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THE TAYSIDE INDUSTRIAL POPULATION

THE CHANGING CHARACTER AND DISTRIBUTION OF THE INDUSTRIAL POPULATION IN THE TAYSIDE AREA

1911 - 1951

By

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AIMS AND OBJECTS

The object of this exercise is to study the changes which have taken place in industrial employment in the Tayside region as a whole during the first half of the twentieth century, and to do so on a detailed local basis. At the outset, let us consider why it should be thought worth-while, in terms of the time and resources involved to engage in such an enterprise.

It should not be necessary to prove that an understanding of events in the past is necessary for an understanding of the contemporary situation in Tayside. To understand the social and economic circumstances of the present day it is necessary to know how they have developed into what they are, and from what they have developed. One important aspect of social and economic life is the kind of work on which men are engaged, so that if we know a good deal about that we do at least have a foundation upon which to build a greater knowledge of the life of a period. Of course, employment is only one restricted aspect of social and economic life, and we want to know much more than that. Most obviously, different jobs can earn different pay, so we do not know enough about social welfare unless we know how particular jobs are remunerated. The value of the work done will vary a great deal, according to the prices which are obtained for goods which are sold or payments are made for services which are rendered; and unless we know what these were, and how they changed, we cannot tell how large or small a contribution a particular industry or occupation has made to the social and economic life of a community. Figures of the number of persons employed will not, of themselves, provide this information-we need to know, in the terminology of the economist, the value of the net product of each industry. And again we cannot understand how rewarding it was to work in a particular industry or occupation unless we know how long the working day had to be, or how strenuous or monotonous or unpleasant the work was, or how much skill and knowledge it required. We cannot understand why a particular industry made the contribution it did at any time unless we know the level of technology which the industry had reached, and how it was affected by competition from the products of other industries at home or abroad.

However, figures of employment provide one basic and essential piece of information about social and economic life, and unlike many

others this is one kind of information which can fairly readily be obtained. The censuses of population, for a century and more up to 1951, provided increasingly precise information about the industries and occupations upon which people were engaged, and then from the middle of the inter-war period onwards the figures published or recorded by the Ministry of Labour provided a further source of information from records of unemployment insurance.

There were various limits, however, on the extent of the information which could be obtained from either of these sources. The census was held only once every ten years, and the details collected were only slowly refined and elaborated and made reasonably consistent from one census to another, so that it was not until the census of 1911 that it was possible to make systematic, though still only approximate, comparisons between one census year and the next. Then the complete census coverage of industries and occupations which had been evolved up to 1951 was discontinued in 1961 and replaced by 10 per cent sample surveys in each area. For most purposes this was no doubt sufficient, but it meant that detailed local studies, of the kind pursued in this work, were no longer possible. That is the principal reason why the period chosen for our purposes is 1911 to 1951. The census of 1911 was the first in which figures of industry and employment were compiled in sue a way that they could be compared systematically in local detail with the censuses which followed; and the census of 1951 was the last with which such detailed comparisons could be made. At least it was possible within this period to establish the nature of the employment in industries and occupations which had emerged before the first world war after a century and a half of industrial and agricultural revolution, and to ascertain what changes had thereafter been wrought by an economic depression, and the two world wars, spread of industrialisation in the rest of the world.

As regards Ministry of Labour statistics, these have the advantage that they have been available for every year since the war but because the coverage of national insurance was incomplete before the second world war these statistics are not so useful for the pre-war period. Moreover, the figures are given only for Employment Exchange Areas, and not for smaller areas such as parishes or burghs.

It is true that the census reports up to 1951 did not include figures of

employment for areas smaller than counties, cities and large burghs, and figures were not compiled, even without publication, for small burghs or civil parishes. One contribution to social and economic history which the present study has sought to make has been to accumulate and tabulate the figures of employment in parishes and small burghs in the Tayside area. It has been possible to do this from information supplied by the Census Office in Edinburgh, and through the use of a computer. It should be noted that 10% sample information about employed persons, in broad industry groupings, is available for the 1966 census, and will be available for the 1971 census, on an unpublished basis for small burghs, districts of counties, burgh wards, county council electoral divisions, civil parishes and census enumeration districts.

Why the Tayside Area? Ideally, one would like to tackle the whole of Scotland, if time and resources permitted, but so far they have not. Apart from that, increasing importance has been attached to regional studies during the last decade, since it has once again become evident, as it so clearly was in the inter-war period, that different regions in the country are differently affected by prosperity and depression. How regions should be defined and what their limits should be must often be questions to which different answers can be given, and this is certainly so in that part of Eastern Scotland which can be designated as "Tayside". Political conflict arose from the Government's proposals for the reform of local government in which Tayside, including North-East Fife, was designated as a new administrative region. This divided in two the ancient "Kingdom" or County of Fife. Boundary lines can be the subject of contention, but we have, nevertheless, followed for the most part the limits of the area which had earlier, for the purpose of formulating economic policy, been designated as Scottish Economic Planning Region No. 4, and which corresponds also for the most part with the originally proposed new Tayside local government region. Parishes in West Perthshire which are contained in the Crieff and Pitlochry Employment Exchange Areas are included within the region. There are certain features which give a degree of unity to this part of Scotland, including the geography of the Tay valley and estuary, and the dominance of textiles in general and jute and linen in particular, in the industry of the region. For our imposes Tayside includes the whole of Angus; the whole of Perthshire except six parishes lying immediately to the North of Stirlingshire and that part of Fife in the NorthEast of the county which corresponds to the East Fife Parliamentary constituency, except that Leven, Scoonie and Kennoway are excluded.

Why parishes and small burghs, as well as large burghs, cities and counties? In principle, the social and economic life of a community cannot be properly understood unless it is observed in all its diversity. The growth of regional studies has come about because people have recognised how far different regions are differently affected by national and even international developments. Within each region also there are differences, and these differences may be so great, the social and economic characteristics of particular localities may be so varied, and economic developments may follow so many different routes, that it would give a wrong impression to make light of the local differences and deal only with the region as a whole.

Figures are already available for employment in industries and occupations in Scotland, and the counties and cities and large burghs Other figures have here been compiled for the Tayside region as a whole and component areas, including employment exchange areas small burghs and parishes. It is when one sees what the typical nature of employment is in Scotland, or Tayside or any of the larger areas that one can recognise the differences, divergences and peculiarities that appear in the separate or smaller localities. This provides a framework or context within which area studies or detailed local studies can, in the first instance at least, most profitably be undertaken, not local economic history, for its own sake, that is being pursued however satisfying or interesting that may be, but local economic history in pursuit of the history of the region and the nation. This study will, it is hoped, reveal many problems about regional or local developments which are worth solving, and place in a regional or national context the facts which are revealed about developments in particular localities. It is, however, only local history and local knowledge, of a depth and extent to which this study cannot aspire, that can clothe with flesh and blood the skeleton of facts which this study will produce. If we can solve some of the problems as we go along, so much the better, but our function will primarily be to have exhumed from old records the facts themselves, to arrange them in an orderly fashion, to an extent which would have been virtually impossible in the days before the computer, and to identify question which seem in need of an answer.

The population of Scotland rose from 4,761,000 in the 1911 census to 5,096,000 in the census of 1951, an increase of just over 7 per cent. In the Tayside Region population fell in the same period from 455,700 to 451,100, a decrease of one per cent. Within the Tayside Region population rose by 3.2 per cent in Perthshire, but fell by 1.3 per cent in East Fife and 2.6 per cent in Angus.

Within the Tayside counties population changes varied considerably from one locality to another. Some of these local changes were due to the suburban growth of Dundee and Perth, extending in the case of Dundee to the parishes of Liff and Benvie, Mains and Strathmartine and Monifieth. The City of Dundee increased in population by 7.5 per cent between 1911 and 1951, but this was the consequence of boundary changes, and if the whole of the suburban parishes included above are combined into a Dundee Urban Area, there was virtually no increase in that area at all – less than 0.1 per cent. Apart from Monifieth, which was affected by boundary changes, the population of the suburban parishes increased very greatly, while earlier concentrations of population in Dundee were dispersed.

Similarly, in Perth there was suburban growth of population, particularly in the adjacent parish of Tibbermore. Perth parish declined in population by 20 per cent, but if the population of Tibbermore is included with this parish in a Perth Urban Area, the population of this area increased by 12.9 per cent.

There were particular reasons for the substantial increase in population in the parishes of Stracathro and Dunbarney, since hospitals were established in these parishes—in the latter at Bridge of Earn.

Population changes varied very considerably in different parishes. Parishes in which population increased by more than 10 percent included:—

| Angus: | Fern, Oathlaw and Tealing |
|------------|--|
| East Fife: | Cupar, Elie and Earlsferry, Leuchars Newburgh and St. Andrews |

| Perthshire: | Blair Atholl, Lethendy, Longforgan, Moulin, |
|-------------|---|
| | Rattray, Redgorton, Scone and the Perth Urban |
| | Area |

Parishes in which population declined by more than 20 per cent included: -

| Angus: | Arbirlot, Carmyllie, Fowlis Easter, Glamis, |
|-------------|---|
| | Glenisla, Kingoldrum, Kirkden Lintrathen, |
| | Lochlee, Lundie and Monikie |
| East Fife: | Anstruther Easter, Carnbee, Creich, Dunbog, |
| | Dunino, Forgan, Kilrenny, Moonzie and |
| | Newburn |
| Perthshire: | Dron, Dunkeld and Dowally, Findo Gask, |
| | Fortingall, Kenmore, Kilspindie, Kinloch |
| | Logiealmond, St. Maddoes, Trinity Gask and |
| | Weem |

The greatest shift in the balance of population was in East Fife, where more than two-thirds of the population in 1911 lived in parishes in which the population increased or decrease by more than 10 per cent. The smallest shift was in Angus, where only 11 per cent of the population lived in parishes falling into this category.

The parishes in Angus which increased in population by more than 10 per cent were thinly populated and contained less than one-half of one per cent of the country's population in 1911. By contrast, parishes in this category in East Fife and Perthshire included a number of the more heavily populated parishes, and together contained 35 per cent and 42 per cent respectively of the population of these areas. The increase of population in such parishes in East Fife was greater than in similar parishes in Perthshire.

On the other hand, East Fife was much more affected by the decline in population by more than 10 per cent in other parishes. Such parishes included one-third of the population of East Fife in 1911. but only 15 per cent in Perthshire and 11 per cent in Angus. East Fife was also more affected than the other two areas by a decline in population in some parishes by more than 20 per cent. The population figures for Angus and Perthshire are naturally greatly influenced by the overwhelming predominance of the Dundee Urban Area in the population of the county, and the lesser predominance of the City of Perth in Perthshire. These accounted respectively for two-thirds and onethird of the population of the two counties. If the Dundee Urban Area and the City of Perth are excluded, then the differences between the three counties are reduced, but the changes between 1911 and 1951 are still greatest D East Fife. In East Fife the shift in the balance of population was greater in every respect than in Perthshire. In Angus there was still hardly any increase of population by more than 10 per cent anywhere, but the proportion of the population which was affected by a decline of more than 10 per cent was about as great as in East Fife.

In urban population there is, of course, a marked contrast between the three areas. Including the Cities of Dundee and Perth and all the large and small burghs (except St. Monance in Fife and Pitlochry in Perthshire, which were created as burghs only in 1932 and 1947 respectively), the burghal population in 1911 constituted 85 per cent of the total population of Angus, 52 per cent of East Fife, and 49 per cent of Perthshire. Again, the predominance of Dundee and Perth *conceals the lesser extent of* urbanisation in the *mat of* these counties. If Dundee and Broughty Ferry are excluded from Angus and the City of Perth from Perthshire, it emerges that population constituted 60 per cent of the rest of Angus, bat only 25 per cent of the rest of Perthshire.

Between 1911 and 1951 there was a slight decline in the total burghal population of Angus (including Dundee and Broughty Ferry, but an increase in the burghal population of East Fife by per cent, and of Perthshire (including Perth) by 9.8 per cent, in Angus the population of the Dundee Urban Area was practically unchanged, but in all the other burghs population declined—by 4.5 per cent in those burghs as a whole, and by appreciably more in Brechin and Forfar. In Perthshire, by contrast, the population of all burghs except Crieff and Aberfeldy increased. In East Fife there was a substantial increase in population in some burghs and a substantial fall in others. Population increased by more than 20 per cent in Elie and Earlsferry and Newburgh. Population fell sharply by 30 per cent in the combined burgh of Anstruther Easter, Anstruther Wester and Kilrenny, and by more than 10 per cent in Newport and Pittenweem.

There were marked contrasts between East and West Fife in the nature of urbanisation and in the population changes which took place between 1911 and 1951. Population in the burghs of East Fife constituted 51.5 per cent of the population of the area in 1911 and 54.6 per cent in 1951, compared with 63.2 per cent and 66.5 per cent in West Fife, but in West Fife more than half the burghal population was contained in the two large burghs of Kirkcaldy and Dunfermline, while there was no similar concentrate in East Fife. The population of East Fife fell slightly between 1911 and 1951, but increased in West Fife by nearly 20 per cent. The burghal population increased by less than 5 per cent in East Fife, but by nearly 26 per cent in West Fife. Most of the increase in West Fife was due to a rise in the population of Kirkcaldy by 24 per cent and of Dunfermline by 59 per cent.

EMPLOYMENT IN SCOTLAND AND TAYSIDE, 1911-1951

The most striking differences in the nature of employment between the Tayside Region and Scotland as a whole in 1911 were that in Tayside the proportion of women in the labour force was substantially higher (37.5 per cent, as against 28.7 per cent in Scotland) and the proportion of all occupied women who were employed in textiles was very much higher. Virtually all other industries provided less employment for women in Tayside than in Scotland as a whole. This was true even of agriculture, forestry and fishing, although in this group of industries male employment was appreciably higher in Tayside. In male employment the other main differences were that in Tayside employment in textiles, again, was relatively higher, but employment in the mining, metal, engineering, and shipbuilding industries was substantially lower. In all other industries male employment in Scotland and Tayside was much the same or accounted for only a small fraction of employment in both. In tabular form, the chief differences between Tayside and Scotland in 1911 were as follows :---

| | Percent of occupied males, 1911 | | Perce occupied 191 | females, |
|-----------------------------------|------------------------------------|---------|--------------------------|----------|
| | Scotland | Tayside | Scotland | Tayside |
| Agriculture, Forestry and Fishing | 13.2 | 19.1 | 5.6 | 3.4 |
| Mining and Quarrying | 10.7 | 0.9 | 0.4 | - |
| Metal manufacture, engineering | | | | |
| metal goods and vehicle making | 13.2 | 7.7 | 0.7 | 0.2 |
| Shipbuilding and Boatbuilding | 3.5 | 1.2 | - | - |
| Textiles | 3.8 | 14.5 | 19.5 | 46.5 |
| Clothing and footware | 2.3 | 2.6 | 11.6 | 7.6 |
| Miscellaneous services | | | | |
| manufacture (mainly domestic) | 4.1 | 5.4 | 29.8 | 22.7 |

As a framework for more detailed examination of changes in industrial employment within the Tayside Region between 1911 and 1951 it is appropriate first to consider what the principal changes were in the Tayside Region generally, and how these compared with changes

in Scotland as a whole. As a first step, one may consider shifts in employment between the main industrial sectors, and for this purpose four sectors are distinguished: the "extractive" industries (agriculture, forestry and fishing, mining and quarrying), "manufacturing" industries, "infrastructural" industries (including building and construction as well as public utilities, transport and communications) and "services". The tables which follow indicate, for Scotland and the Tayside Region, the numbers of males, females and all employees employed in each of these sectors in 1911. Also included are agriculture and textiles, which were particularly important for the region, and engineering industries, in which there was a particularly large increase. The tables also indicate the extent to which employment in these sectors increased or diminished between 1911 and 1951. To show the effect of employment changes on the industrial structure, further tables indicate the percentage share of these sectors and industries in total employment in 1911, and the extent to which this share had changed between 1911 and 1951.

A comparison of the figures for Scotland and Tayside reveals the following similarities and contrasts: —

- a) The total occupied population in Scotland increased by a little more than 6 per cent, while in the Tayside Region it very slightly declined. Male employment increased in Tayside to a greater extent than in Scotland as a whole, but while female employment in Scotland increased by 12.6 per cent, in Tayside it declined by 9 per cent.
- b) In 1911, female employment accounted for 37.5 per cent of total employment in Tayside, compared with 28.7 per cent in Scotland. By 1951 the share of female employment had *fallen* to 34.2 per cent in Tayside and *increased* to 30.4 per cent in Scotland.
- c) The intersectoral and inter-industry shifts in female employment in Tayside were much greater than for Scotland as a whole, and much greater than for male employment. In Tayside, the share of manufacturing industries in female employment declined from 57.9 per cent in 1911 to 38.6 per cent in 1951 (a fall of 19.3 per cent),

while the share of services increased from 37.5 to 54.9 per cent (an increase of 17.4 per cent). In Scotland as a whole the share of Manufacturing and services in female employment diminished and increased respectively to a much smaller extent than in the Tayside Region. One result of the greater shifts in female employment in Tayside was that the sectoral structure of female employment in that region had a much closer resemblance to that of Scotland as a whole in 1951 than it had in 1911: —

| | Percent sl | Percent share of total female employment | | | |
|---------------|------------|--|----------|---------|--|
| | 19 | 11 | 1951 | | |
| | Scotland | Tayside | Scotland | Tayside | |
| Manufacturing | 41.2 | 57.9 | 35.2 | 38.6 | |
| Services | 50.7 | 37.5 | 56.8 | 54.8 | |

- d) It was in female employment in textiles that the greatest changes took place between 1911 and 1951. In Tayside, such employment declined by 56 per cent, in Scotland by 36 per cent, In Tayside the share of textiles in female employment fell from 46.5 to 22.4 per cent, while in Scotland it fell from 19.5 to 11 per cent.
- e) In male employment, by contrast, the intersectoral shifts were less in Tayside than for Scotland as a whole. Employment in the extractive sector fell by 17 per cent in Tayside and by 30 per cent In Scotland; in manufacturing it increased by less than 4 per cent in Tayside but by 23 per cent in Scotland; in the infrastructural sector it increased by about the same amount in both (7 to 8 per cent) It was only in services that male employment increased to a markedly greater extent in Tayside (by 21 per cent compared with 9 per cent in Scotland), but this involved a difference of less than 4 per cent in the share of this sector in total male employment in Tayside.
- f) In agriculture, forestry and fishing the decline in male employment in Tayside was less than 16 per cent, compared with 24 per cent in Scotland. Within the manufacturing industries, the textile industries

declined to a greater extent in Tayside and engineering increased to a greater extent, but the share of textiles in total employment remained much higher, and the share of engineering much lower.

SCOTLAND

| Industries | Employment in 1911 | | l | Percentage ase or Decre Employmen 1911 to 195 | ease in It | |
|--------------------------|--|---------|---|--|---------------|--------|
| | Males | Females | Total | Males | Females | Total |
| Extractive | 351,386 | 35,845 | 387,231 | -30.2 | -53.2 | -32.4 |
| Manufacturing | 463,194 | 244,354 | 300,618 | +22.9 | -3.9 | +13.7 |
| Infrastructural | 300,618 | 12,082 | 312,700 | +6.8 | +208.2 | +14.6 |
| Services | 358,559 | 300,929 | 659,488 | +9.1 | +26.0 | +16.8 |
| TOTAL | 1,473,757 | 593,210 | 2,066,967 | +3.6 | +12.6 | +6.2 |
| Agriculture (etc) | 193,731 | 33,380 | 227,111 | -24.0 | -54.7 | -28.5 |
| Textiles | 56,256 | 115,369 | 171,626 | -21.8 | -36.2 | -31.5 |
| Engineering | 252,514 | 5,585 | 258,099 | +27.1 | +747.0 | +42.7 |
| Industries | Per cent of Total Occupied Population in 1911 | | Increase or Decrease in Per cent of Total Occupied Population 1911 to 1951 | | | |
| | Males | Females | Total | Males | Females | Totals |
| Extractive | 23.8 | 6.0 | 18.7 | -7.8 | -3.5 | -6.8 |
| Manufacturing | 31.4 | 41.2 | 34.2 | +5.9 | -6.0 | +2.4 |
| Infrastructural | 20.4 | 2.0 | 15.1 | +0.6 | +3.5 | +1.2 |
| Services | 24.3 | 50.7 | 31.9 | +1.3 | +6.0 | +3.2 |
| INTERSECTORIAL SHIFTS | | | | ±7.8 | ±9.5 | ±6.8 |
| Agriculture (etc) | 13.2 | 5.6 | 11.0 | -3.5 | -3.4 | -3.6 |
| Textiles | 3.8 | 19.5 | 8.3 | -0.9 | -8.4 | -2.9 |
| Engineering | 17.1 | 1.0 | 12.5 | +3.9 | +6.1 | +4.3 |

TAYSIDE

| Industries | Employment in 1911 | | Increa] | Percentage ase or Decre Employmen 1911 to 195 | ease in It | |
|-------------------------|--------------------------|--------------|-------------|--|---------------|--------|
| | Males | Females | Total | Males | Females | Total |
| Extractive | 25,289 | 2,576 | 27,865 | -16.6 | -28.9 | -17.7 |
| Manufacturing | 42,848 | 44,049 | 86,897 | +3.7 | -39.4 | -18.1 |
| Infrastructural | 26,076 | 945 | 27,021 | +7.8 | +179.8 | +13.8 |
| Services | 32,511 | 28,522 | 61,033 | +20.8 | +33.2 | +26.6 |
| TOTAL | 126,724 | 76,092 | 202,816 | +4.9 | -9.1 | -0.4 |
| Agriculture (etc) | 24,191 | 2,565 | 26,756 | -15.5 | -29.1 | -16.8 |
| Textiles | 18,388 | 35,357 | 53,745 | -34.4 | -56.2 | -48.8 |
| Engineering | 11,893 | 184 | 12,077 | +46.2 | +1856.5 | +73.8 |
| Industries | Dor cont | t of Total O | anniad | Inor | | *2022 |
| industries | | ulation in 1 | | Increase or Decrease 2,565in Per cent of Total Occupied Population 1911 to 1951 | | |
| | Males | Females | Total | Males | Females | Totals |
| Extractive | 20.0 | 3.4 | 13.7 | -4.1 | -0.7 | -2.4 |
| Manufacturing | 33.8 | 57.9 | 42.9 | -0.4 | -19.3 | -7.6 |
| Infrastructural | 20.6 | 1.2 | 13.3 | +0.6 | +2.6 | +1.9 |
| Services | 25.6 | 37.5 | 30.1 | +3.9 | +17.5 | +8.1 |
| | | | | | | |
| INTERSECTORIA SHIFTS | INTERSECTORIAL SHIFTS | | | ±4.5 | ±20.0 | ±10.0 |
| Agriculture (etc) | 19.1 | 3.4 | 13.2 | -3.7 | -0.7 | -2.2 |
| Textiles | 14.5 | 46.5 | 26.5 | -5.4 | -24.1 | -13.1 |
| Engineering | 9.4 | 0.2 | 6.0 | +3.7 | +5.0 | +4.4 |

EMPLOYMENT IN ANGUS, EAST FIFE AND PERTHSHIRE -1911-1951

The Dundee Urban Area in 1911 contained 39 per cent of all males and 48 per cent of all females who were gainfully occupied in the Tayside Region; it contained 56 per cent and 62 per cent respectively of all males and females engaged in manufacturing industries and two-thirds of both sexes engaged in textiles.

