

Industrialisation and urbanisation in Scotland 1700-2000¹

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By Roy Hay

The past is a different country and it is hard to imagine the Scotland of 1906, only one hundred years ago. Then this small nation of under 5 million people was at the centre of the largest empire the world had ever seen and provided much of the motive power, technology and personnel who made that imperial system work. In the words of *1066 and all that*, Britain was top nation—and the Scots were at the heart of it.² The old joke about an Englishman being a man who lived in an island in the North Sea run by Scots was very nearly true. The Scots boasted the second city of the Empire, Glasgow and one of its main cultural centres in the capital, Edinburgh. So how did that come about and what problems came with it, and I suppose, why did it not last?³ Is Scottish industrialisation and urbanisation in any way different from that which took place south of the border? Should the Scottish example be seen as simply a regional variation? What were the gains and losses involved in the process of capitalist transformation in Scotland? Was it a sudden or a protracted process.⁴ You will get a chance to judge when you look at *Industrial Forth*. There are lots of questions still extant about the nature of Scottish industrialisation and urbanisation. In the next few minutes I hope to provide some answers, some discussion and some suggestions as to how to pursue your interests in this area of history.

At the time of the Union of the Parliaments in 1707, something which is often presented in nationalist accounts as an English take-over, and despite the poverty of many of its people, Scotland was already country with significant industrial activity.⁵ Coal and lead mining, salt panning, paper making, textile spinning and weaving, particularly of flax and linen, leather tanning and construction industries already existed, albeit on a small and often very localised scale.⁶ Scotland was heavily involved in domestic and international trade, particularly with its neighbour to the south, but also with the countries surrounding the North Sea and the Baltic, while an attempt to extend trade across the Atlantic had contributed to the Darien disaster in the 1690s.⁷

Urban centres in the central lowlands were already in existence, particularly Edinburgh, but Glasgow had begun its inexorable growth in the early years of the eighteenth century and Dundee and Aberdeen were significant ports, and there were several smaller port towns particularly along the east coast of Scotland.⁸

Photo 1

Stonehaven harbour is on the east coast end of the fault line dividing the highlands from the central lowlands of Scotland.

These towns became important local sources of demand resulting in increasing specialisation to supply them. Domestic transport remained very difficult with roads which were quagmires in winter and rutted dustbowls in summer. So much internal trade took place by coastal shipping, with the main rivers, the Clyde, Forth, Tay and Don providing limited access to the interior. There are very few places in Scotland which are more than 50 miles (80 kilometres) from the sea or a navigable river. Yet getting goods from the coast to the inland areas could more than double the selling price in many cases.

Photo 2

Mill and grain storage with boat on north shore of the Firth of Forth near Charlestown.

Agricultural improvement was yet to get under way seriously, but there are arguments that the growth of London as a metropolis was already having an effect on arable production and marketing as far north as the Scottish lowlands in the seventeenth century.⁹

Photo 3

Preston mill on south side of the Forth. A water powered grain mill in an important agricultural area of Scotland.

Photo 4

The water wheel at Preston mill.

Pastoralism was well developed with cattle from the highlands being driven south for fattening and sale to growing urban markets.¹⁰ The process of replacing human beings by sheep in the highland glens was imminent, while the kelp industry, brewing of ale and distilling of whisky kept several local communities afloat. Attempts to resuscitate the reputation of the Jacobites as modernisers rather than obscurantists are not very convincing, while clan warfare did not contribute to internal political stability or economic development.¹¹

In the short run the economic consequences of union may have been adverse, especially when it was contested in two major rebellions in 1715 and 1745 and the repression which followed the latter.¹² Opening up the Scottish economy to English competition resulted in a sharp decline in a range of industries, despite some special conditions written into the Act of Union, protecting the native salt industry, for example.¹³

Photo 5

Chris Whatley, the historian of the Scottish salt industry, emerging from the mouth of Sir John Erskine's silver mine in Alva glen in the Ochil hills.

