiburg and Mannheim are expanding, and there are further Stuttgart extensions in prospect. Three local railways have been reopened since 1996, using lightweight diesels, and there's increasing interest in *Stadtbahn* systems linking the smaller conurbations of Villingen-Schwenningen and Reutlingen-Tübingen, and the communities around Lake Constance.

IV

Certain factors have accelerated the change. One: with the opening in 1991 of the high-speed Mannheim-Stuttgart link (shortly to be followed by a Mannheim-Basel line) traffic fell on a lot of conventional lines, providing suitable new local transport routes. Two: pollution in Baden-Württemberg is bad, and getting worse. Because of windlessness and rising temperature, as well as motor exhausts, ozone levels of 40 mgs are common even in winter, and breathing difficulties widespread. In summer temperatures can be over 30 celcius (90 fahrenheit), making walking or cycling difficult. Three: factory, school and institutional traffic is being won over. Kids are encouraged to walk, bus or bike. Firms can contract with the transport authorities for low-cost season tickets, and though pensioners don't get reduced fares, the state pension is about three times the British average. The average fare is around £ 1, but up to 80 % of passengers travel on season-tickets, which cut the cost by up to two-thirds. This has the incidental advantage that boarding at stops is speeded up, and therefore fewer vehicles are required. Once a 'corridor volume' of about three thousand passengers has been reached, a rail solution becomes optimal. Local passenger traffic has risen between 10 % and 35 % in the last decade; in Scotland it's fallen by 26 %.

V

The tram is 'menschlich'. Trams fit into pedestrianised centres, because the rails show people where they are. The vast cost - and inconvenience - of undergrounds with their escalators, 'muggers' tunnels', and long distances to the platforms, are avoided. The money can instead be used to extend the system to neighbouring communities. Ludwig's trams at Karlsruhe even have express units with buffet cars and toilets (closed-circuit like on Eurostar, since you ask). We have been here before? Sure. Not quite on Clydeside, though in 1914 you could get from Newmains to Balloch by tram if you had a few hours to spare. But before World War I you could travel half-way across the USA on 'interurban' electric trains, nearly all of which fell victim to the car, in many cases being bought over and closed by General Motors and Standard Oil. Remember Lonnie Donegan's 'Last Train to San Fernando'? That was the Pacific Electric - co-star of countless Keystone Kops shorts - bowing out in 1961.

We now have even the makings of a state-wide tram system, with the Saarland Stadtbahn, whose first line through Saarbrücken opened in 1998, aiming at running to the corners of Germany's smallest land, and over the border to France. As activity becomes more intense, pressure grows to have uniform, and hence cheaper, vehicle types. But how much attention is Prescott paying to all this?

Trams are expensive, about three times more than a bus, but they can carry up to three times the load for a third of the labour costs. On a segregated track their speed and greater attracting power

(40 % of motorists will change to rail, only 3 % to buses) makes them a far better long-term bet. Long ago and near to home, in the 1900s Glasgow pioneered the municipal electric tram, and the world came to learn. Edinburgh persisted with its own solution - the cable tramway - and became a curiosity. Scotland has the chance to build on the breakthroughs in Germany, France and Switzerland, but only if its politicians think seriously about an integrated system, and not a series of short-term stopgaps and half-baked ideas.

CHAPTER 13

A CENTRAL SCOTTISH RAILWAY PLAN: BACKGROUND FACTORS

I

At first glance it seems as difficult to separate the Scottish motorist and his (he is, overwhelmingly, male) car as to part the Arab and his steed. A recent report on non-motorists in Scotland showed that even a majority of non-motorists were against fiscal pressures on motorists to change their transport mode! Scots are more enthusiastic motorists than the English; we spend more on motoring and transport, now amounting to nearly 16% of household expenditure (up from 10% in the 1960s) all but 2% going on cars. Until the late problems, rail had gained about 4% annually on its small percentage since privatisation, while bus passengers have fallen by over 36% since 1989.

Yet traffic speeds in cities are now down to stagecoach level (c. 9-10 mph) and a series of figures shows that this huge sum isn't helping things to get better. Scots health remains notoriously bad, whether because of a sedentary life or the stress and tension of driving in congested conditions; Scots children, accustomed to being ferried about, are on average getting fat <and losing initiative>, and the contrast between, say, British and European university students, in terms of intellectual capacity and reliability, isn't a flattering one. The Scottish atmosphere, in the central belt, can cook itself up into a soup of pollutants, dangerous both to health and to attracting new hi-tech industries. Current forecasts envisage yet more cars on the roads (traffic doubling by 2025), and incoming industries, retail outlets and relocating public utilities such as hospitals or colleges, think of parking spaces long before they think of public transport.