Virtually all shipbuilding in the area was concentrated in Dundee, and also more than half the employment in other engineering industries and in the small chemical industry which existed in the Region. In female employment, the Dundee area contributed nearly two-thirds of those occupied in the food industries as well as textiles, but a relatively small proportion of those engaged in domestic service.

Perth City provided roughly 8 per cent of the employment in the Region – rather more in male employment and rather less in female. The textile industry provided the largest single source of employment for both male and female labour in manufacturing industry, but textiles were only half as important for Perth as they were for Dundee. The distinctive feature of the textile industry in Perth was the concentration there of the finishing trades – bleaching, calendering and above all dyeing. These accounted for three-quarters of male employment, and two-thirds of female employment in textiles in Perth. Apart from textiles the most contribution which Perth made to the Region was in the industrial order "treatment of non-metalliferous minerals other than coal".

Nearly three-quarters of all employment in this industry in Tayside was in Perth, because of the location of glass manufactures in that city.

If the Dundee Urban Area and Perth City are treated separately, we can then compare the distinctive features of employment in the remainder of the counties of Angus and Perthshire, and in East Fife, in 1911, which were as follows:

a) In male employment, agriculture, forestry and fishing provided nearly 40 per cent of employment in Perthshire, compared with 32 per cent in East Fife and 30 per cent in Angus. The corresponding figures for female employment in these industries were 11, 9, and 4 per cent.

- (b) The proportion of females in the total occupied population was slightly higher in Angus than in East Fife and slightly higher in East Fife than in Perthshire (35, 33, and 30 per cent respectively).
- (c) Textiles accounted for far more female employment in Angus than in either of the other two counties: 44 per cent of all female employment in Angus, 19 per cent in East Fife, and 15 per cent in Perthshire. In Angus, there was also a higher proportion of male employment in textiles, but in this case somewhat higher employment in Perthshire (where the finishing trades depended on male labour) than there was in East Fife (In Angus 11.3 per cent, East Fife 3.6 per cent, and Perthshire 4.4 per cent.)
- (d) Conversely, women were employed to a greater extent in Perthshire in miscellaneous services (mainly domestic) than they were in East Fife or Angus (46, 39 and 24 per cent of female employment respectively). There is a corresponding difference on a lesser scale in the employment of men in domestic and other miscellaneous services (10, 6.5 and 5 per cent).
- (e) In manufacturing industries other them textiles the level of employment was much the same in Angus and East Fife, but lower in Perthshire. In Angus, engineering industries were the most important after textiles, but outside the Dundee Urban Area Arbroath accounted for half the employment in these industries in Angus.

In East Fife, apart from textiles, clothing, food processing, and metal manufactures (which were the industries of chief importance in the Tayside Region as a whole) there was a high local level of employment in some other industries. These included the paper mills at Guard Bridge, linoleum at Newburgh and in the parish of Abdie, ropes and sails in Anstruther, oil skins in Kilrenny, weighing machines in Auchtermuchty, golf clubs in St. Andrews, and wooden manufactures not only in Tayport but also, to a lesser extent, in several other burghs as well. Between 1911 and 1951 there were different degrees and different directions of change in the principal areas within Tayside. Of these areas, Perth City experienced much the greatest increase in occupied population – an increase of 21 per cent compared with a slight decline in the Tayside areas as a whole. In view of this increase in the occupied population it is all the more noteworthy that Perth experienced much the largest decline in employment in manufacturing industries, particularly in textiles. In 1951 the numbers of both males and females engaged in textile manufactures was about one-fifth of what they had been in 1911. Conversely Perth experienced much the largest increase in employment in services. In terms of industrial structure, there was a much greater shift out of manufactures and into services than there was elsewhere, a much greater overall shift between sectors in the employment of both males and females.

In the Dundee Urban Area there was in both 1911 and 1951 a much heavier concentration of employment in textiles than there was in the other areas. The percentage decline in employment in textiles was less than in any of the other areas, but the effect of the decline on industrial structure was greater.

Percentage of the occupied population in the Dundee Urban Area engaged in textile manufactures: —

| | Males | Females | Total |
|------|-------|---------|-------|
| 1911 | 25.1 | 63.6 | 41.7 |
| 1951 | 17.1 | 31.7 | 22.8 |

There was a greater increase of female employment in services than there was in any other area except Perth.

In Angus, excluding the Dundee Urban Area, there was the greatest decline in the total occupied population, and a greater decline in employment both in manufactures generally and in textiles than there was in any other area except Perth.

In Perthshire, excluding Perth City, inter-sectoral shifts in employment were less than in any other area. There was in this area the least shift out of manufactures and textiles, and the least shift into services.

East Fife differed in two principal respects from the other areas. In the first place, it was only in this area that there was a substantial change in industrial structure as a result of a decline in' agriculture, forestry and fishing; and secondly, in this area there was an increase of 30 per cent in male employment in manufactures compared with an increase of only 10 per cent in the Dundee Urban Area, and a fall in the other areas. Female employment in manufactures declined by 45 per cent, and in textiles by over 60 per cent but total employment in manufactures declined by less than 4 per cent, compared with a decline of 18 per cent for the Tayside area as a whole.

There were striking differences between East and West Fife in the structure of industrial employment in 1911, some examples of which are tabulated below.

| | | Percentage of occupied males | | tage of pied ales |
|---------------------------------|------|------------------------------|------|-------------------------|
| | EAST | WEST | EAST | WEST |
| | FIFE | FIFE | FIFE | FIFE |
| Agriculture, Forestry, Fishing | 31.6 | 4.7 | 9.1 | 3.4 |
| Mining and Quarrying | 2.2 | 2.2 40.3 | | 4.4 |
| Textile Manufactures | 3.6 | 3.7 | 19.4 | 40.0 |
| All Manufactures | 20.7 | 19.4 | 33.5 | 54.4 |
| Miscellaneous services (chiefly | | | | |
| domestic) | 6.5 | 2.8 | 39.1 | 18.7 |
| | | | | |

This table measures the obvious predominance in East Fife of agriculture, forestry and fishing, and in West Fife not only of mining and quarrying but also, in female employment, of textiles.

In male employment, linoleum works in West Fife (Kirkcaldy) provided far more employment than those in East Fife (Newburgh).

In East Fife hardly anyone was employed in the category "Treatment of non-metalliferous minerals other than coal", but about 750 were employed in West Fife, manufacturing earthenware and bricks. There was a slightly greater dependence on metals and engineering in West Fife, but apart from chemicals, which employed very few people in either part of the country, there was a relatively higher level of employment in East Fife in all other principal manufacturing categories and in the service industries

In East Fife females constituted 32.8 per cent of the labour force, but in West Fife, in spite of the greater predominance of textiles, only 23.5 per cent. There was a higher level of female enjoyment in manufactures generally in West Fife, and in agriculture and domestic service in East Fife. There were few other significant differences in the broad structure of female employment in the two parts of the county.

In West Fife the large burghs of Dunfermline and Kirkcaldy predominated in the manufacturing industries. In textiles in particular there was a concentration of employment in these two burghs. More people were employed in the linen industry in West Fife than in the whole of the Tayside Region, and of these 68 per cent of male employment and 57 per cent of female employment was concentrated in the burghs of Dunfermline and Kirkcaldy.

In West Fife, between 1911 and 1951, total employment increased by 18 per cent – over 19 per cent for females and slightly less than 18 per cent for males. In East Fife male employment increased by 4 per cent, but total employment declined by one per cent, and female employment declined by 10 per cent. In West Fife, in manufacturing, male employment increased by 87 per cent and total employment by 38 per cent. There was a much greater shift in industrial structure in West Fife as a result of the decline of female employment in textiles than there was in East Fife or anywhere else in the Tayside area except Dundee; but there was a greater increase in female employment in services than was anywhere in Tayside except Perth.

THE EXTRACTIVE INDUSTRIES

In the Tayside Region, "extractive industry" means essential agriculture, and in certain port towns fishing, while mining and quarrying account for a very small part of the labour force compared with Scotland as a whole, and particularly with the immediately adjacent area of West Fife.

Mining and guarrying in fact accounted for only one-half of one per cent of the total occupied population in 1911 and only one-third of one per cent in 1951. There were only a few small outcrops of open-cast coal, and the employment was largely confined to quarrying. In the whole of Tayside employment in mining and quarrying was only 1100 in 1911 and less than 700 in 1951. In 1911, among the parishes which employed at least twenty persons in this industry, the most important was Dundee, with over 200, supplemented by other parishes in the area including Murroes, Monifieth and Monikie. Elsewhere in Angus only Forfar and Kirkden had as many as 20 employed. In East Fife there was a bloc of parishes stretching south-westwards from St. Andrews to Kettle which each employed more than 20 people in mining and quarrying, and in addition to these two parishes this bloc included Cameron, Kilconguhar, Ceres, Largo and Cults. Elsewhere there was a significant level of employment only in Newburgh. In Perthshire over 50 were employed in Perth itself, but elsewhere over 20 only in Logiealmond and Kilspindie.

By 1951 employment in the industry had fallen in almost all these parishes where previously more than 20 had been employed, but rose in Forfar, Newtyle, Dunbarney and Blair Atholl.

Almost everywhere employment in mining and quarrying was a negligible proportion of the total occupied population, but in a few small parishes it was of some local importance. For example, in 1911 the industry provided 10 per cent of the aggregate occupied population in Kilconquhar, and over 20 per cent in Murroes and Cults. In 1951 it provided over 7 per cent in Monikie and Newtyle

Fishing accounted for more employment than mining and

quarrying in the Tayside region as a whole—2235 people, or 1.1 per cent of the occupied population in 1911, and 767 people, or 0.4 per cent of the occupied population in 1951. The fishing industry will be considered separately, since in certain localities it had a great impact on the social and economic life of the community.

Agriculture and forestry provided employment for 12.1 per cent of the occupied population in 1911 and 10.6 per cent in 1951. The distribution of employment in this industry, and the local changes which took place between 1911 and 1951, will be considered in the next section.

AGRICULTURE

It is a fact of empirical observation that in all advanced or industrial countries for which data is available the share of agriculture in the total labour force has, over long periods of time, substantially declined. (Simon Kuznets, *Modern Economic Growth*, 1966, p. 106). In many countries there has taken place after a certain point an absolute as well as a relative decline in agricultural employment.

In Scotland, between 1911 and 1951, the number of the population engaged in agriculture and forestry declined by 24.1 per cent; and the share of agriculture in the labour force declined from 9.6 to 6.9 per cent, a shift of 2.7 per cent.

In Tayside, during the same period, the agricultural population declined by only 11.3 per cent, and its share of the total occupied population fell from 12.1 to 10.8 per cent, a shift of 1.3 per cent.

The Tayside Region was apparently "lagging behind" the rest of Scotland in 1911 in the extent to which agriculture was being superseded by other types of employment, and yet in the next forty years it not only failed to catch up but on the contrary fell further behind. To speak of "lagging behind", however, is to beg the question, since there may have been particular circumstances in Tayside which favoured and justified the continuance of agricultural employment in this region to a greater extent than it did elsewhere.

Although the secular trend in employment in agriculture is downwards, there were in Tayside as many as 42 parishes scattered in different areas in which employment in agriculture actually increased between 1911 and 1951, and another 3 in which it remained exactly the same. That amounts to 29 per cent of all the parishes in Tayside. If to this one adds the parishes in which employment fell by less than 10 per cent in those forty years, one has another 33 parishes in this category, and 78 parishes in all in I which employment in agriculture did not greatly fall, that is, exactly half the parishes in the Tayside Region.

If one turns to the *share* of agriculture in total employment off all kinds, one finds that there were 79 parishes in which the share of agriculture increased, 71 in which it declined, and 4 in which it

remained exactly the same. This is a somewhat surprising result

The experience in different parishes varied considerably. Of the 42 parishes in which agricultural employment increased, there 32 in which the share of agriculture in total employment also increased but 10 in which it diminished, because other types of employment had increased still more. Of the 105 parishes in which agricultural employment fell, there were 60 in which the share of agriculture in total employment diminished, but 45 in which it rose, because employment in other industries had diminished still more, (of the remaining half-dozen parishes, either employment in agriculture or its share of total employment had remained exactly the same while the other had varied).

The changing pattern of agricultural employment may best be seen in outline if one identifies on the one hand the parishes in which agricultural employment increased instead of diminishing, and on the other hand those parishes in which the numbers engaged in agriculture declined by 20 per cent or more, and those in which the share of agriculture in the occupied population declined by a shift of 8 per cent or more.

As regards the parishes in which agricultural employment increased these are to be found in six areas.

- 1) Parishes around the Howe of Fife extending westwards of Cupar, and to Newburgh (Monimail, Collessie, Auchtermuchty, Strathmiglo and Newburgh).
- 2) Adjoining these, some parishes lying to the west and south of Perth (Aberdalgie, Forgandenny, Dunbamey and Arngask).
- 3) A large number of parishes in Strathmore and South-eastern Perthshire (Erroll, Kinnaird, Abernyte, Collace, St. Martins, Kinclaven, Redgorton, Auchtergaven, Caputh, Lethendy, Kinloch, Rattray, Bendochy and Alyth).
- 4) Several parishes in parishes in South-west Angus (Newtyle, Kettins, Auchterhouse, Tealing, Murroes, Eassie and Nevay, Ruthven and Airlie).
- 5) Some parishes extending from Strathallan, through Strathearn to

Strathyre (Blackford, Muthill, Crieff, Comrie and Balquhidder.

6) A group of adjoining parishes in the Brechin Exchange Area (Careston, Brechin, Menmuir and Stracathro).

There were in addition some other parishes unconnected with these groups in which agricultural population increased. It increased in Cortachy and Clova, although one would expect agricultural population to increase, if at all, in the lowlands rather than in a Highland parish like this. It increased in Cameron, Kilconquhar and Kilrenny, although the neighbouring parishes in St. Andrews and the East Neuk of Fife experienced a substantial fall.

In some parishes in which the agricultural population increased there was nevertheless a quite substantial fall in the share of agriculture in total employment. In Blackford and Forgandenny the agricultural population increased by one or 2 per cent but the total occupied population increased by 18 per cent, giving more employment in services in Blackford (it is in this parish that Gleneagles is situated) and in both services and manufactures in Forgandenny. In Tealing the agricultural population increased by 17 per cent but the total occupied population by 50 per cent, employing additional labour mainly in manufactures and in infrastructural industries.

As regards parishes in which agricultural population fell by 20 per cent or more, these again can be classified into six areas.

- The most numerous of these parishes are those coastal parishes which extend down the North-sea coast of the Tayside Region from Montrose to Elie, and other parishes immediately adjoining these further inland. (In Angus: Craig, Dun, Lunan, Kinnell, Carmyllie, Arbirlot, Monifieth and Monikie; in Perthshire: Inchture in Fife: Forgan, Leuchars, St. Andrews, Dunino, Kingsbarns, Crail, Elie and Carnbee.)
- 2) Some parishes in the vicinity of Dundee (Mains and Strathmartine, Fowlis Easter and Lundie).
- A string of parishes stretching from Glenalmond to Perth and down the lower Tay (Logiealmond, Methven, Perth, Kinnoull, Rhynd and St. Maddoes).

- 4) Several parishes in the Forfar Exchange Area (Glamis, Kingoldrum, Lintrathen and Tannadice).
- 5) Several parishes in the North-west Highlands of Perthshire (Dull, Moulin, Logierait, Fortingall, Kenmore and Killin).
- 6) North Fife, where agricultural population in most of the parishes diminished (but particularly in the parishes of Cupar, Moonzie, Abdie and Logie).

A few parishes in which agricultural population fell substantially do not fit into any of these groups—these are Ardoch in Crieff Employment Exchange Area, and Muckhart and Trinity Gask in Auchterarder.

Some parishes were subject to tendencies which operated in different directions. In the Brechin Exchange Area, the agricultural population of Stracathro increased by 15 per cent but its share of the total occupied population declined by 38 per cent, because employment

had increased so much in other occupations (particular services, with the establishment of a major hospital serving the northern area of Angus). The same situation arose in Tealing, presumably as a result of the expansion of residential buildings. In the small parish of Lochlee by contrast, although the agricultural population declined by more than 40 per cent its share of the total occupied population increased by 10 per cent, since in other occupations the decline in employment had been still greater. In several parishes there was little decline in agricultural population, but for one reason or another a substantial decline in the share of agriculture in the total population.

The reasons for the rise or fall of agricultural population in these different areas and different parishes is a subject which merits further investigation. An obvious line of enquiry is to correlate the results of the Censuses of Population and the Agricultural Censuses of 1911 and 1951, but that is beyond the scope of the present essay.

FISHING

The number of people employed in fishing in the Tayside Region was 2235 in 1911 and 767 in 1951, a decline of 66 per cent. They were, naturally, almost exclusively male – only 21 women were enumerated in the industry in 1911 and 8 in 1951. Between 1911 and 1951 the share of fishing in the total occupied population fell from 1.1 to 0.4 per cent, and its share of the occupied male population fell from 1.58 to 0.6 per cent.

The parishes in which the greater number of the Tayside fishermen resided, numbering twenty or more in each parish were as follows: -

| Parishes | Percent of all Tayside Fishermen | | |
|-----------------------------|-------------------------------------|------|--|
| | 1911 1951 | | |
| ANGUS | | | |
| Arbroath and St Vigeans | 10.2 | 22.1 | |
| Craig | 9.8 | 3.4 | |
| Dundee Urban Area | 3.9 | 3.3 | |
| Montrose | 2.2 | 6.1 | |
| FIFE | | | |
| Crail | 3.3 | 3.8 | |
| Kilrenny | 22.1 8 | | |
| Largo | 1.9 | - | |
| Newburgh | 1.0 | - | |
| Pittenweem | 11.8 | 17.4 | |
| St Andrews and St. Leonards | 3.5 | - | |
| St. Monance | 19.7 | 13.3 | |
| PERTHSHIRE | | | |
| Kinfauns | 1.7 | 4.9 | |
| TOTAL | 91.1 | 82.6 | |

In some of the fishing ports and the parishes in which they were located there was a catastrophic fall in the number of persons employed in fishing. This applied particularly to Kilrenny and St. Monance and to a lesser extent to Pittenweem in Fife, and to the fishing port of Ferryden in the parish of Craig near Montrose. In Kilrenny the fishing population in 1951 was only one-eighth of what it had been in 1911, in St. Monance less than one-quarter, in Craig less than one-third and in Pittenweem almost exactly one-half. In all cases there resulted a very considerable shift of male employment between industries, in the composition of the male labour force, comparing 1911 with 1951 – a shift of 43 per cent of male employment out of fishing in Kilrenny, 40 per cent in St. Monance 32 per cent in Craig and 18 per cent in Pittenweem.

The only other parish which was seriously affected by a fall in employment in fishing was Crail, where employment in 1951 was only 40 per cent of what it had been in 1911, but here the numbers involved were fewer, and the share of fishing in total employment fell by less than 10 per cent. In Arbroath and St. Vigeans employment in fishing fell by one-quarter, but fishing provided only a small fraction of total male employment, and the share of fishing declined only from 3.7 to 2.6 per cent. In Montrose the number of fishermen declined hardly at all, and the share of fishing only from 1.5 to 1.4 per cent of the male labour force. The only parish in Perthshire in which more than 20 men were employed in fishing was Kinfauns – here the number of fishermen declined only from 38 to 37 and the share of fishing in the male labour force actually increased from 18.4 to 21.3 per cent.

The main developments were the great fall of employment in Tayside and particularly in Kilrenny, St. Monance, Pittenweem, and Craig (to a lesser extent in Arbroath and Crail); and the shift in the relative importance of the Tayside fishing ports (in terms of numbers employed) from Kilrenny and St. Monance in 1911 to Arbroath and Pittenweem in 1951.

MANUFACTURES

Manufactures in Scotland in 1911 provided employment for 31 per cent of the occupied males, 41 per cent of the occupied females and 34 per cent of the total labour force. In Tayside manufactures were more important. They provided employment for 34 per cent of the males, 58 per cent of the females and 43 per cent of the total labour force.

Between 1911 and 1951, in Scotland, female employment in manufactures declined a little (by 4 per cent), but male employment increased by 23 per cent and over-all employment increased by 14 per cent. The share of manufactures in total employment increased both for males and for the total occupied population, though in the case of females it declined a little from 41 to 35 per cent.

In Tayside, on the other hand, male employment in manufactures increased much less (by less than 4 per cent), while female employment declined by nearly 40 per cent, and total employment declined by 18 per cent. The share of manufactures in male employment remained unchanged (at about one-third of all types of employment), but in female employment it declined from 58 to 39 per cent, and in total employment from 43 to 35 per cent.