But Scottish agricultural production flourished as new practices, enclosure, farm consolidation and management, crop rotation, selective breeding of animals and the use of hand and later machine tool technology began to spread particularly in the east coast plain of the central lowlands. In the Highlands it was a different story as in the wake of 'Butcher' Cumberland came a carpet-bagging group of factors and tacksmen, mainly English and lowland Scots who cleared the population of many of the glens to replace them with sheep, on behalf of an often absentee landlord class, who needed income from their estates to support an increasingly expensive lifestyle in Edinburgh and London. A proportion of the Scots who had found themselves surplus to requirements in the Highlands found their way to Australia in the first half of the nineteenth century and settled in Gippsland, the Western Districts of Victoria and northern New South Wales, some of whom doing to the Aboriginal population what had been done to them in their homeland.¹⁴

It is arguable that population pressure would have resulted in a transformation of Highland society even in the absence of the clearances, but the evictions took place and resulted in much bitterness and sporadic acts of resistance. Remembering that the British state was at war with France and its allies for more than half the time between the Revolution in 1688 and 1815, and preparing for war for much of the rest, one effect was the demand for soldiers and sailors to fight these imperial wars.¹⁵ So the pacification of the Highlands by Cumberland meant that the warlike spirits of the former clansmen could now be directed into overseas rather than domestic conflict. The Scots had always been prepared to fight for anyone who would pay them enough, and now the British state became the paymaster.

The transport infrastructure of the country was improved in the aftermath of the '45. Roads were constructed to make the movement of troops easier, but this also helped with the distribution of goods. From the mid-century onwards, turnpike trusts channelled finance into the construction of roads for explicitly commercial purposes. Over 350 were formed in Scotland between 1750 and 1840.¹⁶ Harbours and ports were extended and developed often by local landowners. A combination of a new-found interest in agricultural improvement and the exploitation of mineral resources on their estates encouraged this class to use their political influence and financial clout to reduce transaction costs, as transport was, as we have noted already, a significant element in the cost of goods in the eighteenth century.¹⁷ See the *Industrial Forth* video for a number of examples.

Photo 6

Charles, 5th Earl of Elgin, had these limekilns built in the port village of Charlestown in the 18th century,

Still water borne transport remained vital and improving the navigation of the main rivers and canal building were key features of infrastructure provision in the late eighteenth and early nineteenth centuries. The Forth and Clyde, Caledonian and Crinan canals were the most important, enabling bulk supplies of coal, iron ore and grain to be moved economically for virtually the first time.

Canal construction supplemented developments in shipbuilding around the turn of the 19th century. We tend to be seduced by the invention of the steam engine and the design and building of iron and later steel ships, but improvements in the capacity and efficiency of sailing ships, and in the port facilities which serviced them, in the late eighteenth century enabled Glasgow to become a major domestic and international port, undercutting established English competitors in the lucrative tobacco and sugar trades with the West Indies and the eastern seaboard of North America, before and after United States' independence.¹⁸ A little bit of cheating on the customs duties helped!

In the last quarter of the eighteenth century the pace of change quickened in Scotland.¹⁹ While there may not have been the kind of surge captured in the image of an industrial take-off proposed by Rostow, it is clear that in several parts of the country industrialisation was taking hold and a growing population was being fed and finding employment. Conditions for the urban and rural poor may have been pretty miserable but a broader based economy was to protect them from the worst ravages which faced the Irish peasantry when the potato crop failed half a century later. Chris Whatley thinks that Scotland may have experienced the pattern of growth outlined by Alexander Gerschenkron, who argued that the less advanced countries would actually industrialise quicker than the leaders like England, using institutions like the banks and in extreme cases the state to kick-start the process. Enterprises might have to be on a larger scale to be competitive.²⁰ There is some evidence in support of this hypothesis. Scotland had the most advanced banking system in the United Kingdom by the end of the eighteenth century, which was not hamstrung by the Bank of England's growing monopolisation of the note issue and the six-partner rule which limited the size of banks in England. Bills of exchange and the cash credit system and the issue of low denomination bank notes helped overcome shortages of liquid funds at all levels, though a liberal credit regime could result in some spectacular bank crashes like that of the Ayr Bank in 1772.²¹