A breakthrough to public transport will only be possible when new technologies are deployed which both enhance conventional rail and enable the recovery of the passenger numbers who once went by bus. I argue (on the precedent of Baden-Württemberg) that this can only be done by large-scale 'heavy' rail modernisation supplemented by a light rail network interconnecting with rail and bus through central Scotland. This scheme envisages a rail system adequate to serve central Scotland and attract up to a third of total passenger movements on to public transport. A map shows the extent of this system (broadly comparable with that of a normal German conurbation).

II

Just how essential is the car? It is the fate of most Scots cars to pass all but three-quarters of an hour, each day, immobile: parked somewhere or other, usually further from a workplace than it ought to be. Most car journeys are relatively short, increasing pollution, since catalysators don't kick in until three kilometres have been run. Park-and-ride seems an attractive compromise, but it means that half the door-to-door advantage of the car is lost, and the things accumulate around suburban centres, useless for most of the day. 'Kiss 'n ride' might be a better bet, with the wife/partner keeping the use of the car, but this might be too much for macho Scots.

I remember a young man from Strathclyde Roads and Transport Department saying at a seminar on transport in Glasgow Art College in 1994 that although he had a perfectly good bus service to and from work he preferred to 'have the freedom' to drive. What a sad wee nyaff! Car-obsession tends to be an alternative to rationality, and even to the 'freedom' it promises. Although cars theoretically can go anywhere where there's a road, you can bet that cyclists and walkers will know central Scotland better than motorists. If a public transport system is sufficiently flexible and integrated, and is supplemented by hire buses, it could be evicted from its journey-to-work role. In these circumstances, would there be any future for the two-car family? What role would the car play in shopping? Is the trail to the out-of-town superstore unavoidable, or can it be replaced by the delivery of basic food/cleansers/toiletries by van? Many jobs, for example, could be created among delivery drivers, call-centres and warehouse staff, and recycling (on which we have the worst record in Europe) could be integrated into the delivery process.

In 1995 my transport studies seminar at Tübingen worked out an exercise which involved getting from the Seminar room to the Graf Eberhard pub, one and a half kilometres distant. Four parties set out - on foot, by bike, by bus and by car. The cyclists made the trip in 18 minutes point-to-point. All the rest arrived within seconds of one another at 23 minutes. The motorists had to walk over 100 yards to pick up their cars, and then find a parking-space; those going by public transportation had to wait for a bus connection. But the myth of motorised 'convenience' was squashed.

Comparing their behaviour with the 'outdoors' ethos advertised by the Scottish countryside, Scots aren't very adept users of either Shanks's pony or Dunlop's bicycle. The statistics are pretty humiliating: Edinburgh had under 2% cycle commuters compared with over 37% in Gröningen in the Netherlands, although 25% or so admitted they still walked somewhere. This isn't wholly down to topography or weather. Gröningen hasn't hills, but seems just as windy as Edinburgh, and without being a fitness-freak, I cycled daily for four years from Morningside to Edinburgh University in the 1960s - and the weather's 'improved' since then!

But, in Scotland's case, the country's awful health record seems to have a lot to do with the sedentary sort of life encouraged by motorisation. The walker encounters far too many through roads used by motorists. A one-kilometre trip across Tübingen town centre involved crossing three roads with car traffic, of which only one was major. The same distance from Newington to Edinburgh University Old College involved crossing 12 such roads.

The cost of energy has also fundamentally influenced transport patterns. Maddison, Pearce & colleagues calculated in *The True Costs of Road Transport* (1996) that road passenger and freight

transport was meeting only one-third of its global costs. If the resulting environmental damage was recovered by taxation or prohibition of traffic, then the prospects for public transport would be radically improved. (On the other hand some flows which might be suitable for rail freight might actually vanish, replaced by domestic production. Paying true costs would make us drink Highland Spring rather than Perrier, Irn Bru rather than Coca-Cola). The important thing is that vehicles have to be filled. Another Tübingen University study in 2000 showed that though a full passenger train compares well with high per-capita car emissions, a quarter-full train actually has a higher per-capita energy demand than a full car. We have to be careful about trade-offs between level of service, technical efficiency (there will always be empty trains travelling back to pick up passenger flows) and give full consideration to marketing or planning policies designed to achieve maximum use (encouraging contra-flow traffics by building this into planning programmes, deploying cheap off-peak offers, staggering working hours, etc.).

III

Should we not also be trying to subsidise passengers, 'locking them in' by travelcards which, after payment of an up-front fee, maximise public transport use? The Swiss or Germans tend to offer a yearly railcard or *abonnement* at around £ 100 (along with various means of subsidising this for pensioners, children, students, low income groups, and offering comprehensive deals to firms and local government employees). Is giving universal half-price travel a simpler and better option than the British approach of lower cost + limited validity + restricted categories, plus free travel for pensioners? A comparative study would be useful, to see how much this equalises access, and attracts use. A computer programme which enabled the individual to plan his/her annual family budget for transport by various modes, adding in subsidies, tax kickbacks, etc., might help sensible decision-making. If such data were to be integrated as a neighbourhood study of transport choice - with routes, etc., built in - it should be a useful tool in modelling effective transport provision.