Within the Tayside Region, the Dundee Urban Area in 1911 accounted for nearly 60 per cent of all manufacturing employment and the rest of Angus County for nearly 20 per cent. The remainder was more or less equally divided between the City of Perth and the county areas of Perthshire and East Fife. Between 1911 and 1951 aggregate manufacturing employment in the Dundee Urban Area declined a good deal *less* than it did in the other principal areas, so that Tayside manufacturing came to be concentrated to an even greater extent than before in the Dundee area. This was particularly true of the employment of females in manufactures, which declined by just over 30 per cent in the Dundee Urban Area but by a good deal more elsewhere, especially in Perth where it declined by more than 60 per cent.

In male employment in manufactures there was a notable increase of 30 per cent in East Fife, and an increase of 10 per cent in the Dundee Urban

Area, but a substantial decline in the City of Perth and the County of Angus.

In industrial structure, by far the greatest changes attributable to manufacturing employment was in the City of Perth. Here the share of manufactures in total employment fell from 39 to 19 per cent, of males from 33 to 21 per cent, and of females from 51 to 17 per cent. Elsewhere the changes were much less. In total employment there was a decline of rather less than 9 per cent in the share of manufactures in both Dundee and Angus, but little change in Perth County or East Fife. In female employment, the share of manufactures fell by 20 per cent in both Dundee and Angus but fell much less in East Fife and Perth County. In male employment there was actually an increase of over 5 per cent in the share of manufactures in East Fife, but apart from the fall in the City of Perth there was little change in the other areas.

As regards manufacturing employment in the burghs, the Dundee Urban Area and Perth have already been referred to Amongst. the Tayside burghs there was a substantial decline in total manufacturing employment everywhere in Angus and Perthshire, but in *East* Fife a substantial increase in Newburgh and Falkland and to *a* lesser extent in Dundee's dormitory suburb of Newport. Only in these three burghs was there a substantial increase in the share of manufactures in total industrial employment. Almost everywhere else there was a substantial decline. In aggregate male and female employment the share of manufactures declined by 17 per cent or more in every burgh in Angus, and in every Perthshire burgh except Crieff; in East Fife the share did not decline by as much as 7 per cent in any burgh, and in several burghs, as already noted it increased.

In other respects also the experience in East Fife was different from the experience in other Tayside areas. The share of manufactures in male employment diminished in every burgh in Angus, and also in every burgh in Perthshire except Abernethy; it increased *in every* burgh in East Fife except Pittenweem and St. Andrews. In all the Angus burghs, and in all the Perthshire burghs except Crieff and Aberfeldy, the share of manufactures in female employment fell by more than 20 per cent, but in most East Fife burghs it fell less than 20 per cent, and in several of them by much less. There was a slight *increase* in the share of manufactures in female employment in Newport and a substantial increase in Newburgh.

A final point which is worth observing is that there was a particularly great structural change in female employment in the Perthshire burghs of Perth, Auchterarder, Abernethy, Alyth and Coupar Angus. This was a result of a decline in the employment of females in manufactures. In Ladybank, East Fife, there was also a great decline in the employment of females in manufactures, but a substantial increase in the employment of males.

TEXTILES

Textiles in 1911 provided a far greater share of employment in Tayside than they did in Scotland as a whole – 46 per cent of all occupied females as against 19.5 per cent for Scotland, and 14.5 per cent of all occupied males as against 3.8 per cent. Between 1911 and 1951 there was a much greater fall in employment in textiles in Tayside than there was in Scotland as a whole, and this fall made a much greater impact in Tayside on the structure of industrial employment.

In the Angus burghs of Dundee, Brechin, Forfar and Kirriemuir more than 40 per cent of the total occupied population, and more than 20 per cent of the occupied males, were employed in textile manufacture in 1911, and with the exception of Falkland in Fife it was only in these burghs that more than 60 per cent of the occupied females were so employed. Textiles provided a little more or less than one-third of aggregate male and female employment in Auchterarder and Arbroath; one-quarter in Tayport, Abernethy and Alyth; and one-fifth in Montrose, Auchtermuchty, Perth and Blairgowrie.

Between 1911 and 1951, excluding the burghs where there was in any case little employment in textiles, textile employment fell by more than 80 per cent in Perth, and by more than 70 per cent in Brechin, Montrose, Cupar (Fife) and Alyth. The least decline was in Forfar and Dundee, but since textile employment was more heavily concentrated in Dundee than it was elsewhere the impact which declining employment in textiles had on industrial structure was greater in Dundee than almost anywhere else. The only burghs in which the impact was even greater were Brechin and Auchterarder. In Perth, in spite of the great percentage decline in textile employment, the effect on industrial structure was not particularly great, because the initial level of textile employment had not been particularly high.

Of the employment in all textile industries in the Tayside area in 1911, jute accounted for 66.3 per cent and linen for 16.3 per cent. Other textile industries which provided a significant amount of employment in

some localities included dyeing and finishing (6.0 per cent), bleaching (3.0 per cent), cotton (1.2 per cent) and wool (0.4 per cent). These together accounted for 93 per cent of all Tayside textile industries.

Between 1911 and 1951 employment in textiles declined by nearly one-half. The greatest decline among the industries mentioned was in dyeing and finishing and bleaching, in which employment fell by 70 per cent, and then in the linen industry in which it fell by 60 per cent. In jute the decline was 44 per cent and in the cotton and woollen industries there was actually some increase in employment. The result was that the share of jute in employment in the Tayside textile industries actually increased, and so, to a lesser extent, did the share of cotton and wool. The jute industry was, of course, overwhelmingly concentrated in Dundee and Angus. East Fife accounted for only 1.8 per cent of employment in the industry in Tayside, and Perthshire for only 1.6 per cent. In Angus, the Dundee Urban Area accounted for 89.2 per cent and the rest of Angus 7.4 per cent.

Between 1911 and 1951, employment in jute declined by one-half in the Dundee Urban Area, but hardly at all in the rest of Angus as a whole – only by 2.4 per cent. This might seem rather remarkable particularly when it could be supposed that external economies and economies of large scale production should have led to increased concentration in Dundee.

There was a limited number of parishes in which jute provided employment for as many as 20 people – only 10 parishes in Angus (including the Dundee Combination of parishes as one), 5 in Perthshire and 2 in East Fife.

In Dundee in 1911 there were 31,500 persons employed in jute, which accounted for 88 per cent of total employment in Tayside. Next came Forfar with 3.6 per cent of Tayside, Kirriemuir with 2.2 per cent and Ferryport-on-Craig (Tayport) with 1.0 per cent.

The jute industry accounted for over 40 per cent of total employment in Dundee in 1911. Elsewhere, only in Logie Pert and Kirriemuir did the industry account for more than 30 per cent, and only in Ferryport-on-Craig and Forfar for more than 20 per cent. Of the other Tayside parishes, only Alyth and Barry had as many as 10 per cent employed in this industry.

Between 1911 and 1951 total employment in the jute industry in Dundee declined by 52 per cent and female employment by 62 per cent. There were some parishes in which the percentage decline was even great (for example Perth, where employment declined from 250 to 75, and Cupar, where it declined from 240 to almost nil) but nowhere was the effect on industrial structure so great as it was in Dundee. Total employment in the jute industry in Dundee declined from 40.4 per cent to 18.5 per cent of total employment (a shift of 21.9 per cent) and female employment in the industry from 62.5 to 26.4 per cent. This was more than double the shift in employment created anywhere else. The next greatest structural change due to a decline in employment in jute was in Kirriemuir, with a shift in aggregate employment of 10.7 per cent, and after that Cupar with 8.8 per cent, Alyth 8.2 per cent, Logie Pert 7.0 per cent, and Ferryport-on-Craig 5.9 per cent.

There were, on the other hand, some parishes in which both employment in jute and the share of jute in total employment increased. It was not surprising that with the redistribution of population in Dundee from the urban centre to the periphery employment in the suburbs, including jute employment, should increase, and this accounts for an increase in employment in the jute industry in the parishes of Liff and Benvie and Mains and Strathmartine. A similar redistribution of population would account for an increase in employment in the jute industry in the parish of Tibbermore, adjacent to Perth. But elsewhere also there was some increase in employment in the jute industry, including the parishes of Forfar, Arbroath, Brechin, Blairgowrie and Rattray. Employment in the jute industry in all of these except Forfar remained low, but in Forfar employment in jute in 1951 rose to 24.4 per cent of total employment and nowhere was there now a higher level of employment in this industry except in the small parish of Logie Pert near Montrose, which had 25.7 per cent. Apart from the Dundee Urban Area which had near 20 per cent employed in jute in 1951, and Ferryport-on-Craig with 19.3 per cent, the only other parishes with more than 5 per cent were now Barry (7.6 per cent), Rattray (6.5 per cent) and Brechin (5.2 per cent).

The jute industry had clearly undergone an upheaval in the forty years between 1911 and 1951. The main changes were the great decline in employment in the industry as a whole, and a redistribution of employment from the Dundee Urban Area to other parts of Angus, including Forfar, Brechin and Arbroath.

LINEN

The Tayside linen industry was not concentrated to quite the same extent as the jute industry was in Dundee and the County of Angus, but still this city and the county contained a little more than three-quarters of employment in the industry in 1911, and Perthshire and East Fife between them the remaining 25 per cent (14 and 11 per cent respectively). One major difference was that whereas the jute industry was heavily concentrated on Dundee only 14 per cent of the Tayside linen industry was contained in the Dundee Urban Area in 1911 the rest of Angus contained 60 per cent.

Between 1911 and 1951 employment in the industry in Tayside declined by 60 per cent (a decline of 69 per cent in female employment and 38 per cent in male employment). Although the respective shares of Perthshire and East Fife in total Tayside employment in the industry remained almost the same, there was a striking shift in the balance of employment between Dundee and the rest of Angus. While employment in the rest of Angus declined by 83 per cent, employment in the Dundee Urban Area *increased* by 38 per cent. The share of the Dundee Urban Area in Tayside employment in the industry increased by 35 per cent from 14 to 49 per cent of the total, while the share of the rest of Angus declined by almost exactly the same amount, from 60 to 26 per cent.

It is worth noting that this trend in employment in the linen industry in favour of the Dundee Urban Area and to the disadvantage of the rest of Angus is just the opposite of the trend in the jute industry.

There were more than 50 parishes on Tayside in 1911 in which there was some employment in the linen industry, but only 23 in which more than 20 people were employed, and only 11 with employment of more than 100. The chief centres of employment were the parishes of Brechin, containing 18.7 per cent of all persons employed in the linen industry on Tayside, Arbroath (16.5 per cent), Dundee (12.9 per cent), Forfar (11.4 per cent) and Montrose (10.7 per cent). There were smaller centres of employment at Perth (6.1 per cent), Falkland (4.1 per cent), Cupar (3.0 per cent), Strathmiglo (2.6 per cent), Auchtermuchty (1.9 per cent) and Craig (1.5 per cent). In other parishes, also, where total employment in the linen industry was less than 100, the industry might yet be of some importance

for local employment. This was so in Collessie and Kettle in East Fife, and Abernethy, Auchtergaven, Blairgowrie, Coupar Angus and Rattray in Perthshire.

In many parishes the linen industry completely or almost completely disappeared between 1911 and 1951. The effect this had depended of course on the importance which the industry had previously enjoyed in the particular parish. In Kirriemuir and Blairgowrie, for example, hardly any linen workers were left in 1951 but this did not make much difference to the structure of industrial employment because the industry had not earlier provided a great deal of employment. It is of greater interest to consider those parishes in which linen manufactures had previously provided a high level of employment for the local population, and in which the structure of industrial employment was significantly affected by later changes in employment in the industry.

The parish of Brechin was more seriously affected by the decline in employment in the linen industry than any other parish in the Tayside area. Employment of males in the industry declined by over 70 per cent from 504 to 147, and of females by over 80 per cent from 1140 to 223. The effect on the structure of employment was to reduce the proportion of all occupied females employed in linen manufactures from 55.5 to 18.6 per cent, and of males from 18.9 to 5.9 per cent. In aggregate employment there was a shift of 25 per cent out of the linen industry, from 35 per cent employed in the industry in 1911, to 10 per cent employed in 1951.

Apart from Brechin, those parishes which were seriously affected by a fall in employment in linen manufactures included Falkland and Auchtermuchty in East Fife, and Forfar in Angus, in which the shift in aggregate employment out of linen ranged from 16 to just over 17 per cent of the occupied population. In Falkland total employment in linen fell from 356 to 179, in Auchtermuchty from 169 to 36, and in Forfar from 997 to 49.

Parishes in which the structural shift due to a fall in aggregate employment in linen was more than 8 per cent included Montrose, Arbroath, Craig, Strathmiglo, Abernethy, Kettle and Collessie. Elsewhere the structural shift was less, but in several other parishes in which some scores of men and women had earlier been employed in the linen industry, hardly any were left by 1951. Such parishes included Barry in Angus and Auchtergaven, Blairgowrie and Coupar Angus in Perthshire.

In Perth, the total number employed in the linen industry declined from 536 (3.4 per cent of the occupied population) to 186 (1.5 per cent) and the number of females from 443 (7.4 per cent of the occupied female population) to 131 (3.0 per cent). In Cupar, East Fife, the total number declined from 261 to 90, and in Rattray, Perthshire, from 106 to 70.

There was thus quite a number of parishes in which the linen industry survived, though commonly on a much reduced scale. In 1951 by far the most important location of the industry was the Dundee Urban Area, where employment had increased from 1260 in 1911 to 1730 in 1951. The Dundee Urban Area now included almost exactly half the total employment in linen manufactures on Tayside. Next came Brechin, in spite of the great decline in the industry there. Brechin now contained 10.5 per cent of the Tayside labour force in linen, compared with 18.3 per cent in 1911. After Brechin came Montrose (7.5 per cent), Perth (5.3), Falkland (5.1), Arbroath (4.6) and Strathmiglo (4.0).

The greatest decline in the proportion of the Tayside labour force employed in the linen industry was in Arbroath, whose share fell between 1911 and 1951 from 16.5 to 4.6 per cent. The decline in Forfar was from 11.4 to 1.4 per cent and in Brechin from 18.7 to 10.5 per cent.

For several parishes in 1911 the linen industry had provided a major source of employment, particularly for women. In Falkland two-thirds of the women were employed in linen manufactures; substantially more than half were so employed in Brechin and Strathmiglo; not much less than half in Auchtermuchty; about a third in Montrose, Collessie and Kettle; and about a quarter in Forfar, Arbroath and Abernethy.

The decline in employment in the industry therefore had a major, social and economic impact on the women seeking employment in the area. By 1951, the industry was of decisive importance only in the parishes of Falkland and Strathmiglo, where 40 per cent and 38 per cent respectively of the women in the occupied population were still employed

in linen manufactures. In Brechin less than 19 per cent of the women were now employed in the industry, in Auchtermuchty 14 per cent, and nowhere else as much as 10 per cent except in Craig, Kettle and Rattray.

DYEING AND FINISHING

Although dyeing and other types of finishing are separate processes they cannot be distinguished in the census of 1951 and must therefore be considered together. This is unfortunate in one respect, since dyeing was of such distinctive importance for Perth before the first world war.

In 1911 the dyeing and finishing sections of the textile industry provided employment for more than 3200 people, and, unusually for textile industries, substantially more than half of these were male. By 1951 employment had declined by 70 per cent to 950 – a decline of 75 per cent in female employment and 67 per cent in male employment.

These industries were more highly concentrated than most branches of the textile industry. In 1911 the City of Perth accounted for 68.2 per cent of employment in the Tayside Region, and the Dundee Urban Area for 25.4 per cent, so less than 7 per cent were employed anywhere else. Perth in particular was an important centre of the dyeing section of the industry, and cloths were sent there in large quantities for dyeing from places outside the Tayside Region.

By 1951 the industry had practically vanished in Perth but had not declined very much in the Dundee Urban Area. In the Dundee area total employment fell from a little over 800 to a little under 700, and female employment actually rose while male employment fell. In 1951 the Dundee Urban Area accounted for nearly 74 per cent of employment in dyeing and finishing in the Tayside Region, Perth City less than one per cent and the rest of Perthshire nearly 24 per cent.

In 1911 the industry in Perthshire was concentrated in only a few parishes within and adjacent to Perth, particularly, apart from Perth parish itself, the parishes of Tibbermore, Kinnoull, Redgorton, Scone and Methven. In 1951 it was only in the parishes of Redgorton, Tibbermore and Methven that a significant level of employment remained. In 1911 dyeing and finishing had provided 25 per cent of aggregate employment in the parish of Tibbermore, 12.5 per cent in Perth parish, 10 per cent in Kinnoull, 8 per cent in Redgorton, 5 per cent in Scone and 4 per cent in Methven, but only one per cent in Dundee. In 1951 it provided more than 15 per cent of the employment in Redgorton but a negligible proportion of total employment anywhere else. At no time was the industry of any significance in East Fife.

BLEACHING

This is strictly another finishing industry, but its characteristics are different from dyeing and calendaring and it can appropriately be treated separately. It is commonly a small-scale industry, and it has a scattered location determined largely by the location of ample water supplies.

In 1911,1634 people were employed in bleaching on Tayside, 1161 males and 473 females. A little more than 58 per cent of employment in the industry was in Dundee and Angus, 38 per cent in Perthshire and only 4 per cent in East Fife. The Dundee Urban Area alone contained 36 per cent of all Tayside employment, and within the Dundee area this was located chiefly in the parish of Mains and Strathmartine, in the Dundee combination of parishes and the parish of Monifieth. This still left 22 per cent of Tayside employment in the rest of Angus, and the chief locations elsewhere in the county were in the parishes of Brechin, Arbroath and St. Vigeans, and Kirkden, with smaller numbers employed in Forfar and Panbride.

In Perthshire the industry was confined almost entirely to half-a-dozen parishes in the lower Tay and Almond valleys. Much the most important location of the industry in Perthshire was in the parish of Redgorton. This parish alone contained 18 per cent of the Tayside labour force engaged in the industry, and 27 per cent of the female labour force, which was more than in the whole of the Dundee Urban Area The other centres of the industry, in diminishing order of importance, were the parishes of Tibbermore, Methven, Scone, Auchtergaven and Perth.

By 1951 the number employed in the bleaching industry on Tayside had fallen from 1634 to 504. The industry had vanished in East Fife and had almost vanished in Angus outside the Dundee Urban Area, where the number employed had fallen from 580 in 1911 to 210 in 1951. The only other remaining centres of the industry in Angus were Arbroath and Kirkden, in each of which less than a score of work-people were now employed. Redgorton remained the chief centre of the industry in Perthshire, employing more than 20 per cent of the Tayside labour force, and still depending much more than other localities on female labour. Less than half as many people were employed in Scone and Tibbermore, and smaller numbers in Auchtergaven, Perth and Methven. In 1951, 49 per cent of the labour force in the industry were employed in the half-dozen Perthshire parishes, 41 per cent in the Dundee Urban Area, and 10 per cent the rest of Angus.

COTTON

Cotton is not normally an industry associated with Tayside, but there were some localities in which the industry provided significant levels of employment.

In all sections of the industry taken together, 639 people were employed on Tayside in 1911 and 653 in 1951. There was thus almost no change in the aggregate labour force, but in 1911 women outnumbered men by more than two to one, and between 1911 and 1951 the number of women increased while the number of men fell.

In 1911, nearly 51 per cent of the Tayside labour force was located in the parish of Auchtergaven, in which is situated part of the village of Stanley containing the well-known and long-established cotton mills of that name. Another 27 per cent of the labour force was located in Auchterarder, and of the remaining 22 per cent rather more than half were in Perth and Redgorton parishes and less than half in Dundee and Arbroath.

In 1911, rather less than half of the labour force in Tayside were engaged in the weaving section of the industry, less than one-sixth in spinning and more than one-third in other miscellaneous sections of the industry. Nearly 80 per cent of the weavers were concentrated in Auchterarder, and there were only a few more in Auchtergaven and small numbers scattered elsewhere. Auchtergaven accounted for 45 per cent of the hundred or so spinners, and the rest were distributed in small numbers in Redgorton, Perth, Auchterarder and Dundee. Auchtergaven and Auchterarder between them accounted for 75 per cent of the employment in other sections of the industry.

Although the numbers in the cotton industry did not change much between 1911 and 1951, their distribution did. In 1951, two-thirds of employment was attributed to weaving and one-third to spinning, while "other" sections of the industry were no longer separately distinguished. The cotton industry had by this time vanished from Auchterarder, while 90 per cent of the weavers were now located in Arbroath and St. Vigeans, and very few in any other single locality. Spinning in 1951 was concentrated to a rather greater extent than before in the parish of Auchtergaven, which now contained 76 per cent of the Tayside spinners, while more of the remainder were resident in the adjacent parish of Redgorton than anywhere else. The numbers employed in woollen manufactures on Tayside were very small, only 218 in 1911 rising to only 322 in 1951. Roughly half were female and half male in 1911, but two-thirds were female in 1951, accounting for almost the whole of the increase in employment by that date.

In 1911 the parishes of Perth and Auchterarder together contributed, nearly equally, half of the employment in the woollen industry in Tayside. Elsewhere only small numbers were employed in Dundee and in the parishes of Crieff, Alyth and Moulin in Perthshire. The industry was non-existent in East Fife.

By 1951 employment had expanded three-fold in Auchterarder, compensating in part for the disappearance of the cotton industry there, and this parish now contained 46 per cent of the employment in the woollen industry on Tayside. The industry had in the meantime also been established in Forfar, which now contained 21 per cent of Tayside employment, Together, therefore, Auchterarder and Forfar employed two-thirds of the labour force in the woollen industry on Tayside in 1951. Only small numbers were employed in other places, including Dundee and St. Andrews and the parish of Moulin.

MANUFACTURES OTHER THAN TEXTILES

In the Tayside area as a whole, the number of persons engaged in manufacturing industry fell by 18 per cent, between 1911 and 1951 but this included a rise of nearly 4 per cent in the number of males, and a fall of nearly 40 per cent in the number of females. This resulted in one of the greatest structural changes in industrial employment which took place during this period.

The reason for the discrepancy between males and females in these changes was that the number of females engaged in textile manufactures fell far more than the number of males -a fall of 56 per cent in the number of females, compared with a fall of 34 per cent in the number of males.