Scottish lawyers and legal firms acted as go-betweens transferring the funds of savers to financial institutions and sometimes directly into industry and trade. Local communities

supported bright young males with what was effectively start-up capital either for education or business. Much of this informal lending has escaped the notice of economic historians

Table 1 West of Scotland banks 1750–1870

Historians also like to speculate about the impact of the Scottish enlightenment on economic development.²² Access to the culture of England and Europe and a strong domestic tradition of popular education enabled a generation of writers, philosophers, poets, scientists and technicians to flourish in receptive conditions. Last week you had Bill Murray reciting and singing Robert Burns I believe, but he was only one among many household names who flourished in this period. Adam Smith, the founder of modern political economy, the philosopher David Hume, Thomas Carlyle of Ecclefechan, novelist, historian and social critic, William Robertson, the historian, James Watt, Thomas Telford, John Loudon MacAdam, and many more had a world wide impact and it is hard to believe that they did not inspire the people at home.

Photo 7

Adam Smith from the Tassie Medallion.

Tracing a direct connection to industrialisation and urbanisation is more difficult of course though Watt, Telford and MacAdam were intimately involved, Watt through his partnership with the English entrepreneur Matthew Boulton. Their steam engines were to revolutionise the key industries of the industrial revolution throughout the world. Telford and MacAdam were pioneers in the design and construction of roads and bridges.

More broadly, however, by offering a rational alternative to religious fundamentalism at both extremes and fostering a spirit of enquiry and personal discovery the scions of the Scottish enlightenment and their followers changed the intellectual climate of Scotland.²³ It is hard to believe that it was just a coincidence that this efflorescence of talent and the transformation of the country occurred at the same time. The existence of a number of

ancient universities and the development of specialisms therein, including the Edinburgh medical school, were surely influential too. There was a program on Compass on the ABC a couple of years ago on the Scottish witch craze of the late sixteenth century. You don't need to accept all the interpretation offered by the makers of that pseudo-documentary to realise that the Scotland of the late eighteenth century was a very different place.

Map 1 Map of Scotland

If people were important, then resources were also vital. Scotland had large reserves of reasonably accessible coal in measures which stretched across the central lowlands from Ayrshire in the west to Fife in the east. (See map) Once the problem of draining pits was solved by the use of water and then steam power, coal could be mined relatively easily and cheaply for industrial and urban uses. Then in close proximity there were substantial deposits of black-band ironstone which, when a major technical problem was overcome by the development by J B Nielson of the hot-blast process, became the input into the wrought iron and later steel industries in the west of Scotland. The combination of iron and coal was the key to industrial progress as John Harris pointed out many years ago.²⁴ The technologies involved were of a different order from those encountered in the production of wrought iron using charcoal as a fuel and they had spin-offs into engineering and machine toolmaking which were to form the basis of the peculiar pattern of Scottish industrialisation in the nineteenth century.²⁵

Photo 8

Cornish engine house near Alva. Driven by a Watt single cylinder steam engine through the beam and shaft visible on the right.