In urban areas the golden rule is: the more the season tickets, the faster the journey. The relation between the speed of loading/unloading, the impact of traffic control, and the mode chosen is crucial. An Edinburgh Number 11 bus from Braids to Princes Street spent roughly half of an off-peak 20 minute run at stops, taking fares, and at traffic lights. When stopped, the vehicle is a dead loss to the operator; its stops could have been cut at least by half, given off-bus ticket purchase (or the 80 % season-ticket level often found in German cities), multi-door low-floor buses, and pro-bus filters. Such improvements would enable a better service to be provided by a smaller number of buses, and an even better service by rail with its own dedicated track. Off-peak use of transport can be further facilitated by very cheap group/individual tickets for evenings, mid-days and weekends, like the DM 40 Baden-Württemberg and Schönes Wochenende tickets. The possibility of travelling anywhere in Central Scotland on a low fixed fare could be a useful charm against car-fixation.

IV

Since Beeching's day the preference has been for concentrating traffic on a few routes to enable high frequency services/electrification, etc. But was the November 2000 breakdown perhaps the

result of the much-vaunted 25% increase in rail use? It must imply a cognate increase in wear and tear - affecting relays, points, signals, etc. As well as planning to end the divisions in transport control, any central Scottish transport plan must guard against over-concentration <by building> a structure in which networks - for freight and passenger use – supplement corridors. But what would all this cost, and how would it be paid for?

The reopening of the Waverley route as far as Tweedbank, amounting to thirty miles of re-laid single track, some new construction and viaduct rebuilding, signalling, stations and rolling stock, has been costed at £ 73 million, or about £ 2.5 million per mile. Extravagant? The building of five miles of A 74 motorway in Southern Glasgow will cost £ 250 million (up from £ 200 million in 1996) or £ 50 million per mile, without allowing for vehicles!

If we estimate the Central Scottish Rapid Transit network (the tram system and joint lines: see map) at a total length of about 430 miles we are talking in terms of £ 4-500 millions capital investment. About 60 miles would have to be constructed, and additional costs would be needed for electrification, interchange stations, etc. The Edinburgh consultation <exercise> suggests that the voters would approve annual transfers to a public transport fund from motorists (through taxing road access) of £ 30 million for the city alone, so the willingness to undertake and service this expenditure is there. In addition to public finance, however, additional cash could also be raised by the issue of bonds from regular passengers. Bond issue has been suggested in the case of the London Underground as an alternative to the <unpopular> public-private partnership. If bond purchase were combined with the individual's own gains from reduced-fare travel, and the financial advantages of not having to run a car, a virtuous circle would be created.

In terms of annual subsidy, we can go on the Karlsruhe example, in which DM 50 million (£ 17 million) is currently required. This subsidises over 40 million passenger journeys a year, and is unquestionably good value. In comparison, the global subsidy for Scotrail is £ 200 million (DM 600 million) a year.

V

In Germany there is mixed private and public ownership of transport resources, but coordination in place of competition. There is no competition from express road coaches, nor any desire for this, as it's appreciated that a concentration of traffic will lead to more investment and therefore a better service in the longer term. The *Verkehrsverbund* acts as the authority which drafts a transport plan and prescribes the levels of service for which the contractors tender. The Ammertalbahn tender was won by the nationalised DB subsidiary *ZugBus*, but that for the nearby Schönbuchbahn was won by the 'private' Württemberg Eisenbahn Gesellschaft (actually the property of the Stuttgart government). This ensures that bus and train are coordinated, with ticketing policy and timetables in common. The Karlsruhe body, which has brought the duration of legal and other preliminaries for line construction down from over 10 to under 3 years, is an *ad hoc* authority, but that responsible for running the S-bahn in the Stuttgart area is an elected regional council.

'Co-ordination' provided the sort of philosophy that was supposed to underlie the creation of the

Passenger Transport Executives in the 1960s. This was undermined by the Transport Act of 1985, with disastrous consequences for bus service development. But surely it's high time that this type of organisation was revived and extended to the whole of central and southern Scotland, with responsibility for strategic planning, the awarding of contracts, and the supervision of capital investment. Such a body, appointed by the Parliament, would liaise with the transport departments of district councils. It would also be granted powers to prepare model clauses which would expedite land purchase and line extension, subject to the continuing supervision of a standing committee of Parliament.