There was, on the other hand, very little difference between males and females in the changes which took place in employment in manufactures other than textiles. In these, there was an increase of 32 per cent in the number of males, 29 per cent in the number of females, and 31 per cent over all. The share of manufactures other than textiles in total employment rose by little more than 5 per cent in the case of males, and a little less than 5 per cent in the case of females. The increase in employment in manufactures other than textiles was rather greater in Tayside than in Scotland as a whole, and the increase in the share of such manufactures in total employment was about the same in Tayside and Scotland.

Aggregate employment in manufactures other than textiles increased by 62 per cent in the Dundee Urban Area, and by 26 per cent in East Fife. It remained almost unchanged in the County of Angus outside Dundee and in the City of Perth, and it declined in Perthshire outside the City of Perth. Male employment increased by 46 per cent in both the Dundee Urban Area and in East Fife, and by a little more than 10 per cent elsewhere; but whereas female employment more than doubled in the Dundee Urban Area, it substantially declined in all other areas, including East Fife, and it declined most of all in Perthshire outside Perth.

In 1911 the Dundee Urban Area predominated in the manufacture of textiles, but not in general in the manufacture of other commodities The Dundee area contained 67 per cent of male, female and aggregate employment in textiles on Tayside, but only 46 per cent of aggregate employment, and only

40 per cent of female employment, in other manufactures. By 1951 this situation had been substantially changed. The share of the Dundee area had increased to 57 per cent of aggregate employment and 67 per cent of female employment in manufactures other than textiles in Tayside, while its share of textile employment had also increased. This had a considerable impact on the structure of employment in the Tayside Region as a whole.

Among the individual burghs, however, there were in some respects even more striking changes elsewhere. In Falkland and Newburgh male and female employment in manufactures other than textiles were each multiplied three-and-a-half times. In each of them, in 1911, 25 per cent of male employment had been engaged in non-textile manufactures, and by 1951 this had risen to well over 50 per cent which was more than in any other burghs. By 1951 there was no burgh which employed so high a proportion of its males in such manufactures as Falkland (56 per cent); no burgh which employed so high a proportion of its females as Newburgh (42 per cent), and no burgh which employed so large a proportion of its aggregate labour force as either of these two (46 and 49 per cent respectively).

Apart from these two burghs, there were substantial increases in employment in non-textile manufactures in Brechin, Auchtermuchty and Ladybank. In each case there was a decline of 25 to 30 per cent in the number of females employed in such industries, but an increase of 40 to 60 per cent in the number of males.

In 1911 the two burghs which had depended most on manufactures other than textiles had been Arbroath and Carnoustie. In Arbroath employment in these industries did not increase very much, and in Carnoustie it declined.

The burghs in which there was a substantial decline in numbers employed in non-textile manufacturing industries included Anstruther, Pittenweem, Forfar, St. Andrews and Aberfeldy. In each case the decline was due chiefly to a drastic fall in female employment in these industries. In Anstruther and Pittenweem the effect of this on structure was particularly severe, causing a shift of 20 per cent of the female labour force out of these manufactures and into other industries.

CLOTHING AND FOOTWEAR

In Scotland as a whole in 1911 clothing and footwear manufacture gave employment to 2.3 per cent of the males, 11.6 per cent of the females and 4.9 per cent of the total occupied population. By 1951 employment had fallen by between 55 and 60 per cent, and the share of this industry in total employment had fallen to less than half of what it had been for males, females and aggregate employment.

In Tayside, this industry in 1911 had given employment to 2.6 per cent of the males, 7.6 per cent of the females, and 4.5 per cent of the aggregate occupied population. That is to say, it had employed slightly more of the men and fewer of the females, and only slightly fewer of aggregate population than in Scotland as a whole. But between 1911 and 1951 employment in the industry fell to less than one-third of what it had been before, both for males and females, and there was a corresponding fall of the share of the industry in total employment.

In 1911, one-third of the employment in the industry in Tayside was centred upon the Dundee Urban Area, with a further 11 per cent in Perth and 10 per cent in Arbroath. There were five other burghs which each employed more than two per cent of the Tayside work force in this industry, and together they contributed 15 per cent of the total. These were Brechin, Carnoustie, Forfar, Montrose and St. Andrews.

Between 1911 and 1951 employment in the Dundee Urban Area fell by only a little more than 40 per cent, and this area now contained 57 per cent of Tayside employment in the industry. Perth now employed only 5.5 per cent of the Tayside workforce and Arbroath hardly more than one per cent. The only burgh in which an increase in employment had a significant local impact was Newburgh; and in Anstruther and Kilrenny employment remained the same, but the share of the industry in total employment increased. Each of these burghs in 1951 contained 2.7 per cent of the Tayside workforce in the industry. Carnoustie still contained nearly 4 per cent, but apart from the burghs mentioned there was now none which contained as much as 2 per cent. The aggregate workforce in the region was greatly reduced, and apart from those contained in the burghs which have been named they were scattered in small numbers throughout the region.

FOOD, DRINK AND TOBACCO

In 1911 this industry gave employment in Scotland to 2.4 per cent of the male occupied population, 3.7 per cent of the females, and 2.8 per cent of the aggregate labour force. By 1951 there had been a noticable increase in the share of this industry in the occupied population. The male and female labour force both increased by two- thirds, and there was a roughly corresponding increase in the share of each in the total labour force.

In Tayside, in 1911, the share of this industry in the male occupied population was slightly higher than in Scotland as a whole, but the share of females was distinctly lower (less than 2 per cent). Between 1911 and 1951 the number of males in the industry increased by less than 50 per cent but the number of females more than doubled, and the final result was that, as in Scotland, the aggregate labour force had increased by two-thirds.

Both in 1911 and 1951, just under half the employment in Tayside was concentrated in Dundee. Elsewhere, the industry was widely and fairly evenly dispersed in 1911, but in certain burghs in particular there was greatly increased employment by 1951. There was a four-fold increase in aggregate employment in the industry in Montrose and Cupar, as a result of which the industry's share of the occupied labour force in these burghs rose to 13.6 and 11.4 per cent respectively. This was much higher than the figure for Tayside of 3.8 per cent in 1951. There were no other burghs in which it was as much as 7 per cent, and few in which it was over 5 per cent. In Perth, employment increased by 136 per cent, and Perth's share of employment in the industry in Tayside increased from 8.7 to 12.4 per cent.

In Brechin and Kirriemuir also, where employment increased by 80 per cent and 117 per cent respectively, this industry made a substantially greater contribution to manufacturing employment in 1951. The only burghs in which there was a significant decline were Arbroath and Anstruther and Kilrenny.

PAPER AND PRINTING

Paper and printing in Scotland employed 1.5 per cent of the male occupied population in 1911, over 3 per cent of the females and 2 per cent of aggregate employment. Between 1911 and 1951 aggregate employment increased by 29 per cent, male employment by 44 per cent, but female employment by only 12 per cent. The share of this industry in female employment did not increase at all.

In Tayside the experience was distinctly different. The industry accounted for a much smaller share of female employment in 1911 – less than one per cent. Male employment was also slightly lower and total employment was only 1.2 per cent. By 1951, however, female employment had increased by 132 per cent, male employment by 64 per cent, and aggregate employment by 85 per cent. These increases, particularly for female employment, were much greater than for Scotland as a whole, and the share of the industry in female employment particularly had increased by 1951. The level of employment in the industry in Tayside was now not much less than in Scotland as a whole.

The Dundee Urban Area contained 47 per cent of the labour force in the industry in 1911, and 62 per cent in 1951. <u>Among</u> the other centres in which the industry was located the most important were the parishes of Leuchars and St. Andrews, which together accounted for 17 per cent of employment in the industry in 1911, and 12 per cent in 1951. Employment in the paper mills at Guardbridge largely accounted for the importance of this industry in these parishes. The industry was not of great importance in Perth, but still accounted for 13 per cent of Tayside employment in 1911 and 8.7 per cent in 1951. There were only two other important centres of the industry in 1911, namely the burgh of Brechin and the town of Invergowrie in the parish of Longforgan. Each of these contained well over 5 per cent of the employment in the industry in Tayside in 1911, but whereas by 1951 employment in Invergowrie had very slightly increased, employment in Brechin had disappeared almost completely.

Apart from these locations, the industry was of some local importance in a few other burghs as well, particularly Arbroath and Cupar, and also, in 1951, the parish of Falkland, where very few were employed in the burgh itself but several score in the landward part since employment in the industry was offered in the adjacent parish of Markinch, which is not included in the Tayside Region.

ENGINEERING

The engineering industries are so varied in their products and in the technologies which they employ that it is doubtful how far the use of this composite category serves a useful purpose, but it may be of some interest to consider how the experience in Tayside, and particular localities within the region, compared with the experience elsewhere. The engineering industries are here taken to include metal manufacture, the manufacture of metal goods, vehicle making, ship-building and boatbuilding, and also the category of precious metals, jewels, watches and instruments since the last two at least came to be of some importance in the region.

The engineering industries in Scotland in 1911 employed 17 per cent of the occupied males, 12.5 per cent of the aggregate labour force but only one per cent of the females. By 1951 employment of males had risen by only a little more than a quarter, but there was a more than eight-fold increase in the employment of females and aggregate employment rose by 43 per cent. The share of the industry in the total occupied population rose from 17 to 21 per cent for males, 12.5 to 16.8 per cent for the aggregate labour force, and from one per cent to more than 7 per cent for females.

In Tayside in 1911 employment in the engineering industries was substantially lower than in Scotland as a whole, employing only 9.4 per cent of the males, less than 6 per cent of the aggregate occupied population and less than one-quarter of one per cent of the females. Between 1911 and 1951 the increase in employment was much greater – an increase of 46 per cent for males, 74 per cent for aggregate employment and a twenty-fold increase in the employment of women. The share of the industry in the occupied population rose in 1951 to 13 per cent for males, 10.4 per cent for the aggregate labour force and 5.2 per cent for females. These shares, for males and for the labour force as a whole, were however still much lower than in the rest of Scotland.

The Dundee Urban Area accounted for 58 per cent of the labour force in Tayside in 1911, and 63 per cent in 1951. The principal other centres in which the industry was located in 1911 were Arbroath with 10 per cent, Perth with 6.8 per cent and Carnoustie with 2.7 per cent. No other burgh contained as much as 2 per cent. In 1951 the principal other centres were again Arbroath and Perth, with 9 and 5.4 per cent respectively, while Brechin, with 2.4 per cent, emerged as the burgh next in importance instead of Carnoustie.

SERVICES

In services of all kinds there was an increase in employment in Scotland as a whole, between 1911 and 1951, of 17 per cent for both sexes together, including an increase of 9 per cent for males and 26 per cent for females. As a percentage of the total occupied population, the share of services rose by 3 per cent (from 32 to 35 per cent) for all employees, by 1.3 per cent for males (from 24.3 to 25.6 per cent) and by 6 per cent for females (from 51 to 57 per cent).

On Tayside, the share of services in total employment in 1911 was only a little less than it was for Scotland as a whole for males, but substantially less for females (since so many women were employed in textile manufactures). Only 37.5 per cent of females in Tayside were employed in services in 1911 compared with 51 per cent in Scotland as a whole. Between 1911 and 1951 the increase in employment in services was substantially greater on Tayside than it was in Scotland. The share of services in the total occupied population increased in Tayside by 4 per cent for males, 17 per cent for females, and 8 per cent for both sexes, and by 1951 the share of services was nearly as great in Tayside as it was in Scotland as a whole.

It is not possible to give an accurate estimate of changes in employment in certain categories of services, because the classification in 1911 was not sufficiently precise. The chief difficulty is that in 1911 "Commercial or Business Clerks", not further defined, were included in the general category of "Commercial Occupations" together with Insurance, Banking and Finance. There was no category of "Commercial or Business Clerks" in 1951. In consequence, the numbers included in Industry, Banking and Finance in 1911 are probably overestimated, and those in the distributive trades probably underestimated. The increase in employment in distribution between 1911 and 1951, and the decline in "insurance, banking and finance" were probably not as great as the census figures suggest.

In 1911, *domestic* service had accounted for more than half the employment of females in services of all kinds in both Scotland and Tayside. In both of them this type of service had declined by 1951, but in Scotland it declined much more than it did in Tayside. Its share of the total female labour force fell by more than 14 per cent in Scotland, compared with less than 7 per cent in Tayside. In Scotland in 1911, domestic service had accounted for 28 per cent of female employment, but in 1951 only 14 per cent; in Tayside it

accounted for 21 per cent in 1911, and 15 per cent in 1951. By 1951, domestic service accounted for a quarter of the employment in services of all kinds in Scotland, and a little more than a quarter on Tayside.

On the other hand, employment of both males and females in *services other than domestic* increased to a greater extent on Tayside than it did in Scotland as a whole; but the difference was not great, and the effect on industrial structure was roughly similar – a considerable impact in the case of females, whose employment in non-domestic service more than *doubled* in each case, accounting for an increase by more than 20 per cent in the share of such employment in total female employment. There was a much smaller impact in the of males – a share increase of less than 2 per cent in Scotland and less than 5 per cent on Tayside.

In Scotland, non-domestic services accounted for 23 per cent of female employment in 1911 and 43 per cent in 1951; on Tayside, 16 per cent in 1911 and 40 per cent in 1951. In male employment, they accounted for 22 per cent in 1911 in both Scotland and Tayside, and in 1951 23 per cent in Scotland and 26 per cent on Tayside.

The non-domestic services which increased to the greatest extent were *public administration and the professions*, in which male employment more than doubled in Scotland between 1911 and 1951, and female employment more than trebled. These accounted for less than 4 per cent of male employment in 1911 but more than 8 per cent in 1951; and a little over 6 per cent of female employment in 1911, but more than 18 per cent in 1951.

On Tayside, employment in public administration and the professions increased to very much the same extent as in Scotland as a whole, and the effect of this on the structure of employment was very similar. These services accounted for 4.4 per cent of male employment in 1911 and 8.6 per cent in 1951; 4.7 per cent of female employment in 1911 and 17.1 per cent in 1951.

Another major service occupation in which employment increased substantially was *distribution*, but the increase was not so pronounced as in the case of public administration and the professions, and, for the reasons given above, probably not even as great as the figures suggest. In Scotland, female employment more than doubled but male employment increased by only 15 per cent. Distribution accounted for 8.4 per cent of male employment in 1911 and

9.3 per cent in 1951; it accounted for 9.5 per cent of female employment in 1911, and 19.5 per cent in 1951.

On Tayside the changes were again very similar. Distribution had accounted for 8.9 per cent of male employment in 1911 and 10.6 per cent in 1951; of female employment, 6.8 per cent in 1911 and 17.1 per cent in 1951. In this case, at both dates, male employment was slightly higher on Tayside than it was in Scotland as a whole, and female employment was lower.

Services in the Burghs

Employment in services in 1911 was generally much higher in the burghs of Perthshire and East Fife than it was in the burghs of Angus. In Angus, (if we exclude Broughty Ferry and Monifieth as part of the Dundee Urban Area) it was only in Carnoustie and Montrose that more than 30 per cent of the occupied population was engaged in services; in Perthshire and East Fife, more than 30 per cent were so employed in all burghs except Falkland, Ladybank, Abemethy and Auchterarder, and the fishing burghs of Anstruther and Pittenweem. *Male* employment in services was particularly low in these fishing burghs and in Ladybank, *female* employment particularly low in Falkland and Abernethy.

Those burghs in which services were predominant in all types of employment, accounting for more than 50 per cent of the total occupied population, included, in order of ranking, Newport, St. Andrews and Elie and Earlsferry in East Fife, and Crieff and Aberfeldy in Perthshire.

Between 1911 and 1951 the greatest increase in employment in services was in some of the Perthshire burghs. Aggregate employment in services more than doubled in Auchterarder and in the (very small) burgh of Abernethy, and it increased by 90 per cent and 75 per cent respectively in Coupar Angus and Perth. Nowhere else in Tayside was there so great an increase. In East Fife, employment increased by more than 40 per cent in Crail, Cupar, Ladybank and Pittenweem, but nowhere by as much as this in the burghs of Angus. In addition to the burghs mentioned, there was a substantially greater than average increase in male (but not female) employment in St. Andrews, and in female (but not male) employment in the Dundee Urban Area and in Forfar.

There was a remarkable decline in employment in services in Newport

(by one-third between 1911 and 1951) and a substantial decline also in Auchtermuchty. There was a fall in female employment in Elie and Earlsferry, and in male employment in Falkland and Newburgh. All these are East Fife burghs.

Yet in spite of these changes it was still in East Fife in 1951 that the highest employment in services was to be found: over 60 per cent of aggregate employment in St. Andrews and Elie and Earlsferry, almost exactly 60 per cent in Newport, and nowhere else in Tayside as much as this. There was also now over 50 per cent employment in services in Crail and Cupar in East Fife, and in Aberfeldy, Crieff, and Perth in Perthshire, but nowhere as much as this in Angus. Female employment in services was 70 per cent or over in Crail, Cupar, Elie, Newport and St. Andrews in East Fife; and Aberfeldy, Alyth, Coupar Angus, Crieff and Perth in Perthshire; but nowhere in Angus.

In 1951 aggregate employment in services was less than 35 per cent only in the Dundee Urban Area, Auchtermuchty, Falkland, Ladybank and Newburgh. Female employment in services was less than 50 per cent in the Dundee Urban Area, Forfar, Kirriemuir, Falkland, Newburgh and Tayport,

Domestic Services

As already mentioned, domestic service did not provide as much employment for women in Tayside generally as it did in the rest of Scotland, because so many women were employed in textile manufactures. Among the individual burghs, however, there was a very great variation in the extent to which women were employed in domestic service.

In 1911, employment of women in domestic service was more than 50 per cent of total female employment in five of the 27 Tayside burghs and below 15 per cent in another eight burghs, so that in nearly half of the burghs (including Broughty Ferry and Monifieth in the Dundee Urban Area) employment in domestic service was either below or above these two extremes The burghs in which there was the highest level of female employment in domestic services (above 50 per cent) were Elie, St. Andrews, Newport, Aberfeldy and Crieff; those in which there was the lowest level (below 12 per cent) were Abernthy, Falkland, Forfar, the Dundee Urban Area and Arbroath.

In male employment there was much less variation. There was only one

burgh (Falkland) in which more than 5 per cent of the male occupied population were employed in domestic service, and only five in which less than one per cent were so employed.

Between 1911 and 1951 the changes which took place in *female* domestic employment also varied widely from one burgh to another. The share of domestic service in female employment fell by more than 16 per cent in five burghs, and generally speaking the greatest decline was in those burghs in which domestic service had been at a particularly high level. There was a decline of as much as 35 per cent in Newport, 21 per cent in Aberfeldy, 19 per cent in St. Andrews, and between 16 and 18 per cent in Newburgh, Crail and Crieff. There were five burghs in which the share of domestic service in female employment actually increased, but on the whole there was a general and substantial decline in this type of female employment. By contrast there was a general but slight increase in *male* employment in domestic service and very little variation between burghs. In only four burghs did the share of domestic service increase by more than 3 per cent, but in only three did it decline at all.

In 1951 the burghs which had respectively a high or a low level of domestic service were much the same as in 1911, but with some differences, since certain burghs behaved in a "maverick" fashion. In Elie and Earlsferry the share of domestic service in male employment increased by over 8 per cent, which was much more than anywhere else, and its share of female employment declined by only 4 per cent so that in 1951 the level of male, female and aggregate employment in domestic services were all much higher in Elie and Earlsferry than they were anywhere else. (As a holiday resort, Elie and Earlsferry provided much domestic employment in hotels and boarding houses). The share of male domestic service in total male employment increased in Auchterarder more than anywhere else, with the expansion of particular hotel facilities. In Falkland, the share of male domestic service was higher than anywhere else in 1911, but declined more than anywhere else between 1911 and 1951, so that by 1951 its share was lower than anywhere else except Ladybank and Newburgh. In Newburgh, the level of employment of females had been about average in 1911 (24 per cent of all female employment), but this was one of burghs in which the decline was particularly heavy between 1911 and 1951, so that by 1951 female employment in domestic service was lower than anywhere else. This is without doubt a reflection the fact that Newburgh was the only town in Tayside in which the number of females employed in *manufactures* actually increased between 1911 and 1951.

One might have supposed that with the decline of domestic service its share of all "miscellaneous services", including laundries, hairdressers etc., would also have substantially declined, but in fact, although in most burghs some decline took place, this was neither pronounced nor consistent. In 1911 female domestic service accounted for more than 90 per cent of "miscellaneous services" in most burghs; in 1951 still more than 90 per cent in many of them, and more than 80 per cent in most of the remainder. A notable exception is Perth, where domestic service accounted for more than 90 per cent of female employment in miscellaneous services in 1911, but less than 60 per cent in 1951 – Perth had clearly become a centre for the provision of a variety of miscellaneous services. In male employment, domestic services had roughly speaking varied between 30 and 60 per cent of miscellaneous services in different burghs in 1911, and between 50 and 80 per cent in 1951. Unlike female employment, there was commonly a rise in the share of domestic service in the category of all "miscellaneous services" in the case of male employment.

Services other than Domestic

In services other than domestic there was in 1911 a somewhat higher level of male than of female employment – less than 20 per cent in only four burghs for males, but in fourteen burghs for females. More than 30 per cent of males were so employed in eight burghs, but of females in only one burgh. Also, as these figures imply, there was on the whole no extreme variation in the level of such employment in different burghs, either for males or females. One exception to this was Newport, a dormitory suburb of Dundee, where more than 50 per cent of the males were employed in services other than domestic.

Between 1911 and 1951 there was a very general and substantial increase in employment in female non-domestic services, their share increasing by 30 per cent or more in eight burghs, and by less than 10 per cent in only three. There was much less increase in male employment in non-domestic services – their share of total male employment increased by 10 per cent or more in only six burghs, and in six other burghs their share declined. The greatest decline in male employment was in Newburgh, Newport, Falkland and Auchtermuchty where it fell respectively by 18, 9, 6 and 4 per cent.