Some of the largest industrial plants in the world at the time were established in Scotland in the late eighteenth and nineteenth centuries with the Bairds of Gartsherrie and the Carron Company near Falkirk in the iron industry, Tennents at St Rollox in chemicals, and a series of textile operations including Templetons in carpets at Calton in Glasgow, Coats-Paton in Paisley and Alloa and the David Dale/Robert Owen complex at New Lanark in cotton. Railway engine, shipbuilding and engineering followed close behind

with the Clyde being responsible for two-thirds of all the iron ships launched in the United Kingdom by the mid-nineteenth century. 'Clyde-built' became a symbol of quality and reliability and skilled workers from that area were in demand around the globe.²⁶

The Scots developed a reputation as the Japanese of Europe. They began by copying best practice in other advanced areas of industrial activity in England and Europe, then followed this by innovating to reduce costs. This rather than more celebrated invention may have been the key element in the growth of the economy. Entrepreneurship, the ability to see and seize economic opportunities was highly prized and rewarded. People were prepared to take a punt on improving products for domestic and overseas markets. Businessmen were aided by lower labour costs than south of the border, though questions about the efficiency of low-wage labour need to be taken into account.

The Scots were adept at exploiting non-tariff barriers to trade. Economies of scale were achieved in key trades like sugar, tobacco and cotton and some of the incomes generated by the Glasgow merchants were then ploughed into domestic manufacturing. Chicanery, cheating and manipulation went on, but there was enough trust and honesty to allow the system as a whole to grow, with benefits which transcended individual industries and trades.

The 1830s to the 1850s saw the creation of the main elements of the Scottish railway network financed partly by borrowing from English sources and partly from local resources of merchants and landowners with some assistance from the banks. Competition from railways forced canal companies to cut their rates. Railways, particularly the main north-south lines integrated the Scottish economy with that of England by overland routes reducing the dependence on coastal shipping. (See map)

Map 2 Railways in Scotland

Photo 9

Coastal shipping remained significant till well into the twentieth century. These little puffer boats, immortalised by Neil Munro in the 'Para Handy' tales, serviced the highlands, islands and estuaries of Scotland.

Workers' attempts to form trade unions and improve their share of the growing wealth were initially fiercely resisted both legally and in a series of industrial confrontations, resulting in another group of people being transported to Australia, for example, after the Radical War in 1820.²⁷ Trade unions, sometimes disguised as Friendly Societies, did establish a foot-hold in a range of industries in the nineteenth century, usually beginning among skilled workers whose scarcity value gave them bargaining power, but later on extending into the ranks of the unskilled and rural workers. Women who made up a significant part of the labour force in textiles and domestic service had an even harder battle for recognition, often having to contend with male union opposition as well as employer recalcitrance, though eventually women too were partially successful in organising.

There are a number of reasons why so little is known about how females experienced the industrial revolution and the organisation of labour in Scotland, as elsewhere. Some are practical, ranging from legislation to the more obvious public presence of men in more prestigious skilled jobs, and the greater power held by them in households and workplaces. Others relate more closely to the ways in which theories and data, and what is held to be 'important' are constructed and interpreted, included the ways the early censuses were designed and conducted; the manner in which classical and neoclassical economics has *systematically* marginalised women; and how 'work' itself has been defined and measured.²⁸ There are also some sociological aspects to be considered, like gender variations in rites of passage to adulthood, and constructions of masculinity and femininity.

You might like to reflect on Tom Devine's chapter on women in *The Scottish Nation* and wonder whether he has placed rather too much emphasis on the census categories for women and employment, for example, without querying how this data was constructed.²⁹

The 1801, 1811, 1821 and 1831 censuses merely counted people and divided their occupations, defined by that of the household head, between three basic categories, none of which accurately recorded the economic contribution of women or children. Despite these marginalising effects, it is worth noting that this approach reflected common contemporary notions of a family, or household, economy, and the forms of industrial and agrarian organisation based on it. How those notions were formed is, of course, another matter entirely. For example, Higgs notes a study that found married female mill workers in south-eastern Scotland classified as '(Occupation's) wife', rather than as employees in their own right.³⁰