As to ownership, the record of Railtrack has been so deeply discouraging, for a company dependent fundamentally on government subsidy, that a majority of voters – even of Conservative voters – favours renationalisation. A brutal if effective solution would be for government subsidies to Train Operating Companies to be slashed. Railtrack's share price would collapse to a level where a buy-back would cost only a moderate amount, if not the L 1.8 billion of 1994. While this would be disruptive, it shouldn't be ruled out as a last resort. But an agreed solution for Scotland, in which ownership is parcelled between the Scottish Executive, the Train Operating Companies and bondholders, with control resting with the Scottish state (rather along the lines envisaged by Ken Livingstone and Richard Kiley for the London Underground) ought to be achievable.

CHAPTER 14

A CENTRAL SCOTTISH RAILWAY PLAN: THE HARDWARE

I

The basic principle is a network efficient enough for passengers to reach any destination in central Scotland in under an hour. We shouldn't be deterred by the relatively high capital cost of rail. This can be recouped by faster journeys, higher rolling-stock utilisation, fewer vehicles and fewer staff. Over forty per cent of transport costs are still staff costs, but if public policy wants transport to become a job-creator – fair enough: it probably does offer a high number of absorbing and interesting jobs – it should pay direct subsidies to create these. The central Scottish corridor would be served by two rail systems, integrated through a series of passenger interchanges with lifts, covered platforms, etc. The result would be a central Scottish transport network which will adjust itself to the changes of demand throughout the day and week in such a way that a convenient and flexible service is supplied without excess capacity in non-peak periods. These would be blended in with inter-city links to the north and south (to Inverness, Aberdeen and the West Highlands) and freight services. Central to this would be the direct linking-in to the system of Prestwick, Glasgow and Edinburgh airports.

The principle is to go for one high-speed link, between Glasgow Central and Edinburgh Waverley and points south. Professor David Begg recently suggested the upgrading and electrification of the Midcalder-Uddingston line to give a non-stop timing of under half-an-hour. This could easily be integrated with the modernisation of the east and west coast main lines. As happened in Baden-Württemberg after the opening of the express Mannheim-Stuttgart line, other routes –

notably Edinburgh-Falkirk-Glasgow – would be liberated from this traffic, and could sustain a range of conventional rail ‘arteries’, on which railcars of modern lightweight construction would run on longish through journeys: Aberdeen-Ayr, Melrose-Perth, etc. As roughly half-hour frequencies would be provided from the external terminals, these would provide cumulatively, a train every 10-15 minutes in central Scotland. This ‘heavy rail’ – diesel and electric - system would be pivoted on an Ayr-Dundee *magistrale*, with an airport loop at Paisley, a new through rail station at Glasgow Cross, and a through station at Edinburgh Airport. Glasgow Cross would replace most services into Queen Street and Central stations, though these would remain as highland and high-speed/southern terminals. It would be the mid-point of flows from Ayr via Prestwick-Paisley-Glasgow Airport running through to Falkirk, Edinburgh Airport-East Lothian-Borders and Dundee.

Both heavy and light rail would be operated by vehicles tailored to the daily flows, and based on proven but limited types. This interchangeability is in fact the argument which more than anything condemns bright ideas like CERT, the Edinburgh Airport busway, which aren't compatible with rail or orthodox bus. Standard types of ‘heavy rail’ railcars, diesel and electric, should be used for the arterial routes. The Adtranz Regiosprinter used on the Tübingen-Herrenberg line seems a good prototype: it weighs just over forty tonnes (compared with over 50 for a British Sprinter); it seats seventy and can carry a further eighty quite comfortably. It's built of aluminium alloy with a sort of girder-bridge construction which brings its weight to bear on the traction bogies alone. Lightness leads to high acceleration and reduced wear-and-tear. Such railcars have plenty vestibule space for loading/unloading prams, bicycles, etc., and a 1:1 fit to their platforms. In action, they're capable of a top speed of 70 mph - covering the 12 miles from Tübingen to Herrenberg, with nine stops, in 25 minutes. They are, on balance, preferable to tilting vehicles. The latter have to tilt within the loading gauge, which reduces capacity. The Tübingen-Stuttgart tilting railcar has a third less capacity than the Regiosprinter, and standing passengers are going – by definition – to have problems.

Additional diesel stock for the arterial routes – and the lines into the Highlands and north-east - can, in the short term, be provided by rolling stock ‘trickling sideways’ from lines being converted to tram operation. Nor should we be afraid of ‘recycling’ older stock where its bogies and running gear are in good order: many of Germany's most modern coaches are in fact rebuilds of corridor and saloon stock of the 1950s. An awful lot of potentially useful BR Mark III corridor coaches are presently rotting away in sidings at Longtown ammunition works, near Carlisle ...