In 1951 the highest level of aggregate employment in nondomestic services was in Newport, Perth, St. Andrews, Cupar, Crail and Crieff, in all of which such employment accounted for more than 40 per cent of the employment of males and females combined; and the lowest level was in Falkland, Newburgh, Auchtermuchty, Dundee Urban Area and Tayport, where it was less than 30 per cent. Only in Falkland was such employment less than 20 per cent, so the variation between burghs was not very great.

In 1951, unlike 1911, the proportion of females employed in services other than domestic services was higher than the proportion of males.

Public Administration and the Professions

In 1911 there was a low level of employment of both men and women in public administration and the professions, employment ranging mostly between 4 and 7 per cent of the occupied population with little difference between the sexes. Only in Newport, St. Andrews and Elie was aggregate employment above 9 per cent. There was a particularly low level of male employment in these occupations in Coupar Angus, and of female employment in Auchtermuchty and Ladybank.

Between 1911 and 1951 there was a substantial increase in employment in these services, much more so in the case of females than of males. In about half the burghs the employment of females trebled, but in less than half did the employment of males increase by more than 75 per cent. In most burghs, the share of these occupations in the total occupied population increased by between 7 and 15 per cent in the case of females, but by only 2 to 5 per cent in the case of males. Among the burghs in which the share of employment in these occupations increased to the greatest extent were Cupar, Newport and St. Andrews, and it was in these burghs that such employment was highest in 1951, with over 20 per cent of the occupied population There was a particularly low level of employment in 1951 in Falkland Newburgh, Tayport and Coupar Angus, with less than 8 per cent.

In the Dundee Urban Area in 1911 these occupations accounted for 5 per cent of the occupied population in 1911 – rather more for males, rather less for females. In 1951 they accounted for over 8 per cent of the males, over 14 per cent of the females, and nearly 11 per cent of the total occupied

population.

In Perth employment of each sex in these occupations in 1911 was a little more than 6 per cent. In 1951 it was nearly 11 per cent for males, over 21 per cent for females and over 14 per cent for the total occupied population.

Distribution

In 1911 the level of aggregate employment in the distributive trades did not vary very widely, between the different burghs, ranging mostly between 9 and 14 per cent. There was a particularly *high* level of total employment in distribution in Cupar, Newport and Aberfeldy; of female employment in Anstruther and Newburgh; and of male employment in Alyth, Crieff and Montrose as well as the three burghs first mentioned. There was a particularly *low* level of female employment in the Dundee Urban Area, Brechin, Forfar and Kirriemuir, and of male employment in Carnoustie, Falkland and Newburgh.

Between 1911 and 1951 *female* employment in distribution more than doubled in most burghs, trebled in Alyth and Coupar Angus, increased more than two-and-a-half fold in several others including Perth, and increased by less than 50 per cent only in Anstruther, Elie, Falkland and Ladybank. *Male* employment, on the other hand, increased by more than 60 per cent only in Carnoustie, Falkland, Auchtermuchty and Coupar Angus, and there were half-a-dozen burghs, including Newport, in which it declined.

The *share* of distribution in *female* employment increased by 10 per cent or more in most burghs, except Newburgh, where it declined, and Anstruther, Elie and Falkland, where it increased very little. It increased most of all in Coupar Angus (by 28 per cent) and Alyth (by 21 per cent). The share of distribution in *male* employment increased by 5 per cent or more only in Coupar Angus, Blairgowrie and Carnoustie, and a little less than 5 per cent in Auchterarder. It *declined* appreciably in Newport and Cupar and a little in Aberfeldy, Auchtermuchty, Ladybank and Newburgh.

By 1951, the burghs with a high level of employment in distribution were, for females, Couper Angus, Alyth, Crail and Pittenweem (all over 25 per cent); and for males Coupar Angus and Blairgowrie (over 20 per cent). Those with a low level of employment were, for females, Falkland, Elie and Newburgh (less than 15 per cent) and for males Auchtermuchty, Falkland, Ladybank, Newburgh and Tayport.

DUNDEE URBAN AREA

In 1911 the Dundee Urban Area contained 43 per cent of the total occupied population of the Tayside Region, including 39 per cent of the males and 49 per cent of the females. By 1951 these shares had risen only slightly to 44 per cent for all employment, 41 per cent for males and 50 per cent for females.

Inevitably, the share of this area in agriculture, mining and quarrying was low—it was less than 6 per cent of Tayside in 1911 and 5 per cent in 1951. In both 1911 and 1951 the area contained a heavy proportion of the region's employment in manufacturing industry, rising from 59 to 64 per cent for total employment, 57 to cent for males, and 62 to 70 per cent for females. This significant increase in Dundee's share of women employed in manufacturing industry in Tayside is all the more notable in view of the great decline in female employment in jute textiles in the Dundee area.

As regards the other main sectors of employment, the Dundee Urban Area had a slightly less than proportionate share of total employment in infrastructural industries and in services, compared with the Tayside Region as a whole, but this was due entirely to a marked deficiency in the employment of females in these industries in Dundee, since the employment of males in the same industries was, on the contrary, relatively greater than in the rest of Tayside. The deficiency in employment of females in such industries was reduced 1951, but only to a slight extent, and concentration of employment in manufacturing industry continued to be a distinctive feature of female employment in the Dundee area. Meanwhile there had been a slight relative increase in the employment of males in the infrastructural industries, but a slight decline in their employment in services.

Among manufacturing industries in 1911, Dundee's share was greatest in shipbuilding, with over 90 per cent of Tayside employment, and it was next greatest in textiles, with over 67 per cent. Ship-building was, however, of little importance for aggregate employment in Tayside, accounting for less than one per cent of total employment in 1911 and not much more than one per cent in 1951. In Dundee it accounted for less than 2 per cent and less than 3 per cent in these years respectively. It was

textiles which dominated manufacturing employment in Tayside both in 1911 and to a lesser extent in 1951, and in this industry the Dundee Urban Area accounted for 67 per cent of aggregate employment in 1911 and 74 per cent in 1951.

Among the textile industries, the Dundee Urban Area in 1911 contained 89 per cent of employment, both of males and females, in the jute industry. By 1951 this had fallen slightly to 83 per cent. In linen manufactures, the Dundee Urban Area employed only 14 per cent of the labour force in 1911 (slightly less for females, slightly more for males), but by 1951 this share had risen very substantially to 49 per cent (58 per cent for males, 42 per cent for females). Almost exactly 75 per cent of the employment in the linen industry was contained in Dundee and Angus combined, both in 1911 and 1951, but the share of Angus outside the Dundee Urban Area had declined from 60 per cent to 26 per cent. The greatest decline in the share of Tayside's employment in the linen industry was in the burghs and parishes of Arbroath, Forfar and Brechin, and to a lesser extent Montrose. (There were several other parishes in Tayside in which employment in linen manufactures was relatively low, but in which the decline of the industry caused a considerable change in the structure of local employment. These included Craig, near Montrose in Angus; Auchtermuchty, Falkland, Strathmiglo, Kettle, Collessie and Cupar in Fife; and Abernethy, Coupar Angus and Auchtergaven in Perthshire).

In bleaching, Dundee and the parish of Mains and Strathmartine between them provided 25 per cent of Tayside employment in 1911 and 40 per cent in 1951; and in dyeing and other finishing industries their combined share rose from 25 to 73 per cent. In bleaching, the increase in the share of Dundee was at the expense mainly of Brechin and Arbroath, and in dyeing and finishing at the expense mainly of Perth.

In cotton and wool textiles employment in Dundee was of very small importance both in 1911 and 1951.

Apart from shipbuilding and textiles, there were no other groups of manufacturing industries in which employment was concentrated overwhelmingly in the Dundee Urban Area in 1911. In contained slightly more than 50 per cent of employment in chemicals, metals and engineering and in wood manufactures, and slightly less than 50 per cent in food manufactures and paper and printing. In clothing and footwear, which provided more employment in Tayside than any other manufacturing industries except textiles, metals and engineering, the share of the Dundee Urban Area in 1911 was less than one-third. By 1951 employment in the Dundee Urban Area had declined by 40 per cent, but in the rest of Tayside by 80 per cent, so that Dundee's share of this shrunken industry substantially increased.

By 1951 several changes had taken place in the role of the Dundee Urban Area in Tayside manufacturing employment. In almost all categories of manufacturing industry there was a greater concentration of employment in Dundee than there had been before. The greatest increases in the share of the Dundee Urban Area in total Tayside employment were in precious metals, jewels, watches and instruments (increase from 27 to 86 per cent), leather and leather goods (from 45 to 81 per cent), clothing and footwear (from 31 to 57 per cent), treatment of non-metalliferous minerals other than coal (from 3 to 29 per cent) and paper and printing (from 47 to 62 per cent). The only manufacturing industries in which Dundee's share of Tayside declined were manufactures of wood and cork.

The only service industries in which the share of the Dundee Urban Area appears to have substantially declined were Insurance, Banking, Finance and Commerce, but owing to changes in industrial classification the significance of this is not easy to assess. On the other hand, Dundee's share in miscellaneous services (mainly domestic), which had been particularly low in 1911, increased a little by 1951, from 27 to 32 per cent of total Tayside employment.

So far we have considered the share of the Dundee Urban Area in total Tayside employment. Some of the industries mentioned were much more significant than others in terms of numbers employed both in Tayside and in Dundee. In both 1911 and 1951 much the most important industries were textiles, but their share of total employment in the Dundee Urban Area declined from 42 to 23 per cent. For females, the decline was from 64 to 32 per cent. The only other manufacturing industries whose share of aggregate employment in Dundee declined were leather and leather goods, and clothing and footwear, next in importance after textiles was metal manufacture, engineering, metal goods and vehicle making, which together

with shipbuilding employed 8 per cent of the labour force in 1911 and nearly 14 per cent in 1951. This was the greatest increase in the share of any manufacturing industry in the total labour force, though there were significant increases also in the shares of food, drink and tobacco and of the paper and printing industry. With the establishment of watchmaking in Dundee there was a substantial increase of employment in the category of precious metals, jewels, watches and instruments, but they employed hardly more than one per cent of the total labour force, and less than two per cent of the female labour force, in 1951.

Of the infrastructural industries, there was a relative increase in the importance of building and contracting, and gas, electricity and water, but a decline in transport and communications. There was a substantial increase in employment in the distributive trades and in public administration and the professions, especially in the case of female employment. Employment in miscellaneous services was virtually unchanged.

In 1911 Perth contained about 8 per cent of the occupied population in Tayside, a little more for men and a little less for women. In 1951 it contained nearly 10 per cent of the occupied population, again rather more men, and rather fewer women. Unlike Dundee, however, its share of manufacturing employment declined as its share of total employment increased. There was, on the other hand, a significant increase in its share of employment in infrastructural and service industries.

The one category of manufacturing industries in which there was a great concentration of employment in Perth was the treatment of non-metalliferous minerals other than coal, since glass and glass bottle manufacture was located in Perth, and to no significant extent anywhere else in Tayside – consequentially, this category of industries in Perth accounted for 72 per cent of Tayside employment in 1911. By 1951 this had fallen to less than 32 per cent, both because of the disappearance of glass bottle manufactures in Perth, and because glass manufactures and other branches of this industrial group had expanded elsewhere in Tayside, particularly in Dundee. However, the decline of the industry did not have a serious impact on the structure of employment in 1911 and one per cent in 1951.

No other manufacturing industry was concentrated to anything like the same extent in Perth, but one other which had a fairly high level of employment was paper and printing. Perth accounted for 13 per cent of Tayside employment in the industry in 1911. Although the numbers employed in Perth increased to some extent by 1951 they increased still more elsewhere, again particularly in Dundee, so that the share of Perth declined to less than 9 per cent.

In 1911, Perth had a relatively low share of employment in textiles, leather manufacture, and metals, engineering, metal goods and vehicles, and its share declined to a still lower level by 1951. It had a fairly high level of employment in clothing and footwear, but this also had substantially declined by 1951. The only group of manufacturing industries in which the share of Perth City increased between 1911 and 1951 was food, drink and tobacco.

On the other hand, Perth already had a relatively high share of

employment in the infrastructural and service industries in 1911, and this share substantially increased by 1951. The greatest increase was in the public utilities (gas, electricity and water, transport and communications), and in insurance, banking, finance, commerce and the miscellaneous services.

Although textile manufacture did not dominate employment in Perth half so much as it did in Dundee, this was nevertheless, in 1911, the industry of greatest importance in Perth as it was in Tayside as a whole. In Perth it accounted for 20 per cent of total employment, 33 per cent of female employment and 12.5 per cent of the employment of males. Between 1911 and 1951 there was a spectacular fall in employment in textiles, which declined to 3.2 per cent of total employment, 5.5 per cent of female employment and 2 per cent of the employment of males.

The textile industry which was of much the greatest importance in Perth in 1911 was dyeing and finishing. This industry employed nearly 2,200 people, compared with less than 600 in linen, 250 in jute, some 50 each in wool and cotton, and 25 in bleaching. In 1911 Perth accounted for more than two-thirds of the employment in the dyeing and finishing industry in Tayside. By 1951 this employment in Perth had almost wholly disappeared, accounting almost entirely for the decline of the industry in the Tayside region to less than one third of its former level. In the Dundee Urban Area employment declined from a little more than 800 to a little less than 700, whereas in Perthshire outside Perth City (chiefly the parishes immediately adjacent to Perth) it increased from 200 to a few dozen more. Perth City, having provided more than two-thirds of the employment in the industry in 1911, provided less than one per cent in 1951. The share of the Dundee Urban Area, by contrast, rose from 25 to 74 per cent and the share of the parishes near Perth from 6 to 25 per cent.

Most employment in the linen industry in Perthshire was concentrated in the City of Perth, but Perth accounted for only 6.5 per cent of the Tayside Region's employment in 1911. By 1951 employment in Perth had fallen by more than half, but by even more than this in Tayside as a whole, so that Perth's share of Tayside employment rose to 7.7 per cent. (As previously indicated, however, it was in Dundee that the industry had become most heavily concentrated by 1951). The industry accounted for 3.4 per cent of total employment in Perth in 1911, and 1.3 per cent in 1951. Employment in jute in Perth accounted for a negligible proportion of Tayside employment in the industry—substantially less than one per cent both in 1911 and 1951. Employment fell by almost exactly one-half between 1911 and 1951, by which time it had fallen from 1.5 per cent to less than one per cent of total employment in Perth.

After textiles, clothing and footwear had been much the most important manufacturing industry in Perth in 1911, accounting for 6 per cent of total employment and 12 per cent of female employment. By 1951 total employment had declined to only 16 per cent of its earlier figure, and female employment to only 11 per cent. The industry now accounted for less than one per cent of total employment and 1.2 per cent of female employment. The mechanisation which had taken hold of the manufacturing processes in the industry elsewhere clearly had a shattering effect on Perth, where the industry failed to survive.

Employment in the food, drink and tobacco industries more than doubled between 1911 and 1951, and there was a substantial increase also in metal manufacture and engineering.

There was a substantial increase in employment in the infrastructural industries between 1911 and 1951, and a still greater increase in service industries. Manufactures accounted for nearly 40 per cent of total employment in 1911 but less than 20 per cent in 1951, while the share of infrastructural industries rose from 20 to 24 per cent and of service industries from 38 to 54 per cent. Much the greatest change was in female employment, which fell from 51 to 17 per cent in manufactures and rose from 46 to 76 per cent in services.

Of the service industries, it was in public administration and the professions that the greatest increase in employment took place, with **a** substantial increase also in the distributive trades. In each case it was the employment of women which increased to the greatest extent.

One exceptional and temporary circumstance in Perth in 1951 was the stationing there of members of the armed forces in considerable numbers, equivalent to 7 per cent of the occupied population in 1951, compared with less than 2 per cent in 1911.

ARBROATH

In 1911 nearly 60 per cent of the total occupied population in Arbroath was engaged in manufacturing industry, which was higher than in any other burgh in Tayside except Dundee and Brechin. Of the occupied males, 53 per cent were employed in manufactures, which was higher than anywhere else in Tayside, including the other two burghs.

By far the most important industry in Arbroath was textiles, accounting for 32 per cent of the total occupied population, though this was substantially less than in several other Angus burghs (Brechin Forfar, Kirriemuir and Dundee) where its share amounted to well over 40 per cent. Next in importance were metal manufacture, engineering and metal goods, which accounted for 13 per cent of the total occupied population and 22 per cent of the males. This was a higher proportion than anywhere else in Tayside except Carnoustie, where the level of employment in this industry was about the same. Numerically, more people were employed in this industry in Arbroath than anywhere else in Tayside except Dundee, where it accounted, however, for only 6 per cent of the occupied population and 11 per cent of the occupied males.

Among the manufacturing industries, clothing and footwear came next, with rather less than 10 per cent of the occupied population in 1911. More people were employed in this industry in Arbroath than anywhere else in Tayside except the Dundee Urban Area (33 per cent) and Perth (11 per cent).

Between 1911 and 1951 the occupied population of Arbroath declined by 8.5 per cent, but this conceals a rise of 3.6 per cent in the employment of males and a fall of 26 per cent in the employment of females. The greatest change was a decline by more than half in the employment of females in manufacturing industries, which accounted for 70 per cent of female employment in 1911 but only 46 per cent in 1951. Among manufacturing industries, textiles provide 52 per cent of the employment of females in 1911, but only 31 per cent in 1951; and clothing and footwear accounted for 14 per cent in 1911, but only 2 per cent in 1951.

Nevertheless, there were many burghs in which *female* employment in

manufactures, as a percentage of total female employment, declined more than it did in Arbroath; and on the other hand there were only two burghs (Auchterarder and Perth) in which the share of manufactures in *male* employment declined to an even greater extent. In Arbroath, male employment in metals, engineering and metal goods increased from less than 1200 to more than 1600 and from less than 22 to more than 28 per cent of the occupied male population, but this was not sufficient to compensate for a heavy fall in male as well as female employment in the textiles and clothing industries.

So far as textiles are concerned, the explanation lies largely in the nature of the textile industries in Arbroath. In 1911, Arbroath and its parish contained 20 per cent of all male employment in the linen industry in Tayside, which was more than anywhere else, though Brechin contained slightly more of the females in the industry.

Between 1911 and 1951 male employment in the linen industry in Arbroath fell to less than one-eighth of its former level, and its share of male employment in the industry in Tayside fell from 20 per cent to less than 4 per cent. In canvas manufacture also, employment both of males and females was much higher in Arbroath in 1911 than it was anywhere else in Tayside-more than twice the number employed in Dundee Combination, and the industry was almost non-existent elsewhere, except at Kilrenny in Fife; but between 1911 and 1951 employment in canvas manufactures in Arbroath fell to less than one-quarter of its former level, while numbers employed in the industry in Dundee increased by about as much as they fell in Arbroath. Among other textiles it was certainly the case that a new cotton industry had been established in Arbroath, employing nearly 400 people by 1951. More than three-quarters of these were females. But textile employment as a whole was greatly reduced. Among the infrastructural and service industries, employment fell in transport and communications but substantially increased in building and contracting, the distributive trades, public administration and the professions.

One other industry which should be mentioned is fishing. This provided 3.7 per cent of male employment in Arbroath in 1911, and Arbroath provided over 10 per cent of such employment in Tayside. Fishing was naturally not of such importance for Arbroath as it was for the parishes of Craig in Angus, or Kilrenny, Pittenweem and St. Monance in Fife, but employment in the industry in Arbroath declined much less than it did elsewhere in Tayside, and

in 1951 it accounted for 22 per cent of employment in the industry in the region—a little more than in either Kilrenny or St. Monance, and substantially more than in Pittenweem.

BRECHIN

Nowhere in Tayside, except only in Dundee, was a higher proportion of the total occupied population engaged in manufacturing industry in 1911 than in Brechin (nearly 60 per cent, compared with 63 per cent in Dundee); and nowhere else was a higher proportion of females so employed (74 per cent in Brechin, 77 per cent in Dundee) A still higher proportion of males, however, was employed in manufactures in Arbroath, Dundee and Carnoustie (all over 50 per cent of the occupied male population, compared with 48 per cent in Brechin Of these manufactures, textiles in 1911 accounted for a higher proportion of the occupied population (44 per cent) than anywhere except Dundee.

Among textiles, nearly 80 per cent of male employment and 96 per cent of female employment was in the linen industry. The only other textile industry of any consequence was bleaching, which employed over one hundred men and about a score of women, in the burgh and parish.

Of other manufacturing industries, clothing and footwear came next after textiles, but employed less than 6 per cent of the occupied population. Metals, metal manufactures, and engineering were more important for the employment of men, and Brechin was one of the |leading burghs in Tayside, in terms of the numbers employed in this industry.

Between 1911 and 1951 the occupied population fell by 23.5 per cent, which was more than in any other burgh except Anstruther and Kilrenny. Nowhere else did the female occupied population fall to a greater extent (it fell in Brechin by nearly 44 per cent) and only in Anstruther, Pittenweem and Newport was there a greater fall in the male occupied population (a 6 per cent fall in Brechin).

There was a considerable fall in employment in manufacturing industries, and nowhere was the effect of this on the structure of employment greater except in Auchterarder, Perth and Alyth. It was inevitably in the textile industries that the greatest fall in numbers employed took place, and Brechin was affected by this to a greater extent than any other burgh. The proportion of the total population employed in textiles fell from 44.2 to 17.2 per cent. Employment in the linen industry fell to not much more than one-fifth of its former level; and employment in bleaching almost wholly disappeared. On the other hand, employment in jute was established and expanded to some extent, and by 1951 accounted for one per cent of Tayside employment in this industry—there were only half-a-dozen burghs which now employed more. Jute accounted for 0.5 per cent of employment in Brechin in 1911 but 5.2 per cent in 1951.

Employment in the metal and engineering industries increased fourfold and by 1951 Brechin employed a greater number of people in these industries than any other burghs except Dundee, Perth and Arbroath; and their share of total employment in Brechin increased from less than 3 per cent to more than 15 per cent.

Employment in the clothing and footwear industry declined heavily everywhere and came to be more heavily concentrated in Dundee. In Brechin employment fell to one-quarter of its former level, but still employed more people than anywhere except Dundee, Perth and Carnoustie. Another industry which greatly declined was paper and printing, in which numbers fell from 3.2 per cent of the occupied population to less than 0.4 per cent.