Maxine Berg raised another important argument about the distribution of women in the workforce and its implications.³¹ She argues that '...our views of the low productivity of British industry in the crucial years of the Industrial Revolution [have] been distorted because we have been looking at the industrial distribution on the wrong workforce... [because] it was the female not the male workforce which counted in the new high-productivity industries.'³² Looking at what is usually taken as the leading 'dynamic' industry, she notes that the proportions of women and children employed in the cotton industry were higher than men both inside and outside the factory system. In other parts of the textile industries too women were very important. These were industries which were important in the Scottish economy, despite the later significance of heavy engineering, iron and steel working and mining. Within textiles however there were always the risks of discontinuity if generations of women were unable to transmit their skills to their children as Mary Freifeld argued.³³ She noted how male employees were able to monopolise the use of certain categories of machinery previously operated by women at a key point in technological change in the cotton industry, with serious consequences for skill preservation by women workers.

More generally we need to be aware of the consequences of shift from a family economy in which males, females and children were involved in agriculture and small-scale industry to one in which the labour market was segmented and what became specific, very often arbitrary male and female occupations emerged.

Photo 10

Weavers' cottages in the foreground and small water-powered and large hand-powered weaving factories in middle distance and background in Alva.

Photo 11

Strude mill, Alva. A large handloom factory later converted to water and steam power. Note the clock and bell tower.

Photo 12

Overshot sluice for waterwheel on textile mill in Alva.

Sex-segregated labour markets may also have served a demographic purpose. Jane Humphries argued that the gendering of work-places constituted a form of social control designed to prevent casual sexual liaisons and illegitimate children. She pointed out that, for rich and poor alike, illegitimate offspring could be an economic disaster. For the upper classes, 'inopportune liaisons ... might lead to the fragmentation of holdings and loss of status; for the poor [they] might generate children ... who could not produce their own subsistence and therefore must reduce the standard of living for all'.³⁴

The growth in scale of industry, urbanisation and the attempts by employers to get the maximum production from expensive capital equipment by running it for long hours, and the competitive struggle for profits, led to severe pressures on workers in early industrialisation. As workers grouped together more regularly in larger enterprises the common problems they faced generated similar responses including the formation of trade unions. Skilled workers still tended to be those who could organise most effectively because of the increased bargaining power their skill gave them. This was jealously guarded against employer attempts to replace them by technology or by cheaper less skilled workers, including women and children. The protection of women and children in particular from exploitation became a public issue early in the industrialisation of Britain. The Health and Morals of Apprentices Act of 1802 was one of the first attempts to limit the hours and improve the conditions of work for certain groups of children. Children were regarded as unable to enter into a free wage bargain as adult males could do.

Gradually such protective legislation was extended to women and children in the new and rapidly growing textile factories and in coal mines and by 1847 a major piece of consolidating legislation limited the hours of women and children and prevented women from being used underground in coal and other mines.

The development of this legislation raises many questions of motivation and interpretation. Much of the early historiography saw this legislation as inherently progressive, protecting vulnerable groups in society from intolerable conditions. Though writers like the Hammonds, Webbs, G D H Cole were aware that adult males had supported such legislation through their unions and otherwise as a means of trying to improve the conditions for workers generally. If factories depended on the employment of women and children, and their hours could be limited, then male hours might also be reduced correspondingly. Gradually it was realised however that some male attitudes were even less altruistic, regarding this kind of legislation as a means of reducing the competition from women and children for employment. From the point of view of some women and children so-called protective legislation could indeed remove opportunities for employment and hence make their livelihood even more precarious. On the other hand, many progressive or paternalistic employers supported such legislation, because they believed that providing better conditions would lead to higher productivity, though this might be offset by higher costs. By limiting hours however the sweatshops and factories which ran for long hours and in poor conditions would be driven out of business reducing what was seen as an unfair or illegitimate competition.