II

The second network, also of standard-gauge, but incorporating sections of street running, and (where required) sharp curves and steep gradients, would be designed for low-floor LRVs (trams). Its principle would be to provide comfortable to-work services, morning and evening, with coordination achieved by dense levels of service (one tram every 5-10 minutes) and efficient interchanges, both with the arterial system and other light lines. The type of covered-hall tram station used around Karlsruhe would be useful here. Outside the peaks, the same density of service could switch to urban flows in six conurbation areas: Edinburgh, Glasgow, Stirling-Falkirk, Dunfermline-Kirkcaldy, Ayr-Kilmarnock, Tayside. This would facilitate trips to and from

educational facilities, supermarkets, hospitals, town centres. I haven't attempted to outline routes for development in the urban areas. Following the precedent of Karlsruhe, these could well start as integrated bus routes, graduating to rail when traffic rose above the 3000 journeys daily level.

The light-rail system would radiate from a Dalkeith-Edinburgh-Bathgate-Airdrie-Glasgow-Paisley *magistrale*. This would largely use existing rail formations for interurban running – Scotland has many overbridges and underbridges that cut the need for the level crossings which infest German railways - but it would also take advantage of pedestrianised town centres to run directly to the centre of many of the main towns on tramway lines, with very low, or no, platforms, like the very successful ‘tramlink’ project in Croydon. For example, the line would start at Dalkeith, in an interchange with the Waverley line, like that of Karlsruhe’s Albtalbahnhof (see below) and run via Gilmerton, the new Royal Infirmary, Craigmillar, St Leonards, Old College and the Bridges to Princes Street (connections to Leith, airport, etc.) A single depot would service a standard type of vehicle, perhaps a low-platform variant on the Karlsruhe three-car unit, or a standard-gauge version of the Zurich ‘cobra’ five-unit tram. An intermediate type of vehicle is the Düwag Regioshuttle, an articulated low-floor diesel railcar which can use tram-tracks and has been very successfully deployed on the expanding Dürener Kreisbahn, and the Vogtlandbahn in Saxony.

The rail system would be supplemented by multi-door low-floor buses for urban services. These would move on as ridership levels rose to the sort of level where rail becomes possible. Microbuses on the Florence pattern (electric: twelve standing, twelve sitting) seem a good option for city centre/housing scheme services and rail feeders. Taxi co-operatives would tender for off-peak dial-a-bus services, which would be free to season-ticket holders. The object would be to bring the level of such ticket holders to about that of Germany, around 80 %.

Should such a system go for automation, or try to promote job-creation? On Tübingen’s Ammertalbahnhof, a half-hourly service is kept up with between 2 and 4 railcars. A maximum of 4 drivers taking on two shifts are employed. All 12 intermediate halts are unstaffed, all 13 crossings controlled from the train. The previous bus service employed up to 14 drivers, plus the limited rail staff of 4 for the school trains and 3 crossing keepers. The net result is a very good service (carrying 5000+ daily), but jobs are down from 21 to 4. This could affect the popularity of some rail restoration schemes. But on another modernisation scheme, the Baderbahn Usedom in Mecklenburg-Vorpommern, using the same Adtranz Regiosprinter vehicles, 120 staff are employed, managing about double the length of track. The line has also done well, with an eightfold increase in traffic in summer. Given the unemployment position in East Germany one can see why. What sort of strategy should we take up in Scotland?

There's not much doubt that we ought to go for maximum employment. Despite all the fashionable babble about ‘enterprise culture’, the facts of hi-tech manufacturing industry are machines, not people: a *Spiegel* story calculated that in twenty years German manufacturing could be handled by only 20 % of the present workforce. So there’s a need for a multiplication not just of high-quality service jobs, but of occupations which enhance people’s social co-operativeness and personal dignity: something that transportation employment has traditionally conferred. The alternative is to see prosperity sapped by the frustration of the jobless and the futureless. Even on

the Ammertalbahn, there's a problem of minor vandalism and graffiti; schoolkids make its stations untidy and the automats aren't infallible. But nothing like West Scotland, where L 600-odd million was estimated as the cost of the region's drug problem alone.

This ought to mean far more co-operation with the trade unions, whose reputation as brakes on progress lies years in the past. They've been co-operative over modernisation; indeed their record has often been far more sensible and public-spirited than managers and investors obsessed with short-term profit and the gobbledegook of business gurus. Genuine self-management is a real possibility. In practice this would organise a system of two-man/woman operated trains, ticket offices/agencies at or near stations, with facilities – car and bike parking, information, etc. - grouped to make these attractive and secure. For example, Karlsruhe has developed large stations will all-over roofs built over the tram tracks, along with manned buffets, kiosks, etc. The 'Crystal Palace'-style Albtalbahnhof is not far from the main line station, and in the suburbs Eppingen has, under its great timber roof, newsagents, restaurant, travel agency and local information office. Such stations, on the edge of urban areas, make changing from long-distance trains to tram or bus easy and comfortable. They require many short tram-trains rather than fewer long ones; they also transfer traffic from a single terminal – choking the rail lines and surrounding streets - to the whole pedestrianised town centre.