BROUGHTY FERRY

The burgh of Broughty Ferry was included in Dundee City in 1913, but the structure of employment in Broughty Ferry in 1911 can be ascertained from the census data of that year.

The main feature of employment in Broughty Ferry was that a much smaller proportion of the occupied population was engaged in manufactures than in any other burgh in Angus, and also than in the great majority of Tayside burghs. On the other hand, a higher proportion was employed in services than anywhere else except Elie and Earlsferry, Newport and Crieff, and a higher proportion of males than anywhere else except Newport. (Relatively more females were employed in services not only in Elie and Crieff but also in Aberfeldy and St. Andrews.)

In manufacturing industry, employment among the major industrial groups was greatest in textiles, but employment in this industry in Broughty Ferry was unusual in the respect that male workers substantially outnumbered females. The textile industry of greatest importance here was bleaching, in which about three-quarters of the employees were male. Next in importance was jute, in which a small majority was also male, and then linen, in which females we in a small majority.

After textiles there were three manufacturing industries of lesser importance in terms of employment, namely clothing and footwear; food, drink and tobacco; and metals and engineering. In clothing and footwear employment was predominantly female; in food, drink and tobacco it was equally divided between males and females. Metals and engineering were the most important source of male employment in manufactures.

Among the service industries, domestic service absorbed about half the employment of all occupied females, while for males the distributive trades accounted for a substantially greater share of employment than any other type of service industry.

CARNOUSTIE

Manufactures accounted for more than 50 per cent of male employment in Carnoustie in 1911, which was more than anywhere else except Arbroath and Dundee. There were, however, about a dozen burghs which contained more *women* employed in manufactures, and the reason for this was that Carnoustie had a comparatively low level of employment in textiles in which female labour predominated. Fewer than one-third of the females in Carnoustie were employed in textiles, fewer than 8 per cent of the males, and only 15.8 per cent of the total occupied population. In textiles, jute accounted for two-thirds of total employment, and linen for most of the remainder.

Clothing and footwear and the metal and engineering industries each employed nearly as many people as textiles—14.7 and 14.4 per cent respectively of the total population. Clothing and footwear employed 12 per cent and 20 per cent respectively of the males and females. Only in Dundee, Perth, Arbroath and Montrose were more people employed, and nowhere was a higher proportion of the total occupied population employed in this industry. Much the same applies to the metal and engineering industries. In these, more people were employed in Carnoustie than anywhere else except Dundee, Arbroath and Perth; and nowhere was a higher proportion of the occupied population engaged in these industries unless Monifieth is included. They employed hardly any women but 22 per cent of the men.

There was hardly any change in the occupied population of Carnoustie between 1911 and 1951. Males in employment increased by less than 2 per cent, females fell by less than 2 per cent, and the aggregate very slightly increased.

Between 1911 and 1951 there was an appreciable fall in the numbers employed in manufactures, and more than in most burghs this particularly affected the structure of male employment, in which there were fewer employed, both relatively and absolutely, in 1951, than in 1911. Textile employment declined by nearly half, jute employment fell by one-third, while linen manufacture almost disappeared. There was only a slight increase in male employment in metal and engineering, which did not compensate for a great decline in employment in clothing and footwear (in 1951 reduced to much less than one-third of its 1911 level) and some decline in textiles as well. In female employment the greatest decline in employment was in textiles,

followed by clothing and footwear, both of them reduced to less than one-half of their former level. Employment expanded, both for males and females, in the distributive trades, public administration and the professions.

FORFAR

Next after Dundee, Brechin and Arbroath, Forfar and Kirriemuir were in 1911 among the most highly industrial burghs of Tayside, in terms of the proportion of the occupied population which was engaged in manufactures— 55 per cent, in each, compared with 63 per cent in Dundee and just under 60 per cent in the others. In Forfar there was a particularly heavy concentration of females in manufacturing industry—more than anywhere else except Dundee.

Inevitably, it was in textiles that employment, both of males and females, was chiefly concentrated. More than half the labour force in textiles were employed in jute manufacture, more than 40 per cent in linen, and the few score which remained were employed in bleaching and other textile industries.

Since textiles accounted for so great a share of the occupied population (43 per cent of the total, 64 per cent of the females and 26 per cent of the males) there was no other manufacturing industry of importance in Forfar. Even clothing and footwear, though of some local importance, accounted for

less than 9 per cent of the females and less than 4 per cent of the males, and metals and engineering for less than 5 per cent of the males.

Between 1911 and 1951, the male occupied population neither increased nor declined in number, but the female occupied population declined by 23 per cent and the total occupied population by 10 per cent. Manufacturing employment, as a share of total employment, declined more than it did anywhere else except Brechin in Angus, and Alyth, Perth and Auchterarder in Perthshire. The decline in textiles was 40 per cent, but this was, however, a much smaller decline than in any of the textile burghs except Falkland and Tayport. In fact, although the linen industry almost disappeared, employment in jute manufactures slightly increased, with some shift in the balance of employment in favour of men rather than women. A small woollen industry was also established in Forfar by 1951. Therefore, although female employment in textiles declined from 64 to 41 per cent of total female employment, and male employment from 26 to 21 per cent, the total decline in employment in textiles (from 43 to 29 per cent) was less than in almost all other burghs. Employment in clothing and footwear, which had not been particularly high in Forfar, had largely disappeared by 1951, and this contributed to the decline in manufacturing employment. Also, employment in the metal and engineering industry did not expand as much as it did in several other burghs, particularly in Brechin.

KIRRIEMUIR

Kirriemuir was one of the half-dozen burghs in Tayside whose employment in manufacturing industries in 1911 amounted to more than half of the occupied population, including more than 70 per cent of the females and more than 40 per cent of the males. The level of aggregate employment in textiles was higher than anywhere except Dundee, Brechin and Forfar. Employment in textiles was almost wholly concentrated in jute, and there were only about a score of workers in the linen industry within the burgh.

There were few manufacturing industries of much importance apart from textiles. Clothing and footwear came next with less than 6 per cent of the total occupied population, then food, drink and tobacco with less than 3 per cent, and metals and engineering with only 2 per cent.

Between 1911 and 1951, the number of the occupied population fell by

15 per cent which was more than anywhere else except Brechin in Angus, and Anstruther and Newport in Fife. The number of occupied males fell by less than 4 per cent, but females by nearly 29 per cent. This burgh was amongst those which experienced the heaviest fall of employment in manufacturing industry.

Of the industries which declined, textiles was numerically much the most important. The jute industry declined in employment by 45 per cent, and the small linen industry in the burgh disappeared. There was some increase in employment in the metal and engineering industry, but in terms of numbers employed and of the share of the industry in total employment this industry was of much less importance in Kirriemuir than it was in many other burghs. There was an appreciable increase in employment in food, drink and tobacco, and as elsewhere there was also a substantial increase in the distributive trades, public administration and the professions.

MONIFIETH

Because of boundary changes it is not possible to draw any reliable comparison of employment in Monifieth in 1911 and 1951, but it is of interest to consider what the structure of employment in the burgh was in 1911, and how this compared with employment elsewhere.

In 1911, employment in manufacturing industry in Monifieth was lower than in any other burgh in Angus, unless Broughty Ferry is separately included. This, however, conceals a marked difference between male and female employment, since a far smaller proportion of females was employed in manufactures (21 per cent, compared with 42 per cent in Montrose and more than 50 per cent in all the other Angus burghs), while the proportion of males so employed was higher than in Forfar, Kirriemuir or Montrose. The reason for this was that employment in textile manufactures in Monifieth was negligible—less than 50 altogether, only 4 per cent of males and females alike, and most of these were engaged in bleaching. On the other hand, metals and engineering manufactures accounted for nearly a quarter of the total occupied population, and just over one-third of the males. (Hardly any women were employed in these industries at that time.) Some women were employed in clothing and footwear manufactures, but very few in any other manufacturing industry. Employment of females in service was far higher than anywhere else in Angus, (except, once more, Broughty Ferry). It accounted for 73 per cent of the female occupied population, contrasting especially with fewer than 23 per cent in the City of Dundee. About one-third of the occupied females were employed in domestic service.

MONTROSE

Apart from Monifieth and Broughty Ferry (for our purposes included in a Dundee Urban Area), Montrose had a lower proportion of its occupied population engaged in manufactures in 1911 than any other Angus burghs, and lower also, among Tayside burghs, than Falkland, Auchtermuchty or Tayport in East Fife, and Auchterarder or the little burgh of Abernethy in Perthshire. In every case, except only Carnoustie, the difference can be accounted for by a higher level of employment in textiles in the other burghs.

Yet textiles accounted for 42 per cent of the employment of females in Montrose in 1911, which was more than three times as many as in the manufacturing industry next in importance, namely clothing and footwear. Apart from these industries, 25 per cent of females were employed in domestic service, 10 per cent in the distributive trades, 5 per cent in public administration and the profession and few in any other industry.

For males as for females, textiles was the most important manufacturing industry, employing over 10 per cent of the occupied males and half as many again as the next most important group, which included metals, engineering, metal manufactures, instruments, etc. Less than 6 per cent of the men were employed in wood manufactures, and less than 5 per cent each in clothing and footwear, and food, drink and tobacco. For men, employment in the infrastructural industries was almost as important as in the manufacturing industries, and so was employment in services. Of these, the highest level of employment was in transport and communications (20 per cent), building contracting (10 per cent) and the distributive trades (14 per cent).

Among the textile industries in 1911, linen alone accounted for almost all the employment of both males and females, with very small numbers employed in any other industries.

Between 1911 and 1951 the male occupied population increased by 3

per cent, but females declined by 29 per cent and the total occupied population declined by 5 per cent. The decline in the employment of females was greater than in most other burghs and is accounted for by a fall in the number of women employed in textiles to one-fifth of their former level, and from 42 to 10 per cent of all occupied females.

Among other manufacturing industries, clothing and footwear declined to negligible proportions, but employment in food, drink and tobacco manufactures greatly expanded, and this now became much the more important manufacturing industry, employing twice as many females as the textile industries, and 50 per cent more males than the metals and engineering industries. In 1951,13.6 per cent of the total occupied population in Montrose was engaged in the food industries, which was a higher proportion than in any other burgh in Tayside, including Cupar, which came next, but employed fewer than 10 per cent. Also, in 1951, Montrose employed 7.6 per cent of the labour force in this industry in the whole Tayside Region, which was more than anywhere else except Dundee, which predominated with 49.3 per cent, and Perth which came next with 12.4 per cent.

However, for both males and females, services were now of greater importance than manufacturing industry, chiefly the distributive trades and public administration and professions for males, and these with the addition of miscellaneous (i.e. mainly domestic) service for females. For men, employment in building and contracting substantially increased, but employment in transport and communications substantially diminished.

EAST FIFE BURGHS

ANSTRUTHER EASTER, ANSTRUTHER WESTER AND KILRENNY

For convenience, this union of three burghs will be referred to simply as Anstruther, and treated as one burgh.

This was primarily a fishing burgh in 1911. Fishing accounted for onethird of total employment and 44 per cent of male employment (the employment of women in this industry was of course negligible). A smaller proportion of the total labour force was female than in any other burghs in Tayside except Craig and Pittenweem, which were also primarily dependent on fishing. Nevertheless, although there were few other burghs on Tayside which provided less employment for men in manufacturing industry, there were about a dozen which provided less such employment for females, and manufactures were of some importance for the economy of this burgh.

Many of the persons employed in manufacturing industry could not be classified as belonging to any of the principal industrial groups and they fell under the heading of "other manufactures". It seems that this was partly because there was a diversity of manufactures in certain firms in Anstruther, so that output could not appropriately identified as consisting predominantly of any single product. These evidently included among other things pallets and herring nets, and also "darkeys' shirts" and ladies' oilskins, though there was a firm manufacturing clothing (and presumably classified accordingly) which specialised solely in oilskins. The "miscellaneous" manufactures accounted for 23 per cent of the employment of females in Anstruther but otherwise the largest single category of manufacturing employment of females was clothing and footwear, accounting for nearly 13 per cent, followed by textiles with less than 10 per cent and food, drink and tobacco with 6 per cent. This last industry together with wood manufactures and metals and engineering provided most of such employment as there was for males in manufacturing industry.

It was, however, fishing which provided the principal livelihood of the burgh in 1911. The burgh and parishes of Anstruther provided employment in fishing for 54 per cent of the males, which was more than anywhere else in Tayside except St. Monance. Anstruther contained rather more fishermen than St. Monance, nearly twice as many as Pittenweem, and more than twice as many as Craig parish, near Montrose, or Arbroath. (Smaller numbers of fishermen were based on Montrose, Monifieth, Crail, St. Andrews and Largo).

The employment of females in service, as a percentage of total employment, was not exceptionally low—there were many burghs, especially in Angus, in which it was lower. The distinctive feature of Anstruther was the low level of employment of women in *all* occupations. For men, however, service employment was of smaller importance than in any other burghs in Tayside except Ladybank and Pittenweem, providing, in Anstruther, only 18 per cent of total employment of males.

Between 1911 and 1951 the occupied population of Anstruther declined by 29 per cent, which was a greater decline than in any other burgh in Tayside. This was due for much the greatest part to a decline in the number of occupied males by 34 per cent, which was a much greater fall in number than anywhere else (Pittenweem came next with a fall of 20 per cent, and then Newport with less than 11 per cent).

The fall in male employment was in turn overwhelmingly due to the fall in the number of fishermen from about 500 in 1911 to 70 in 1951, which almost exactly equalled the aggregate fall in the number of males employed in all industries in Anstruther.

There was a much smaller decline in the employment of women— only a 15 per cent fall, which was less than in many other burghs, especially those engaged largely in textiles. There was, however, a shift in the structure of female employment away from manufactures and in the direction of services, especially public administration and the professions and the distributive trades, though employment in domestic service declined. There was also an increase in employment in transport and communications. Among manufacturing industries the category of "other manufactures" now disappears (probably due mainly to greater ease of classification in 1951), and the manufacturing industry which now emerged as clearly the most important employer of women was clothing and footwear, employing 17 per cent of all females. Textile employment had not declined very much, unlike the experience in most burghs, and now accounted for a further 10 per cent. In Anstruther textiles included chiefly canvas and other miscellaneous products.

For males, there was no great shift in employment other than the decline

in the fishing industry. Employment in manufactures and the infrastructural industries somewhat declined, while employment in services slightly increased. The fishing industry in Anstruther now accounted for only one-eighth of aggregate Tayside employment, and more fishermen were now based on each of the ports of Arbroath, Pittenweem and St. Monance than there were in Anstruther.

AUCHTERMUCHTY

There were only four burghs other than Auchtermuchty in Tayside which had a higher level of employment of males in manufacturing industry in 1911 (these were Arbroath, Dundee, Carnoustie and Brechin), although there were quite a number which employed a higher proportion of females. There was not a particularly high level of employment in textiles, either of males or females, and not a particularly high level of employment of females in other manufacturing industries either, but nowhere, except in Arbroath and Carnoustie, was a higher proportion of men employed in non-textile industries.

For men the industries of greatest importance were metal manufacture, engineering, metal goods and vehicle making together with the category of precious metals, jewels, watches and instruments. It is necessary to group these together, because weighing machines, which a specialist firm manufactured in Auchtermuchty, were included in the second category in 1911 but in the first category in 1951. These industries together accounted for 23 per cent of all employment of males. The only other manufacturing industry of any importance for men was textiles, but these provided less male employment than any one of agriculture, building and contracting, transport and communications and the distributive trades.

Of the women, 47 per cent were employed in textile manufactu**res** and 14 per cent in clothing. Almost all the women employed in textiles (nearly one hundred) were engaged in linen manufacture. (Only a score of men were employed in the linen industry, and a few more in bleaching.) There was no female employment in any other manufacturing industry, and of the rest 25 per cent were employed in domestic services and 8 per cent in the distributive trades.

It must be remembered that the occupied population of Auchtermuchty

was very small (fewer than 600 in 1911), and relatively small changes in numbers could therefore make a considerable change in the structure of employment. Between 1911 and 1951 the male occupied population increased very slightly, but the female occupied population fell by 36 per cent, which was more than anywhere else except Brechin; and the total occupied population fell by over 12 per cent, which was more than anywhere else except Anstruther, Brechin, Newport and Kirriemuir. The fall in female employment is almost exactly accounted for by the decline in the number of women employed in the linen industry to one-fifth of its former level, and from 47 per cent to 14 per cent of the occupied female population.

As regards males, there was a further increase in employment in the metal, engineering and other industries referred to above, and some decline in the already low level of employment in textiles, but little significant change in any other direction.

CRAIL

The small burgh of Crail had an aggregate occupied population of less than 400 in 1911. Together with Elie and Earlsferry, which ' was not much bigger, it was less dependent on manufacturing industries than any other burghs in Tayside. There, however, the resemblance to Elie ends, because 32 per cent of the total labour force in Crail was employed in agriculture, forestry and fisheries, but only 6 per cent in Elie; whereas 58 per cent were employed in services in Elie, compared with only 37 per cent in Crail.

The difference is due to the existence of the fishing industry in Crail and its virtual absence from Elie. To a much greater extent Elie provided employment in hotels and boarding houses and in domestic service, and female employment was 38 per cent of total employment in Elie, compared with only 24 per cent in Crail. These differences define the social as well as the economic difference between the two burghs.

Between 1911 and 1951 the occupied population of Crail increased by over 5 per cent, which was more than in most other burghs, and this was in spite of a small decline in the male occupied population. What is notable about Crail is that the female population increased by 34 per cent, which was more than anywhere else in Tayside except Newburgh; and that contrary to the usual experience the female occupied population increased while the male occupied population declined. (The only other burgh where this happened was Pittenweem; and in Anstruther the male occupied population declined to a greater extent than the female). The increase in female employment took place in spite of the continued absence of employment in manufacturing industry in Crail. It was in the distributive trades, public administration and the professions that female employment chiefly increased. Apart from the decline in fishing to less than half its former level of employment, there was little significant change in the number of males employed in different industries.

CUPAR

The proportion of the occupied population engaged in manufactures in Cupar in 1911, both males and females, was about average for the burghs in the region as a whole. The textile industry employed 30 per cent of the females and 15 per cent of the aggregate population and almost all were employed in linen manufactures. Three-quarters of the labour force in this industry was female. Next in importance was clothing and footwear, which employed 13 per cent of the females and 8 per cent of the males. There were, however, several industries in which employment in Cupar was distinctive among Tayside burghs, particularly in the employment of men. Among the Tayside burghs there was none in which a higher proportion of the occupied population was engaged in leather and leather goods manufacture, and a larger number of men was employed in this industry in Cupar than anywhere else except Dundee and Arbroath. Cupar was a centre of newspaper publishing, and in no burgh except Brechin was a higher proportion of the occupied population employed in paper printing. As regards male employment, a higher proportion of the occupied population was employed in the distributive trades in Cupar than anywhere except Newport and Aberfeldy, and there were fewer than half-a-dozen burghs in which a higher proportion were employed in public administration.

Between 1911 and 1951 the total occupied population of Cupar increased by 26 per cent, which was more than in any other burghs in Tayside except Newburgh, Coupar Angus and Falkland. The female occupied population increased by 6 per cent, and the male by 38 per cent. There was only a slight fall in total numbers engaged in manufacturing industries, but this conceals a fall of 46 per cent in female employment and a rise of 42 per cent in male employment in these industries.

The fall in female employment was heaviest in the linen industry, which accounted for 27 per cent of all female employment in Cupar in 1911, but only 7 per cent in 1951. The clothing and footwear industry almost disappeared, but there was an increase in employment in the food, drink and tobacco industries, which now employed 7 per cent of the female labour force. The greatest increases in female employment were however in the services—particularly in public administration and the professions, in which there was a more than four-fold increase in the number of women employed, and to a lesser extent in the distributive trades.

As regards male employment in manufactures, there was a more than three-fold increase in the number of men employed in food, drink and tobacco, and a rise from less than 4 per cent to more than 11 per cent in the share of this industry in total male employment, which was now higher than anywhere else in Tayside except Montrose. It was now only in Dundee, Perth and Montrose that a larger number was employed in this industry. The reason for this was the location of a sugar beet factory in the vicinity of Cupar, in addition to the corn milling traditionally carried on in the burgh. The leather industry almost wholly disappeared, but paper and printing continued to be of importance, while employment in wood manufactures increased more than anywhere else. Employment in the public utilities (gas, water and electricity) provided a higher proportion of male employment in Cupar than anywhere else in Tayside in 1951; and public administration and the professions a higher level than anywhere else except Newport and St. Andrews.

ELIE AND EARLSFERRY

Reference was made to the structure of employment in the small burgh of Elie and Earlsferry when considering employment in Crail. Manufacturing industry was carried on in this small burgh on only a very small scale, smaller in 1951 even than in 1911. On the other hand, Elie had a higher level of female employment in services in 1911 than any other burgh except Newport, and also a higher level of male employment in services than in any other burghs except Newport, Broughty Ferry, Cupar and Crieff. Among services, Elie had a higher level of both male and female employment in domestic services than any other Burghs. This accounted for nearly two-thirds of all female employment and in aggregate male and female employment it came next only to St. Andrews. The importance of such employment was largely due to the character of Elie as a residential town and holiday resort.

In male employment, Elie had a higher proportion of men engaged in building and contracting than anywhere else, and a relatively large number employed also in transport and communications.

Between 1911 and 1951 the occupied population of Elie declined by some 5 per cent. Although the numbers of males in employment was unchanged, the numbers of females fell by 14 per cent. The number of women in domestic service fell, but the number of men in such employment increased to an equivalent extent. By 1951 there were relatively more females and a far higher proportion of males employed in domestic service than in any other Tayside burgh. The chief source of employment in domestic service was in the hotels catering trades. Hotels, public houses and lodging and boarding houses provided employment for 14 per cent of the total occupied population' of Elie, which was higher than anywhere else except Pitlochry.