Though many employers remained obdurately opposed to worker organisations throughout the century, fighting some bloody battles with labour with the assistance of the state, such as the cotton spinners strike in the west of Scotland in 1837.³⁵ Serfdom still existed in Scottish coal mines till well into the century and was replaced by a ferocious paternalism thereafter.³⁶ Other employers were prepared to find an accommodation with labour, indeed to take the lead in schemes of social regeneration within the factory system, as did David Dale and Robert Owen, the socialist owner of the New Lanark cotton mills.³⁷

The industrial relations scene and indeed the composition of the urban population of Scotland were dramatically altered in the mid-nineteenth century by the Irish potato famine. This both set back the development of that country and led to the flight of millions of starving peasants to Scotland, England, then across the Atlantic and to Australia. In Scotland the catholic Irish found themselves reviled for their religion and their habits, but accepted and tolerated as brute labour in construction, transport and extractive industries. Where what Alec Nove used to call 'Yo, heave ho' labour was required, there you would find the Irish in numbers. They clustered together in the growing urban centres to be near to the work available, contributing to overcrowding and the burgeoning of slum housing. They were widely regarded by the natives and outside critics as being prepared to put up with conditions which animals would reject and blamed as the cause of their own misery. It enabled some poor protestant Scots to have someone to look down at, so the basis of a sectarian ghettoisation of the immigrants was laid early, not helped by an influx of militant Ulster protestants later in the century.

The growth of the Scottish cities, Glasgow in particular, was stunning. In 1801 there were 70,000 people in that city. Fifty years later there were 345,000 and by 1901 it had more than doubled again to 776,000. Ten years later, with the incorporation of nearby suburbs, the second city of the empire had over a million inhabitants.

Photo 13 Swan's View of Glasgow, 1828: Glasgow from the South East

Photo 14 Swan's View of Glasgow, 1828: Justiciary Buildings from Charlotte Street

Edinburgh, which had 83,000 at the time of the first census in 1801, had just under 400,000 a century later. Aberdeen went from 27,000 to 154,000, and Dundee from 26,000 to 160,000 in that time.³⁸ Growth on that scale meant that these cities faced intolerable problems of housing, food and water supply, sanitation and sewerage, and consequently rampant disease. Social critics like James Kay and Frederick Engels may have concentrated on Manchester as the shock city of the British industrial revolution, but

Glasgow had some equally appalling slums. The depth of human misery which resulted is hard to contemplate even today.³⁹

Table 2

Population of Scotland

	1801	1851	1901	1911	1951
Total population	1,625,000	2,896,000	4,479,000	4,751,000	5,096,000

Population of major centres

City	1801	1851	1901	1911	1951
Glasgow	70,000	345,000	776,000	1,000,000	1,090,000
Edinburgh	83,000	194,000	394,000	401,000	467,000
Aberdeen	27,000	72,000	154,000	164,000	183,000
Dundee	26,000	79,000	161,000	176,000	177,000

Source: B R Mitchell, *Abstract of British Historical Statistics*, Cambridge University Press, Cambridge, 1962, pp. 6 and 24-25.

But given that cities like Glasgow, Birmingham and Manchester were the first to experience the consequences of modern industrialisation, they were also amongst the first to address the problems that were revealed. Improved transport in urban areas allowed the middle classes to move out and the houses they left behind were colonised by the poorer working classes. As pressure built up the houses deteriorated and slum areas like the Gorbals later became notorious. Glasgow began urban rebuilding in the 1870s, demolishing substandard houses and replacing them with the tenements, which are now regarded as one of the great Victorian legacies. Not built, as I thought in my youth, using black bricks, but in lovely warm red and cream sandstone. (If I can digress for a moment, when you hear that in Glasgow there might be ten people in a family in a one room and kitchen house, can I just mention that when we returned to Glasgow to live in a flat next to Glasgow University in 1970 the cubic capacity of the front room was almost identical

to that of the whole of the three bedroom house we had left in Norwich.) Council housing was begun on small scale with the intention of providing shelter, sometimes at a subsidised rate, which would allow the poor to have a roof over their heads. It was perhaps not an adequate response but it was a start.⁴⁰ Because Glasgow was so massive, its problems, its solutions and its mistakes were often on a huge scale too. The solutions of one generation became the problems of the next.⁴¹

Photo 15

When Glasgow's citizens went on holiday they often travelled by paddle steamer from the Broomielaw on the River Clyde to the islands off the west coast of Scotland.