III

How would the economic outcomes work out at a household level? If we use the Scottish household expenditure survey, then total Scottish household expenditure in 1996, grossing up from a weekly outlay per household of £ 300, multiplied by 2.7 million households, was £ 42 billion. Motoring expenditure, at 14 % of this, came to £ 5.9 billion. Per household, this was £ 2200 per annum (plus £ 314 in fares). But the Scottish household (1.85 individuals) has been becoming steadily smaller, what with widows, single parents, children living outside the parental home, etc., so it's more helpful to divide global expenditures by the number of individuals (conveniently 5 million). This gives car expenditure per individual of £ 1200 per annum. Per family household (two adults, two children), this would work out at £ 4800 per annum.

If a family (2 adult + 2 schoolkids) instead of investing £ 4800 annually in car transportation, were to be offered the equivalent of Tübingen-Reutlingen's *Umweltkarte* (DM 100 x 10 months for DM 1000, divided by three to make £ 333 per annum) for local transport (and half-price railcards came to a notional £ 150 + 100 for schoolkids), with a further £ 300 budgeted for in rail fares, the global total would be:

Adult local travel	2 x 333	= £ 666
Juvenile local travel	2 x 150	= £ 300
Adult Railcards		= £ 150
Juvenile Railcards		= £ 50
½ price rail fares		= £ 300
Total expenditure:		= £ 1466

Subtracting £ 1466 from L up to £ 3334 would therefore be available for whatever domestic

expenditure or investment was considered appropriate. This might, or might not, involve hiring cars or participating in a car pool. Certainly, such savings would by no means be uniform, but at least a proportion of these could go into buying bonds in the sort of development trust which would be necessary to create the sort of public transport infrastructure envisaged.

Transport isn't simply infrastructure. A demand for trains, stations, bridges, lifts and escalators – and the expertise to maintain them - stimulates types of manufacture which are intensive in demand for labour and productive of skills: panel-beating, glazing, upholstery, carpentry, as well as engineering. These are far from the repetitiveness of the production-line. Linwood, at which the first Blue Trains were built in 1959, was turned over to car production – the luckless Hillman Imp - a terrible wrong turning. Again, we have to go back to find a way out of our present problems. But by doing so, and by shifting cash away from the car and into investment, we might be able to create the small and medium-sized enterprises our politicians dream about.

CHAPTER 15 HERITAGE, RAILWAYS AND SCOTTISH TOURISM

I

I've stuck pretty much to the central belt, because the congestion factor impels immediate action. This also involves such links as the Perth-Aberdeen-Inverness triangle, the restored Waverley Route and Ayr-Stranraer. For lines north and west of Helensburgh-Inverness the development case relies much more on their importance to the tourist industry. The highland lines were saved from Beeching at a time when the car population was scarcely a quarter of its present level, but their carryings have maintained themselves because of tourists – and in particular the thousands of non-fare-paying visitors who go north on Interrail or Britrail passes. There's nothing suspect about this: in Switzerland the Rhaetian Railway, with its extensive network between Chur, St Moritz and Tirano in the Engadine, carries tourists as over 80 % of its passengers. The important thing is that railways are optimally integrated in tourist strategies, with inviting trains and stations, not cramped, elderly vehicles with little space for rucksacks, let alone bikes, and vandalised bus-shelters on windswept platforms. There is some scope for network extensions, such as a Dornoch bridge to speed up Inverness to Wick/Thurso (and why not, as in Sweden and Brandenburg, retain the Tain-Golspie loop as a 'draisine' line on which families can hire rail tricycles and camp out along the track?), but more imaginative projects will depend on enthusiast participation.

2001 marks the half-centenary of the preservation of the Talylyn Railway. The 'Great Little Trains of Wales' were a sort of enthusiast joke in the 1950s. Now they are major employers in West Wales, and an indispensable element of the tourist industry. Wales has 10 lines with 150 km of track. Scotland presently has under 25 km of track (Bo'ness and Kinneil, Strathspey, <Brechin> and shorter lines at Alford, Toronsay, Dalmellington, Wanlockhead and Coatbridge). This lack of interest may be an aspect of the 'Americanism' of Scots society, which could be pretty unsentimental about its past: it often fell to English groups and enthusiasts to save elements of industrial heritage which the Scots would have scrapped, notably the intervention of the Paddle Steamer Preservation Society to save the PS 'Waverley' in the 1970s. Yet the enthusiasm shown

when the Glasgow trams briefly returned for the Garden Festival in 1988 shows the potential for more ambitious schemes.