FALKLAND

Together with the other Fife burghs of Auchtermuchty and Tayport, Falkland was one of the most industrial of the Tayside burghs. In terms of the share of manufactures in the total occupied population, Falkland came next after half-a-dozen Angus burghs. Both Auchtermuchty and Tayport employed proportionately rather more men in manufactures, but Falkland employed a higher proportion of women. Textiles accounted for one-third of total employment and two-thirds of female employment, and in Falkland textiles meant exclusively employment in the linen industry. More people were employed in linen manufacture in Falkland than anywhere else in Fife, and it was one of the most important centres of the industry after Dundee, Perth and the leading Angus burghs. In terms of local employment the linen industry was equally important for the burgh and parish of Falkland as it was for the burgh and parish of Brechin. There were no other burghs or parishes which depended nearly so heavily on this industry as these two, although it was of considerable importance also for Auchtermuchty and the parish of Strathmiglo.

Between 1911 and 1951 the occupied population of Falkland increased by 30 per cent, which was more than anywhere else in Tayside except Newburgh and Coupar Angus. The number of females actually fell by 10 per cent, but nowhere except in Newburgh was there a greater increase in the number of males-an increase of 55 per cent in Falkland and 76 per cent in Newburgh. Employment in textiles (that is to say, linen) declined, but the decline both of total numbers and of females was less than in any other of the textile burghs in Tayside, while unlike the experience in any other of those burghs the number of males employed in textiles (linen) actually increased. The greatest increase in male employment was, however, in 'other manufactures", which in Falkland meant linoleum. As in Newburgh there was a three-and-a-half fold increase in employment in manufactures other than textiles, and the effect of this on the structure of employment in Falkland was even greater than it was in Newburgh. In both respects there was no other burgh in Tayside which approached these two in the extent of the increase in non-textile manufactures. Also, there was no burgh in Tayside, other than Falkland, in which the share of manufactures in total male employment increased to so great an extent-from 36 per cent to 66 per cent of the occupied male population.

Inevitably other occupations played a much less important part in the economy of the burgh. Although employment in infrastructural industries increased in most burghs, and in some very substantially, total employment and male employment in Falkland in these industries declined more than anywhere else, while female employment did not change. Although there was a slight increase in female employment in services, the share of services in the total occupied population and in the male occupied population declined more than anywhere else except Newburgh and Newport (these were in fact the only three burghs in which the share of services showed any decline at all).

LADYBANK

Male employment in Ladybank in 1911 reflected the fact that this was a railway junction. Some 38 per cent of the men were employed in transport and communications, which was nearly twice as high a proportion as in Perth, Montrose or Crieff, which came next. Employment of men in manufacturing industries was neither abnormally high nor abnormally low, accounting for about one-quarter of the occupied male population, but male employment in services was lower than anywhere else except Pittenweem. As regards female employment, textiles provided employment for 42 per cent and clothing and footwear another 19 per cent of the occupied female population, while other manufacturing industries were virtually non-existent. In Ladybank linen was

the only textile industry.

Between 1911 and 1951 there were greater inter-sectoral shifts in female employment in Ladybank than in any other Tayside burgh By contrast with Falkland, where employment in textiles (linen) fell less than in any other textile burgh, employment in this industry was almost wholly extinguished. The structural shift in female employment due to the decline in the textile industry was greater than anywhere else. There were very few burghs in which there was a greater relative increase in the number of women employed in the service industries, and none in which there was a greater increase in the proportion of those employed in public administration and the professions.

As regards males, there was a decline from 38 to 25 per cent the proportion of those employed in transport and communications and the number employed fell by nearly 40 per cent. There was, on the other hand, a substantial increase in the numbers employed in metal and engineering industries, so that male employment in manufactures increased to a greater extent than anywhere else except Falkland and Newburgh.

In spite of these shifts in employment, the male occupied population declined between 1911 and 1951 by nearly 6 per cent, which was a greater decline than anywhere else except the main fishing burghs and Brechin. There were quite a number of other burghs, however, in which there was a greater decline in the total and the female occupied populations.

NEWBURGH

In Newburgh, in 1911, there was a rather low level of employment in manufacturing industry, and textiles in particular accounted for less than 7 per cent of the employment of females, and scarcely more than 2 per cent of total employment. There were more women employed in manufacture of clothing and footwear than anything else, but the principal industry was linoleum, almost exclusively employing male labour. What was distinctive about employment in Newburgh was the relatively high level of employment relatively more than in any other Tayside burgh), and the relatively high level of employment of women in agriculture, also higher than in any other burgh.

The most distinctive features of employment in Newburgh were, however, the changes which took place between 1911 and 1951. There was a

greater increase in manufacturing employment, and a greater drift in the structure of employment in favour of manufactures, than in any other Tayside burgh. By 1951 there was no other burgh except Falkland in which manufactures employed a higher proportion of the male occupied population, and although female employment in manufactures was not conspicuously high there were now no other burghs apart from the Dundee Urban Area and Falkland in which the general level of employment in manufactures was higher.

Both the male and the female occupied population in Newburgh increased more than anywhere else in Tayside between 1911 and 1951; the male population increased by 76 per cent and the female population almost exactly doubled.

In manufactures, by far the greatest increases for males was in the linoleum industry in which male employment predominated. For females the greatest increase was in the clothing industry, particularly in the manufacture of oilskins in which Newburgh specialised. The increase in the employment of women was widely spread, including employment in transport and communications, the distributive trades, public administration and the professions; accompanied however by a fall in employment in miscellaneous services. The same applied to male employment, with a particular emphasis on the decline in male employment in miscellaneous services from their former very high level of 15 per cent of the total occupied male population to a new level of just over 2 per cent. There was some increase in male employment in the metal and engineering industries but the difference which this made to the overall structure of employment was very slight.

NEWPORT

Situated on the other side of the Tay estuary immediately opposite Dundee, Newport has for many generations functioned as a residential suburb of Dundee, increasingly so after the completion of the second railway bridge in 1887 and the building of a new line from the bridge to Tayport via Newport. Employment figures in the censuses of population thereafter reflect, probably to a greater extent than in any other burgh in Tayside, the employment of residents who worked out-side rather than inside the burgh.

Manufactures employed a smaller proportion of the population in 1911 than in any other burghs except Elie and Crail, and only in Elie was there a lower level of female employment in manufactures. As much as 70 per cent of the total population, 88 per cent of the females and 57 per cent of the males, were employed in services, and this was in each case higher than in any other burgh in Tayside. The men were employed mainly in the distributive trades, and to a rather lesser extent in insurance, banking, finance, commerce, public administration and the professions. The employment of women was heavily concentrated in domestic service but with fairly large numbers also employed in the other services.

Of the manufactures, such as they were, the most important single industry was the manufacture of clothing and footwear. This accounted for the great majority of the women employed in manufactures and also a fair number of men. There were few people employed in textiles, and these were employed mostly in finishing trades, with only a very few engaged in jute, canvas or linen manufactures.

Between 1911 and 1951, the occupied population in Newport declined to a greater extent than in any other Tayside burghs except Brechin, where the female but not the male occupied population declined to a substantially greater extent, and Anstruther, where the male (fishing) population declined far more but the female occupied population not nearly so much.

Two distinctive changes in employment which took place were a decline in numbers employed in service, and, in spite of the overall decline in numbers employed, an increase in the number of those engaged in manufacturing industry. As regards services, there was apparently a very great fall in male employment in insurance, banking finance and commerce, while there was a smaller increase in public administration and the professions (but classifications in these categories are not reliable and it is difficult to assess the significance of these changes). There was a much greater fall in male employment the distributive trades than there was in any of the other half-dozen burghs in which there was any fall at all.

Miscellaneous services were not of much account for male employment in the service trades either in 1911 or in 1951. In female employment in the services, by far the greatest change was a decline in employment in miscellaneous (that is to say mainly domestic) services to a much greater extent than in any other burgh. As elsewhere, there was an increase in employment in the distributive trades, public administration and the professions. The fall in employment in services, both of males and females, was more than sufficient to explain the decline of the total occupied population and reflects social as well as economic changes which had taken place in Newport.

As regards manufactures, Newport was almost unique in several respects. Nowhere in Tayside except in Newburgh and Falkland did the total numbers engaged in manufactures increase so much. Newburgh was the only place where the number of females employed in manufactures actually increased, but apart from this their numbers declined less in Newport than anywhere else, and only in Newburgh, Falkland, Abemethy and Ladybank did male employment increase to a greater extent. However, the numbers employed in manufactures had previously been so small that the impact of these increases on the structure of employment in Newport was comparatively slight. In individual industries, clothing and footwear, which had previously been the most important single industry in 1911 and the only manufacturing industry in which a significant number of females was employed, had largely disappeared by 1951, but there were small increases in other industries. In male employment there was some increase in metals and engineering and paper and printing, and also some other industries, even including textiles. However, it must be remembered again that Newport was the residence, but commonly not the place of work, of those who were employed in the various industries

PITTENWEEM

Pittenweem, as a primarily fishing burgh, resembled its neighbour Anstruther in some respects but differed in others. Pittenweem depended even more than Anstruther on the fishing industry, which in 1911 accounted for 38 per cent of total employment and 47 per cent of male employment. There was inevitably a low level of employment in other industries, but among the rest most of the jobs available were in manufactures of wood, building and contracting, transport and communications and the distributive trades.

As in Anstruther, the level of employment of females in Pittenweem was very low—in fact it was the lowest in Tayside, the only burgh in the region in which females numbered less than 20 per cent of the total labour force. But unlike Anstruther a relatively small proportion of the women were employed in manufactures—only 32 per cent compared with 52 per cent in Anstruther; and the only significant source of employment in manufactures

was in the making of clothing and footwear. Some 60 per cent of the female labour force was employed in services, and two-thirds of these in domestic service.

Between 1911 and 1951, the total occupied population declined more than it did in all except half-a-dozen other burghs in Tayside, and the occupied male population declined more than in any other burgh except Anstruther. But, unlike Anstruther, the female occupied population increased, and this increase was greater than anywhere else except Newburgh, Crail and Coupar Angus. Of course, as already noticed, Pittenweem started from a very low level of female employment.

The fall in the male occupied population was due overwhelmingly to a decline by one-half in the numbers employed in fishing, which now accounted for less than 30 per cent of male employment. There was some decline in employment also in manufactures, and little increase in any other industry. However, the decline in fishing was not so catastrophic as in Anstruther, nor so great as in Tayside as a whole, and Pittenweem's share of numbers employed in the diminished Tayside fishing fleets rose from 12 to 17 per cent.

ST. ANDREWS

St. Andrews was one of a small group of burghs in which services in 1911 provided employment for more than one-half of the total occupied population. (The others were Broughty Ferry, Elie, Newport Aberfeldy and Crieff.) In all of the others, and also in Cupar, male employment in service was somewhat higher than in St. Andrews, but in St. Andrews female employment was higher than anywhere else except Elie and Newport, accounting for 83 per cent of the occupied female population. Of these, domestic service was by far the most important, employing 60 per cent of the entire female occupation. There was also a relatively high level of female employment in public administration and professions, exceeded only by Monifieth and Newport. Clothing and footwear were by far the most important manufactures, for females, employing 12 per cent of the occupied female population, while numbers were negligible in any other manufacturing industry.

Golf clubs and golf balls were included in 1911 with other sports equipment in the category of "instruments", etc., which employed 7 per cent

of the males at that time, but in 1951 were transferred to "other manufactures" which employed almost no one in 1911, but a little more than 3 per cent of the male occupied population in 1951, while numbers in "instruments" had now fallen almost to zero. It has not been ascertained what proportion of each category was provided by golf club and golf ball manufacture in 1911 and 1951, but clearly employment in these manufactures must have fallen quite considerably. In other manufactures, employment of males was divided fairly evenly between most other industrial categories except textiles and leather, but in spite of the presence of a small fishing industry no boatbuilding was carried on here.

It was, however, the service sector which was most important for male (as for female) employment, especially the distributive trades. Considerable numbers of males were also employed in building and contracting and transport and communications. Mention should in addition be made of the fishing industry which employed 77 men, or over 4 per cent of the occupied male population, in 1911. Only half- a-dozen were left in that industry in 1951.

Between 1911 and 1951 the total occupied population increased by 12 per cent, males having increased by 24 per cent, and females having declined by 3 per cent. There was no particularly marked shift in employment between sectors, but both for males and for females service had become of still greater importance than they had been before. The share of services in total employment was now 52 per cent for males and 91 per cent for females. This was in each case far higher than in any other burgh except Elie, where it was almost the same. The employment of females in domestic service had declined from 60 to 41 per cent of the occupied female population, but this was still much higher than anywhere else except Elie, where it had scarcely fallen below 60 per cent. Of still greater importance now was employment in services other than domestic service. These others now employed fully half the occupied female population, the most important of them being public administration and the professions, followed by the distributive trades. In manufactures, employment in clothing and footwear had largely disappeared, and employment did not increase significantly in any other manufacturing industry, so that manufactures now provided a lower level of employment for women than in any other Tayside burgh except, once again, Elie.

In male employment, there was a greater increase in the share of services in total employment than there was anywhere else, rising from 38 to 52 per cent of the occupied male population, and this was now higher than in any other burgh. In this case, the most important services were public administration and the professions, which employed about twice as many men as either the distributive trades or miscellaneous services. Domestic service, reflecting the character of the burgh as being, among other things, a residential precinct and a holiday resort, employed nearly 7 per cent of the male population, which was more than anywhere else except Elie and Auchterarder. In manufactures there was a decline in male employment in golf club and golf ball manufacture, as already indicated, and also in clothing and footwear, but an increase in paper and printing and food, drink and tobacco. However, the proportion of the male occupied population engaged in manufactures declined from 24 to 21 per cent, and there were only half-a-dozen other burghs in which fewer were so employed In the infrastructural industries, which employed some 25 per cent the male occupied population in 1911 and 28 per cent in 1951, the was a substantial decline in transport and communications, but a substantial increase in building and contracting and public utilities.

ST. MONANCE

St. Monance was not created a burgh until 1932, and comparisons with 1911 cannot strictly be made. However, in 1951 the occupied population of the burgh constituted 80 per cent of the occupied population of the parish of St. Monance as a whole, both of males and females, and since in no industry was the industrial distribution of the population in the burgh markedly different in 1951 from that in the parish, a comparison of changes in the parish of St. Monance between 1911 and 1951 will give at least a rough indication of changes in the town between those dates.

In 1911, 63 per cent of the occupied male population of the parish were employed in fishing, which was substantially higher than in the combined Anstruther and Kilrenny parishes, or in Pittenweem. The numbers employed were 505 in the Anstruther and Kilrenny parishes, 437 in St. Monance and 262 in Pittenweem (and not much more than 200 in either Arbroath or the parish of Craig). There was clearly little scope for male employment in any alternative industry, but most of the other men were employed in building and contracting, transport, the distributive trades, and food and drink manufacture. Fewer than a dozen were employed in boatbuilding. Miscellaneous service accounted for over 40 per cent of female employment, and the rest were employed mainly in clothing manufacture, the distributive trades and agriculture. Females accounted for only 17 per cent of the entire occupied population.

Between 1911 and 1951 the number of fishermen fell from 437 to 101, which was a somewhat heavier decline than in Tayside as a whole, and the proportion of the occupied male population which the industry employed fell from 63 to 23 per cent. The total occupied population of the burgh fell by 25 per cent. The males fell by 36 per cent while on the contrary the females increased by 28 per cent, and the share of females in the total occupied population rose from 17 to 29 per cent. It would be difficult to find another parish which had been affected by greater social and economic changes (unless it was one which was submerged by industrialisation).

In male employment the most significant change, apart from the decline of fishing, was the establishment of a boat-building industry which employed some fifty men by 1951, and an expansion of employment also in manufactures of wood and building and contracting. There was a fall in numbers in the very small food and drink and clothing industries, but little change in any other. The number of women employed in miscellaneous (i.e. mainly domestic) services fell by half. Most female employment was now in the distributive trades and clothing manufacture, and almost as many were now employed in public administration and the professions as in the miscellaneous services.

TAYPORT

Together with Falkland and Auchtermuchty, this was one of the most industrial of the small burghs outside Angus, employing in 1911 nearly half of the total occupied population in manufacturing industry, including nearly twothirds of the females and nearly 40 per cent of the males. By far the most important industry was textiles, which employed 28 per cent of the occupied population, 50 per cent of the females and 12 per cent of the males. Almost the entire labour force in the textile industry were engaged in jute manufactures, and only about a dozen women in manufacture of linen. Among other manufactures, 11 per cent of the males were employed in manufacture of wood and 8 per cent in metals and engineering; also 8 per cent of the females were employed in clothing and footwear, but not many males or females in any other manufacturing industry.

Among other occupations, those of chief importance for males were transport and communications (since Tayport was a rail centre and a ferry port), and also the distributive trades and building and contracting. As regards women, Tayport employed fewer than 15 per cent of its female labour force in domestic service. This was fairly low when compared with most other burghs, and strikingly low when compared with the nearly adjacent burgh of Newport, which employed 59 per cent of its female occupied labour force on such service. This difference illustrates the social and economic contrast between the two neighbouring burghs.

Between 1911 and 1951 the occupied population of Tayport fell by 2 per cent, the number of males increasing by 9 per cent while the number of females dropped by 17 per cent. The decline in the number of females is accounted for almost exactly by a decline in employment in jute manufactures. There was also a decline in female employment in clothing manufacture, but an increase in the distributive trades.

In male employment, numbers actually increased slightly in the jute industry, and appreciably in metals and engineering, but fell in other industries including wood manufactures, building and contracting and transport. The number of females fell from 41 to 35 per cent of the total labour force.

PERTHSHIRE BURGHS

ABERFELDY

Aberfeldy was in 1911 one of the half-dozen burghs with the lowest level of employment in manufactures in Tayside, and there were only four with a higher level of employment in services. For female employment it was domestic service which was of greatest importance, accounting for well over half of the female labour force. For men it was the distributive trades which were most important among the services, and a higher proportion of the occupied male population was employed in distribution than anywhere else in Tayside except Newport. This was in fact the most important source of employment for men, accounting for 19 per cent of the occupied population, next in importance being building and contracting and transport. In such manufacturing industry as there was, almost all women were employed in clothing and footwear, while this industry and food, drink and tobacco provided most of the manufacturing employment for men.

Between 1911 and 1951 there was a slight decline of 3 per cent in the occupied population of the burgh, but while female employment fell by 12 per cent, male employment slightly increased. Female employment in domestic services was reduced by nearly one-half, and this alone was more than sufficient to explain the decline in the female labour force; but female employment in clothing and footwear manufacture also greatly declined, and this industry almost disappeared. There was, on the other hand, substantially increased employment of women in public administration and the professions, and to a lesser extent in the distributive trades. In spite of these changes domestic service still employed rather more women than any other occupation, providing employment for one-third of the female occupied population, and this was higher than anywhere else except Elie, St. Andrews and Crieff. Female domestic servants in Aberfeldy were extensively employed in the hotels and catering industry.

For males, apart from the decline in employment in clothing and footwear, there was a decline also in transport, but an increase in the other infrastructural industries and in public administration and the professions. Exceptionally, the greatest increase in male employment was in agriculture and forestry, which accounted for 4 per cent of the occupied male population in 1911, but 10 per cent in 1951.

ABERNETHY

This was the smallest of all the Tayside burghs, with an occupied population of only 257 in 1911, of which 42 per cent were females. For men the most important single industry was agriculture, forestry and fishing, employing nearly a quarter of the male occupied population, and of these more than a dozen were employed in fishing. For the rest, most employment was in building and contracting and transport and communications, with a smaller number engaged in textile manufacture. For females, textiles provided half the employment, mostly in linen manufactures, but a few also in woollen manufactures and bleaching; and for the rest 22 per cent of the female occupied population were employed in clothing and footwear manufacture.

Between 1911 and 1951 the male occupied population increased by 30 per cent, and though there was some decline in the female occupied population the total occupied population showed a slight increase. For men, employment in public administration and the professions was now the most important category of employment, but although there were hardly any fishermen left agriculture and forestry employed almost as many men as before. The proximity of Newburgh influenced employment in Abernethy, since most men in manufacturing industry in Abernethy were employed in "other manufactures", which is to say linoleum, and many women in manufactures of clothing. By this time employment in textiles had almost wholly disappeared, and most women were employed in service industries, of which the distributive trades were the most important.

ALYTH

Alyth in 1911 could be regarded as one of the textile burghs, since 43 per cent of the females and a quarter of the entire occupied population were employed in textiles. By far the greatest numbers employed in textiles were in the jute industry, with only a few in linen and woollen manufactures; and two-thirds of the employees in the jute industry were women. Next in importance for female employment was domestic service, employing a quarter of the female labour force, but there was some employment also in clothing and footwear manufacture. For males, building and contracting, transport and communications and the distributive trades provided most employment, but about 30 per cent were employed in manufactures, of which textiles were the most important, followed by clothing and footwear and the food industries.

Between 1911 and 1951 there was hardly any change in the size of the occupied population of Alyth, a slight increase in males being offset by a slight decrease in females. Employment in textiles had declined to less than one-third of its 1911 level, and almost all of this was still in the jute industry. More than a quarter of the females were now employed in the distributive trades, with an equal number still employed in domestic service, but quite a number of women were employed also in public administration and the professions. For men, employment in forestry and fishing rose from 8 to 17 per cent of the occupied male population, and this accounted for an increase in employment in this industry from 6 to 12 per cent of the total labour force, which was contrary to the general trend. There was an increase in male employment in the distributive trades and metal manufactures and engineering, and a decline in textiles, but little change in other industries.

AUCHTERARDER

Auchterarder was unique among Tayside burghs in certain respects—in 1911 the burgh and parish accounted for some 80 per cent of all cotton weaving carried on in Tayside, and for a little more than half of all employment in the cotton industry in the region (the parishes of Auchtergaven and Redgorton, which specialised in cotton spinning, together accounted for a further one-third of all employment); between 1911 and 1951 this was the only burgh in which employment in domestic services substantially increased; and between these dates there was a greater shift in employment between industrial sectors than there was in any other burgh.

In 1911, cotton weaving accounted for about three-quarters of employment in the textile industry in Auchterarder burgh, and other cotton processes for most of the remainder; and textiles provided employment for 58 per cent of the females and 19 per cent of the males. For females, domestic service accounted for a further 18 per cent, and the only other industries which employed any appreciable number of women were clothing and footwear manufacture and the distributive trades. For men, building and contracting employed about the same numbers as textiles, and next in importance were transport and communications, the distributive trades, and agriculture and forestry.