The obverse of the growth of the cities was the impact of industrialisation on the rural parts of Scotland, particularly the Highlands. There the combined effects of the clearances and competition from urban industry resulted in an undermining of such local enterprises as existed. Changes in tastes, prices and resources saw some flourishing trades disappear at high social cost to those involved. The kelp industry in the west highlands had a brief efflorescence until about the 1820s then collapsed.⁴² Attempts to develop an industrial centre at Skibo in Sutherland, foundered on problems of distance from markets and competition from the south. Whisky distilling resisted the trend to form the basis of a highly profitable industry in the twentieth century. Sheep farming and deer runs replaced peasant farming, though a revived protest movement in the latter part of the nineteenth century was able to re-establish crofting tenure against the odds in the twentieth.⁴³ For those groups which retained some toehold in the land, this usually meant that several members had to emigrate, either temporarily or permanently. So many families would have one son in the merchant navy, another perhaps in the church or the army and a daughter or two in domestic service in the southern cities or further afield. Hired by the term, agricultural labourers managed to eke out an existence in this unforgiving landscape, even exerted some form of control of their immediate conditions through their skills, and brought up resilient and resourceful successors of both sexes.⁴⁴ Eventually too a romantic nostalgia, the writings of Sir Walter Scott, Compton Mackenzie and eventually the discovery by Hollywood formed the basis of a recreation of the Highlands as a tourist venue. Later still the discovery of oil in the North Sea gave Aberdeen and

Inverness a new lease of life in the late twentieth century, a legacy which was squandered in part by the policies of the Thatcher government, though the Scots must shoulder some of the blame.

Not all the rural areas were de-industrialised in the nineteenth century. The border country became the centre of a high-quality woollen industry which established niche markets around the world. Pirns for the cotton industry were made in large numbers on the west coast of the Isle of Arran, at a place called not surprisingly Pirnmill. Local breweries grew and prospered until the industry was highly concentrated in the mid-twentieth century. Planned villages formed by local landowners had a chequered history. Some were highly successful, others were ostracised by the locals and some succumbed to competition from urban areas. Fishing and agriculture continued to provide potential inputs to a range of processing trades and the *Industrial Forth* video has several examples in Alloa, Clackmannan and Fife.

Photo 17

Dovecote (pronounced doocot in Scotland) near Preston mill.

By the end of the nineteenth century Scotland was an industrial country in the normal sense of that word. This does not mean that factory industry was the majority source of employment or wealth throughout the country. Though the agricultural part of the primary sector had shrunk in terms of shares of output and employment, the growth of mining, still a highly labour intensive industry in Scotland until the twentieth century, and the resilience of fishing meant that the primary sector was still a major employer of labour. The service sector including transport and domestic service also employed large number of people, so only about a 35-40 per cent of the workers were a true factory proletariat on average, though concentrations were higher in some single industry towns. Even a city like Glasgow had a mixture of factory and other forms of employment. This made industrial organisation by workers more complex and fragmented and even at times of heightened industrial and political conflict, in the years before and immediately after

the First World War, it remains debatable whether Clydeside deserved its red reputation.⁴⁵ Stuart will be discussing this in a later lecture.

Photo 18

A symbol of the age of steam and steel in Scotland, the Forth Rail Bridge, constructed in the 1880s at the direct cost of 57 workers' lives.