II

Heritage transport will get an enormous boost in 2002 with the reopening of the Forth and Clyde and Union Canals, which will not just make Scotland an important link for pleasure yachtsmen, between the North Sea and the Hebrides and Irish waterways, but will form a huge linear park stretching across the central belt from Bowling to Edinburgh. At the moment Central Scotland has one heritage railway, from Manuel Junction to Bo'ness. This route is itself important enough to be integrated into the Livingston-Stirling tram network, while retaining museum steam trains, which could use a new terminus on the Union Canal near Manuel, linking with boat trips to the 'Falkirk Wheel' – the giant lift which will unite the Union with the Forth and Clyde. But the Scottish Railway Preservation Society or another interested operator could be given grant aid to develop other routes, aided by funding from the National Lottery.

One priority is surely a 'main line' preservation project along the restored Waverley route from Edinburgh as far as Melrose. The Scottish Mining Museum at Newtongrange would be reinforced with a locomotive depot, and a turntable (or reversing triangle) near Tweedbank would enable classic express locomotives such as 'Mallard' in the collection of the National Railway Museum or 'Morayshire' in the National Museum of Scotland, to be operated. Given that there is a market for 'hotel trains' among the rich, such a line would be unique in Britain. Sidings at Tweedbank would accommodate land-cruise trains such as the 'Royal Highlander' while guests visit Border castles and abbeys, and regular trips would operate to connect with cruise liners visiting Leith Ocean Terminal.

The value of heritage railways are multifold: they open the cities to their 'green lungs', without unsightly car parks and road congestion. Baden-Württemberg local authorities, besides assisting various *Museumseisenbahnen*, have restored summer Sunday services for walkers and cyclists on the Alb-bahn from Ulm to Sigmaringen via Münsingen, and runs special trains for them (and canoeists) on the Donautalbahn from Sigmaringen to Tütingen. But heritage lines are capable of doing much more. To use Thomas Telford's phrase, they can become 'a great working academy' which can enable the skills of future operators and engineers to be built up in partnership with local schools and colleges. They preserve in living form the finest achievements of earlier generations of Scots. A substantial staff will be needed to operate the two Central Scottish rail systems, not just in train running and maintenance but in catering, management, marketing, public order, etc. Heritage railways can, rather along the lines of the 'pioneer railways' of Eastern Europe, enable training to be carried out. Getting children interested in the railways should also act as a means of lessening violence and vandalism against them. Such a notion may be regarded as seriously uncool – compared with spraying graffiti, playing computer games or tapping out text messages. That's the main reason for favouring it!

The lines I would suggest (and these are simply my own ideas) are: 1. Dunblane to Callander, giving a rail gateway to the Trossachs, and reconstructing a classic early-twentieth century branch line. There are still enough of us around (we're an old country) to call it 'The Tannochbrae Line',

so forward to Arden Hoose! 2. Alloa to Dollar, a classic central Scottish rural branch line. 3. Kirkintilloch to Campsie. This would link the Forth and Clyde linear park with the southern highlands, and could be built on the narrow-gauge or even narrow-gauges, with stretches of 3'6", 2'6" and 2'0" track. This would enable us to bring back to Scotland, and show in action, many of the locomotives which Glasgow and Kilmarnock once exported round the world, from the New Zealand Government Railways to the Darjeeling and Himalaya. 4. Lanark to New Lanark. By contrast, a short vintage tramway line, using old Glasgow stock. 200,000 now visit Robert Owen's factory, why not take them there by tram? 5. Rothesay to Port Bannatyne: another vintage tramway line, worked by Glasgow 'caurs' at Glasgow's resort.

Promoting heritage transport is no more reactionary than promoting other equally archaic things like handwoven tweeds, knitwear or malt whisky. These sell, and since they are unique to Scotland, people are likely to come here to buy them. They are unlikely to be moved by the slabs and car-parks of the Gyle, anonymous and universal. But they will be moved by the attraction of our great transport monuments, like the Forth Bridge or the West Highland Railway; they might be moved even more if reconstructions of engineering marvels such as the classic Clyde paddle-steamers – like the 'Columba' or 'Iona' - were there to carry them instead of dull, utilitarian CalMac car ferries. In Switzerland this happens, why not in Scotland?

CHAPTER 16

THE CULTURE OF A CLEVER LITTLE COUNTRY

All of this involves a change in public culture, to a position where transport of a sustainable sort is seen as basic to our notion of community, at all levels of communication and education. Which means tackling the media. Scottish broadsheets and evenings carry fitful pro-public transport campaigns, but our tabloids simply aren't intellectually up to the business of debating about technology. The occasion in 2000 when the *Daily Record* intervened on the side of Brian Souter wasn't to do with his buses or Virgin Trains, but its loutish attempt over Clause 28 to drag the country back into the middle ages. Its knee-jerk reactions to any attempt to restrict motorists' 'freedoms' can be predicted.

Is broadcasting much better? I recollect an expensively-organised evening discussion hosted by the BBC at Glasgow Transport museum in 1998 when the presenter was so badly briefed that I got asked about airline policies (always eager to please, I did the business about lack of rail connections to airports!) and Chris Green (ex-head of Scotrail, just appointed General Manager of Virgin Rail, got almost totally ignored). Sarah Boyack, however, got a foretaste of her time in power by being roasted over motoring costs. I'm very sorry to be boring about this, but in Tübingen our paper, the *Schwäbische Tagblatt*, reaches around 60% of the population and can run thorough debates on transport and environmental issues, while the local TV channel Südwestfunk 3 offers three-quarters of an hour of local news and issues every evening. There's even a weekly half-hour on railways, *Eisenbahnromantik*, with its 'Chattanooga Choo Choo' theme, while every summer the local railway and theatre get together to offer their *Theaterzug*, a five-hour trip into local history - bad as well as good - via the Hohenzollern Landesbahn. It's so popular it gets booked out months in advance.

You will have noticed, dear reader, that this polemic has a mixture of the informed and the enthusiastic which is the mark of the amateur, not the consultant. I make no excuses. Transport reform is a central part of what theorists of post-capitalist society have called ‘the age of access’, in which the globalised megacorps, the (now-weaker) governmental sector and the alienation of individuals in their cyberworlds is combatted by the development of a culture-based ‘third sector’ of voluntary, environmental and cultural organisations. The American guru Jeremy Rifkin has written in *The Age of Access* that

If the third sector in the United States ... were to disappear overnight, it’s unlikely that the capitalist marketplace – or, for that matter, even government – would survive a fortnight. Although some neoliberals and neoconservatives and most libertarians continue to believe that healthy economies create vibrant communities, in fact the reverse is more often the case. A strong community is a prerequisite for a healthy economy because it alone produces social trust.

There is, however, an alternative to the third sector: the plutonic economy of pathological greed and criminality, which now calls the shots in Russia and much of the third world. Scotland is almost alarmingly rich in social-critical crime fiction, and the writer Ian Rankin described it perceptively as ‘post-imperial’. Down the mean streets, after property-developers, money-launderers, drug tycoons, goes DI Rebus, in his Saab, on a diet that leaves Elvis looking the picture of health. And Scotland, as a rest-and-recreation centre for the very wealthy, might be rather too eager to please. Andrew Carnegie was not a nice man *qua* American capitalist, but he did his bit for the third sector from Skibo Castle: all these libraries, scholarships, peace research projects. ‘The man who dies rich dies disgraced’ wasn’t a sentiment much heard when the journos converged on Skibo in 2000, to see Madonna wed the director of *Lock Stock and Two Smoking Barrels*.

To go back to the beginning, and Pat Kane on car ‘culture’. The play-ethic which he sees at the root of the third sector is in fact, by descent, a Scots concept. It has, according to Rifkin, its roots in the idea of *spieltrieb* popularised by Friedrich Schiller – he of the ‘Ode to Joy’ in Beethoven’s Ninth. Schiller probably borrowed the general idea from the Scottish proto-sociologist Adam Ferguson, and he certainly passed it on to his greatest Scots admirer, Thomas Carlyle, where it figures in his sharp critique of industrial society. For Patrick Geddes this was the ‘palaeotechnic age’ – when man liberated carbon power without knowing how to control it – and it’s now coming bumpily to a close.

It’s only if we’re prepared to create a country clever enough to convert to a ‘geotechnic economy’, in which we conserve rather than exploit our environment, that we deserve our autonomy. Tom Johnston said that he didn’t want a parliament if all it did was to preside over a poor law bureau and an emigration office. Now we’re faced with problems vaster and more intractable than even those of the 1920s, including an ecological catastrophe which is largely rooted in crass transportation policies. Although our Parliament’s begun well (funny how opinion changes: ‘we wis rotten’ in 2000 has given way to ‘we wis magic’...), it needs a big cause. This is it.

A note on further reading

As remarked on in the text, the literature on transport is wildly variable in its coverage, and includes a huge gap where the history of road freight haulage ought to be. Much of my bibliography is effectively home-made, as I've hoovered up press cuttings on transport and linked topics – pollution, environment, town planning, consumerism – together with the reports of transport operators, public statistics, etc., over the last decade, more recently supplemented by print-outs from the net. Should anyone want information from the eight hefty A4 files of these in my German office, contact christopher.harvie@uni-tuebingen.de. There are also an increasing number of websites which are of value, such as www.railtrack.com, www.bahn.de, www.karlsruhe.de/KVV. For Scottish Executive material see www.scotland.gov.uk, and for other transport reforming/preservation bodies see www.transformscotland.org.uk, www.srps.org.uk. Councillor Lawrence Marshall can supply information on the Capital Rail Action Group (CRAG) on lawrence.marshall@edinburgh.gov.uk, and Dr Paul Salveson on TR&IN train@platform8.demon.co.uk.

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