From its apogee in the years leading up to the First World War, the relative position of Scotland in the world economy and within the United Kingdom began to decline, if the measurement is in terms of shares of output, technological prowess and high-level labour craft skills. On other measures such as living standards and quality of life some historians have argued that even in the disrupted inter-war period, particularly the 1920s, the standard of living was maintained as price falls offset declines in employment rates. Large trade offs are involved here and it is not clear that such an economist's assessment corresponds very well with the way people perceived what was happening to them. The Great Depression of the 1930s hit all regions of north and west Britain very hard and Scotland did not escape. Its staple industries, coal, shipbuilding, cotton and engineering were all in decline and it took a generation or more before new industries appeared to replace them.

The Second World War and the return of a Labour government was hailed as the chance to redress some of the inequities which had plagued the country in the inter-war period and the nationalisation of key industries and massive programs of house building and slum clearance offered the prospect of a better, if not necessarily a socialist, future.⁴⁶ I am old enough to remember when nuclear energy was the white hope of the British left, since it would provide cheap, clean energy and prevent miners having to work in appalling conditions and exposure to dreadful wasting diseases. Like many of the promises of that brave new world this one was to have a very mixed legacy, but for the mass of the people, full employment and attenuation of some of worst risks of industrial society through the welfare state and the national health service, was a huge boon. One of the most acute historians of the British experience in the immediate post-war period, Rodney Lowe, suggests that perhaps the greatest benefit of these reforms taken together was that

they reduced somewhat the awful uncertainties of life faced by the working class and the poor in Britain and elsewhere where similar measures were adopted.⁴⁷ 'Freedom from fear of absolute poverty and universal access to services such as the NHS and secondary education dramatically improved the quality of the lives of many. So too did the comparative job security and, above all, the sustained rise in average living standards that emanated from full employment.' He says it is impossible to quantify that psychological benefit, but it is very real.

The conversion of wartime industries to production of consumer goods for a growing mass market and the opportunities for discretionary spending by a newly invented class of young people, called teenagers, when they weren't Teddy Boys or Mods and Rockers, changed the face of Scotland, but in the 1980s Glasgow was still rated as the city with the worst indices of multiple deprivation in Europe. My good friend, Vincent Cable, now Liberal Democrat MP for the London borough of Twickenham, but then Labour councillor for Maryhill in Glasgow, once explained to me why this city which had the lowest car ownership per head of population in the United Kingdom, nevertheless had a largest mileage of urban motorways in the country. 'My constituents don't have cars', he said, 'But they vote for motorways. Because that is the only way they will have their slum houses knocked down and they will get a chance to be rehoused in Cumbernauld or East Kilbride in decent conditions'.

The discovery of oil in the North Sea boosted and distorted the Scottish economy in the 1970s and 1980s, helping create a new range of industrial activities, and for a brief period, a klondykeing spirit in the north east centred on Aberdeen. Substantial public subsidies and perhaps a nostalgia for a half-remembered Scottish ancestry on the part of American entrepreneurs attracted some new high technology industries to the central belt of the country as 'silicon glen' helped compensate for the decline of engineering and shipbuilding. Some remnants of the old spirit were revived in the construction of the Falkirk Wheel, to tranship barges between the Union and Forth and Clyde canals.

Photo 19

The Falkirk Wheel consists of two 300–tonne caissons which rotate through 180 degrees in less than 4 minutes, raising and lowering barges 24 metres using about the same amount of electric power it would take to boil 8 kettles of water.

Scotland's heavy industry and mining was the victim of global economic conditions and, it has to be said, the economic rationalist fundamentalism of the Thatcher government in the 1980s. So if Scotland went forward, it also went backward. It was, as Chris Harvie said, a land with no gods and precious few heroes, though now in 2006 it has its own parliament once again and a greater responsibility for its own destiny.⁴⁸ And the greatest boon is that means it cannot blame anyone else for its problems today.

References

¹ This lecture draws on Dr K M Haig-Muir's chapters on women and work for the Deakin University units on the Industrial Revolution and Labour History, with her permission.

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