Between 1911 and 1951 employment in the textile industry declined by 57 per cent, the heavier decline being in the employment of women. The

employment of females fell from 58 to 23 per cent of the female occupied population, which was a greater decline than in any other predominantly textile burgh apart from Dundee; and total employment fell from 36 to 12 per cent of the total occupied population which was more than in any similar burgh except Brechin. Moreover, there was a transformation in the character of the textile industry, which was concentrated almost entirely on wool. (While cotton spinning continued to be centred chiefly on the parish of Auchtergaven, cotton weaving was now almost wholly confined to Arbroath.)

For females, employment in the clothing and footwear industry almost wholly disappeared. The greatest increases in employment were in public administration and the professions and the distributive trades and some increase also, contrary to the trend in every other burgh, in domestic service. However, total female employment fell while male employment and aggregate employment both substantially increased, and female employment fell from 43 to 33 per cent of the total labour force.

As regards male employment, the remarkable feature was a four-fold increase in "miscellaneous services", which was mainly accounted for by an increase in domestic service. Auchterarder in 1951 employed a greater proportion of its male occupied population in hotels and catering than any other burghs except Elie and Anstruther, Pitlochry and St. Andrews. This was undoubtedly a result of the location within a short distance of the burgh of the internationally famous hotel of Gleneagles. The number of males employed in manufactures was almost unchanged, since a decline in textiles was compensated for by some increase in other industries including metals and engineering, food and drink and manufactures of wood. There were substantial increases also in male employment in building and contracting, transport and communications, the distributive trades, and public administration and the professions.

BLAIRGOWRIE AND RATTRAY

For convenience the combined burghs will be referred to as Blairgowrie. In 1911, manufactures accounted for 35 per cent of the total employment in the burgh, and service industries for 36 per cent. Nearly half the women and more than one-quarter of the men were employed in manufacturing industry. Textiles were the most important single industry for women, accounting for 36 per cent of female employment. Next were domestic service, accounting for a further 26 per cent, clothing and footwear 12 per cent and the distributive trades 10 per cent. Textiles were a mixture of three industries, which were, in descending order of importance, manufactures of linen, hemp and jute, with a small number also employed in miscellaneous fibre manufactures.

Male employment was distributed between these textile industries in much the same way as female. However, only 8 per cent of the male labour force was employed in textiles. The most important single industry for men was agriculture and forestry, employing 15 per cent of the male occupied population, but not many fewer were employed in each of building and contracting, transport and communications and the distributive trades. A manufacturing industry of almost equal importance with textiles was metal manufacture, engineering and metal goods, which here provided a higher level of employment than in all but half-a-dozen other burghs in Tayside.

Between 1911 and 1951 the male occupied population of Blairgowrie remained almost unchanged, while the female population fell by nearly 15 per cent and the total by 5 per cent. As in so many other burghs, the explanation of the decline is chiefly the fall in employment, mainly female employment, in textiles. The labour force in the textile industries declined by not much less than 60 per cent. Hemp manufactures virtually disappeared, and employment in linen manufactures declined by more than 60 per cent. However, as in Arbroath, Brechin and Forfar, employment in the jute industry actually increased.

Miscellaneous services, mainly domestic, now provided the largest single source of employment for females. Unlike some of the more important holiday resorts this was in restaurants and canteens rather than in hotels and boarding houses. Next in importance were the distributive trades, in which female employment had substantially increased. Textile manufactures still employed 18 per cent of the female occupied population, but female employment in public administration and the professions had increased from 6 per cent to 17 per cent.

For males, textile employment had greatly declined, and so had employment in clothing and footwear; and although there was some

increase in metals and engineering, food and drink and manufactures of wood, there was an overall decline in male employment in the manufacturing industries. There was a rise in employment in building and contracting, but a substantial fall in transport and communications.

The greatest increases in male employment were in the distributive trades and to a lesser extent in public administration and the professions.

COUPAR ANGUS

Coupar Angus was in 1911 not one of the most industrial of the burghs, employing less than one-third of its total labour force in manufactures, including 55 per cent of the females and 22 per cent of the males. Slightly less than one-third of the females were employed in textiles, and these, for the most part, in linen manufacture, with only a few employed in jute. The only other sources of employment for women which were of any importance were domestic service, which employed 19 per cent of the female occupied population, and clothing and footwear manufacture, which employed 15 per cent. As regards male employment, the most important single industry was agriculture and forestry, accounting for more than one-quarter of the male occupied population, and Coupar Angus can in this respect be regarded as the most rural of the Tayside burghs. Agriculture and forestry employed nearly twice as many men as the industry which was next in importance, which was distribution, and the only other industries which provided a significant number of jobs for men were building and contracting and transport and communications. There was little male employment in textiles or in the other manufacturing industries.

Between 1911 and 1951 there was no place in Tayside except only Newburgh where the occupied population increased to a greater extent than in Coupar Angus. Here the total occupied population increased by 34 per cent, males by 37 per cent and females by 25 per cent. (There were, indeed, few other burghs in which the female occupied population increased at all.) Also, there was nowhere a greater shift in total employment between industrial sectors, except in Auchterarder. Nowhere was there a greater decline in the share of agriculture and forestry in male employment and in aggregate employment; nowhere was there a greater increase in the share of the infrastructural industries in aggregate employment; hardly anywhere was there a greater decline in the share of manufactures in female employment; and in very few other burghs was there a greater increase in aggregate employment in the service industries. There was clearly an upheaval in the structure of employment in Coupar Angus between 1911 and 1951.

As regards agriculture and forestry, male employment declined by more than half and now accounted for only 9 per cent of the male occupied population. All other burghs in Perthshire except Perth and Auchterarder now had a greater proportion of their male occupied population engaged in this industry.

As regards manufactures, the female occupied population declined by 58 per cent, but males increased by 37 per cent. For females, the greatest decline in numbers was in textile manufacture, which had previously accounted for 32 per cent of female employment, but now less than 6 per cent. Clothing and footwear had previously accounted for another 15 per cent, but by 1951 this industry had almost completely disappeared. There was almost no increase in female employment in other manufacturing industries, apart from a few in metals and engineering and paper and printing, so that female employment in manufactures fell considerably in numbers, and from 55 to 19 per cent of the occupied female population. For males, the chief increase in employment was in metals and engineering. Male employment almost entirely disappeared in textiles and leather manufactures, and also, such as it was, in clothing and footwear, but there was some increase in other manufacturing industries.

The greatest increase in male employment was in building and contracting, in which numbers had increased nearly three-fold, now accounting for 21 per cent of the occupied male population. There was some increase also in transport and communications, but none in other public utilities.

After building and contracting, the next greatest increase was in the number of males employed in the distributive trades, which doubled between 1911 and 1951, and now also accounted for 21 per cent of the male occupied population. It was in the distributive trades, also, that the number of females increased to the greatest extent, and the share of these industries in female employment rose from 8 to 36 per cent. For females, domestic service had provided the next most important source of employment after textile manufactures, and although the share of this occupation in total female

employment fell from 25 to 19 per cent, the number employed scarcely declined at all.

Coupar Angus is of interest as a burgh in which a substantial fall in female employment in manufactures, especially textiles and clothing. ¹ was much more than compensated by an increase in service occupation^ particularly distribution. While the share of manufactures in female employment fell from 55 to 19 per cent, the share of services increased from 41 to 70 per cent. In male employment the share of manufactures remained the same, while the share of the infrastructural industries and the service industries rose, and the share of agriculture and forestry fell.

CRIEFF

In spite of its Highland location, Crieff in 1911 was not a particularly rural burgh so far as the nature of employment was concerned! since relatively few residents were employed in agriculture, forestry or fishing. Although this group of industries accounted for a lower proportion of the total occupied population in all Angus burghs than they did in Crieff, they accounted for a substantially higher proportion in all of the other Perthshire burghs except Abernethy and in most of the North Fife burghs as well. On the other hand, Crieff was certainly not an industrial burgh either, since manufacturing industry accounted for less employment than it did in any other burgh except Elie, Crail and Newport. It was the service industries which provided most employment in Crieff, and the share of services in aggregate employment was greater than anywhere else except St. Andrews, Newport, Elie and Broughty Ferry.

In male employment, the service industries accounted for 42 per cent of total employment, the most important being the distributive trades and public administration and the professions, which respectively employed 15 per cent and 10 per cent of the occupied male population. Another one-third of the males were employed in the infrastructural industries, chiefly transport and communications (18 per cent) and building and contracting (13 per cent). All manufacturing industries combined employed only 18 per cent of the male j labour force, and most of these were in clothing and footwear, food i and drink, metals and engineering and manufactures of wood. In female employment, domestic service accounted for the employment of more than half the women, and other service employments brought the proportion of the female labour force employed in services of all kinds to nearly 80 per cent of

the total. Manufacturing industries employed only 16 per cent of the occupied female population. Most of these were employed in clothing and footwear, and almost all the rest in manufacture of food and drink. The textile industries employed little more than a score of people altogether, all but a handful of these were males, and most of them were engaged in woollen manufactures.

Between 1911 and 1951 there was very little change in the size of the total occupied population, but the number of occupied males increased by 10 per cent while the number of occupied females diminished by almost the same amount. The greatest fall in employment for females was in domestic service, in which numbers fell by not much less than 40 per cent, but there was a substantial increase in numbers employed in the distributive trades and in public administration and the professions, so that the share of services in all female employment increased from 79 to 83 per cent. Employment of women in clothing and footwear dwindled to negligible proportions, and in food and drink manufactures it was reduced by one-half. Very few were employed in any other manufacturing industries, so that manufactures of all kinds now gave employment to only 8 per cent of the female labour force.

In male employment, an unusual feature was the doubling of employment in agriculture and forestry, whose contribution to total male employment now rose from 7 to 12 per cent. In manufactures, employment in textiles had almost vanished and in clothing and footwear it was now negligible, but there were substantial increases in metals and engineering and manufactures of wood, and some increase also in food and drink manufactures. Consequently, the total numbers of men employed in manufacturing industry showed a slight increase and manufactures continued to provide employment for 18 per cent of the male labour force. In the infrastructural industries, there was little change in building and contracting but a great decline in transport and communications, whose share of total male employment fell from 18 to 9 per cent. In the service industries there was a substantial increase in male employment in public administration and the professions, and also in domestic service. The great majority of those in domestic service were employed in hotels and catering establishments, reflecting the importance of Crieff as a tourist and holiday resort.

PITLOCHRY

Since Pitlochry was not elevated to the status of a burgh until 1947, and since, unlike St. Monance (which was also created as a burgh after 1911) the population of Pitlochry is substantially less than that of the parish in which it is located, estimates of changes in the composition of the occupied population cannot appropriately be made either directly, for the burgh, or indirectly by reference to changes in the parish. However, it is of some interest to consider how the structure of employment in this new burgh compares with other burghs in Tayside in 1951.

There were two respects in which employment in Pitlochry was unique: building and contracting accounted for 21 per cent of the occupied male population, which was more than in any other burgh; and employment in the hotels and catering industries was higher than in any other burgh, for males, for females and for the aggregate occupied population alike (respectively 9 per cent, 34 per cent and 18 per cent of total employment in each category). Even in Elie, which was the only burgh which had a higher proportion of its population engaged in domestic service and other miscellaneous services, there were relatively fewer employed in hotels and catering. This indicates the importance of Pitlochry as a tourist centre and holiday resort.

The employment of men in building and contracting was of a more temporary nature, since it was affected by constructional works on behalf of the North of Scotland Hydro-Electricity Board which happened to be proceeding in 1951.

Apart from hotels and catering, the only occupations which provided much employment for men and women were the distributive trades and public administration and the professions, and for men there was a fair amount of employment in transport and communications as well as building and contracting. No single manufacturing industry accounted for much employment. Textiles provided just over 3 per cent of the employment of females, and 2¹/₂ per cent of the employment of males; and this meant employment in manufactures of wool. Rather more men were employed in each of metals and engineering, food and drink manufactures and manufactures of wood, but female employment in any manufacturing industry other than textiles was negligible. There was no burgh in Tayside which employed a smaller proportion of its male population or of its total population in manufacturing industries, though both St. Andrews and Elie employed relatively fewer women in these industries.

NON-BURGHAL PARISHES

It would be possible to examine the changes in the distribution of the industrial population for each parish in turn, as well as for each burgh, but in view of the large number of parishes involved this would be lengthy and laborious. Some indication of the nature and changes of employment in parishes has been given in dealing with the geographical distribution of employment in particular industrial groups and specific industries, especially in agriculture. It may suffice to add to this some comments on employment in non-burghal parishes which were found to have a more than usually high level of employment in manufacturing industry in 1911, or to achieve such a level by 1951; and also to do the same for the landward parts of some burghal parishes.

ANGUS PARISHES

In Angus, the parish of Craig near Montrose had been one in which there was a substantial measure of manufacturing employment in 1911, accounting for 65 per cent of female employment and more than a quarter of total employment. Fifty-four per cent of the female labour force (in all industries) were employed in textiles, and 8 per cent of the males in clothing and footwear. For males, fishing was the most important employment, accounting for 37 per cent of the total labour force, while agriculture accounted for a further 30 per cent. By 1951 female employment in textiles had fallen to one-sixth of its former level, and though employment in food industries substantially increased, female employment in manufactures as a whole fell by half. Employment of women in distribution and in public administration and the professions increased, but there was an overall fall of 23 per cent in the female labour force. The greatest change, however, was a fall in employment in fishing to one-eighth of its former level, and from 37 to 5 per cent of the male labour force. Employment in agriculture fell very much less, from 30 to 23 per cent of the labour force. In manufactures, while employment in clothing and footwear fell, employment in metals and engineering and the food industries increased, and there was a slight overall increase in employment in manufactures; but there was a substantially greater increase in employment in building and contracting, and in the distributive trades. There was a decline in total manufacturing employment from 27 to 23 per cent of the aggregate labour force, but the chief transformation was in male employment in other industries: while agriculture, forestry and fishing had in 1911 employed eight times as many men as in the service industries, in 1951 the numbers employed in the two sets of industries were the same.

In *Logie Pert* parish the number of females employed in textiles, which had accounted for 64 per cent of the female occupied population in 1911, was reduced by exactly half. This was the only significant change in employment in the parish, except that there was a reduction in numbers in miscellaneous services, and some increase in public administration and the professions. There was virtually no fall in male employment in textiles, which accounted for 16 per cent of total male employment in 1911 and 17 per cent in 1951; and the sole textile industry in Logie Pert, both in 1911 and 1951, was jute. The total labour force of Logie Pert declined by 20 per cent, males by 12 per cent and females by 34 per cent.

In Kirkden in 1911 manufactures accounted for 27 per cent of the total occupied population and, though textiles were much the most important of these, two-thirds of the labour force in manufactures were males-almost all of those in textiles were employed in bleaching. However, agriculture was the single most important industry, employing 30 per cent of the males and 27 per cent of the labour force. Females accounted for only 21 per cent of the entire occupied population. Between 1911 and 1951 the number of men employed in bleaching fell from more than 40 to 10, and there was a decline in the relatively small numbers of men employed in other manufactures as well, so that the number of men employed in all manufactures was reduced by more than one-half, while the number of women in manufacturing industry hardly fell at all. This was contrary to the usual experience. What was also unusual was that male employment remained unchanged in agriculture but fell appreciably in the infrastructural industries and in services, although female employment in these last two categories did not diminish; and the proportion of females in the occupied population increased from 21 to 26 per cent of the total

The principal occupations of *Newtyle* parish near Dundee were, in 1911, agriculture for men (one-third of all male employment) and services for women (70 per cent of female employment, including 44 per cent in domestic service). There was, however, some manufacturing employment, of which the clothing industry was the chief employer of women, and chemicals of men. By 1951 there was a decline of about one-third in employment in agriculture. Fewer were employed in chemicals and clothing, and rather more in metals

and engineering, but otherwise there was little change in employment in any other industrial categories.

In *Monikie*, near Monifieth, 50 per cent of the males were employed in agriculture and 56 per cent of the females in services, mainly domestic. Between 1911 and 1951 there was a decline of 44 per cent in the total occupied population, including a decline of 40 per cent of males and 56 per cent of females. Agricultural employment for men and service employment for women did not decline as much as employment in general, so that the share of agriculture in male employment increased from 50 to 57 per cent, the share of services in female employment increased from 56 to 65 per cent. Female employment in domestic service substantially declined, but not in other services. Manufacturing employment declined by one-half, the greatest fall being in female employment in textiles and clothing.

In *Panbride* in 1911, 47 per cent of the males were employed in agriculture and 57 per cent of the females in service. Although only 18 per cent of males were employed in manufactures, and 36 per cent of females (mainly in textiles and clothing) the number of males in manufacturing industry exceeded the number of females by 50 per cent. Between 1911 and 1951 male employment declined substantially in agriculture and to a lesser extent in infrastructural industries, but increased in manufactures (especially metals and engineering) and in services (especially distribution, public administration and the professions), so that the male labour force as a whole did not fall. Female employment, in spite of a fall in manufactures, increased overall by 20 per cent, due mostly to increased employment in distribution, public administration and the professions, and not much decline in domestic service.

EAST FIFE PARISHES

In 1911, the burgh of *Newburgh* had contained only about two- thirds of those employed in manufactures in the parish of Newburgh as a whole, and only one-third of those employed in textiles. By 1951, Newburgh had extended into part of *Abdie* parish, but now employment in the area was much more concentrated in the burgh itself, and in 1951 the burgh contained 88 per cent of the manufacturing labour force in the combined parishes of Abdie and Newburgh.

In *Falkland*, where the burgh in 1911 had contained only one- third of the manufacturing employment in the parish, the experience was rather different from Newburgh. There was a greater increase in manufacturing employment in the burgh as compared with the parish, but still, in 1951, the burgh contained only a little more than one-half of the manufacturing labour force in the parish as a whole. What was remarkable about changes in employment in the landward parts of the parish was that male employment in manufactures in these parts increased by nearly 60 per cent, while female employment diminished by 60 per cent. This was due to a fall in female employment in textiles (that is to say, in the linen industry) to less than one-third of its former level; while there was some increase in male employment in "other manufactures" (that is to say, linoleum in Falkland) and a much more substantial increase in male employment in paper manufactures, which meant commuting out of the Tayside Region into the parish of Markinch.

The burgh of *Cupar* in 1911 had contained one-half of those employed in textiles and 70 per cent of those engaged in manufactures in the parish as a whole. In 1951 it contained over 80 per cent of a greatly diminished textile industry, and also of manufacturing industries in general. There was a slightly greater concentration of manufacturing industry in Cupar itself. In the landward area there was not much decline in male employment in manufactures, since a fall in male employment in textiles was largely compensated by a rise in employment of males in metals and engineering and in the food industry (sugar manufacture from beet); but with the effective disappearance of female employment altogether in the textile industry (jute) in the landward parts of the parish, female employment in manufactures, which had previously accounted for well over 50 per cent of all female employment in those parts of the parish, had now fallen to less than a quarter of their former level, and now accounted for less than 16 per cent. However, total male employment in the landward areas increased a little and total female employment fell only by 20 per cent, and this is accounted for chiefly by a great increase in employment in public administration and the professions in the case of both males and females, and a significant increase also of females in the distributive trades.

In *Auchtermuchty* parish, employment in the linen industry declined in the landward areas even more than it did in the burgh, and there was in 1951 a greater concentration of manufactures generally in the burgh. In *Collessie* parish, on the other hand, where there had been relatively little employment in

textiles or any other manufacturing industries outside the burgh of *Ladybank* and *Monkston* in 1911, the considerable decline which took place in employment in textiles and in transport and communications, and the increase which took place in metals and engineering, were largely confined to the burgh itself.

In the small parish of Cults the amount of employment in manufactures had been negligible in 1911, but by 1951 some two score were employed in the "treatment of metalliferous minerals other than coal", consisting of the manufacture of lime.

There was in *Largo* parish an increase in the aggregate occupied population which, contrary to normal experience, was entirely due to a rise in the number of females employed. The clothing industry, which had been the most important manufacture employing females in 1911, had practically disappeared by 1951, but there was a substantial increase in those employed in distribution, public administration and the professions, as there was also for men. The occupied male population remained virtually the same, but while there was a fall of about 40 in the number of fishermen, and a decline also in agriculture and in clothing manufacture, there was an increase in some other manufacturing industries, including food and drink, wood manufactures and above all metals and engineering.

In *Kettle* parish, in 1911, agriculture employed one-third of the men but textiles employed one-half of the women. (Most of the textile employment was in linen manufacture, but quite a high proportion also in sundry and undefined textiles.) Between 1911 and 1951, male employment in agriculture, and total male employment, remained virtually unchanged, and though there was an appreciable fall in male employment in textiles there was an increase in metals and engineering, food and drink and paper manufacture. Female employment in textile manufactures, however, very greatly declined, and the small linen industry which still survived accounted for only one-eighth of the female labour force. More women were employed in the distributive trades, public administration and the professions, but the female occupied population declined by 30 per cent.

In the parish of *Leuchars* in 1911 a little more than one-third of the men were employed in agriculture, and a little less than one-third in paper manufacture at Guard Bridge. A substantial number, nearly 12 per cent, were

employed in transport and communications in the parish, and particularly at Leuchars Junction. Female employment was also concentrated to the extent of one-third in paper manufacture, with another one-third in miscellaneous (domestic) service, and an unusually high proportion, nearly 20 per cent, in agriculture. Between 1911 and 1951 male and female employment in agriculture declined by 25 per cent and 66 per cent respectively. Male employment in the paper industry increased in numbers by about as much as it fell in agriculture. Female employment in paper manufacture did not, however, increase at all, and an increase in civilian employment for women was confined largely to the distributive trades, public administration and the professions. It was armed service employment in the R.A.F. station at Leuchars that provided much the largest level of employment in 1951, accounting for 46 per cent of the occupied male population, and 18 per cent of the occupied females. The armed services accounted almost exactly for the increase in the population of the parish between 1911 and 1951.

Strathmiglo was an agricultural and textile village and parish in 1911, agriculture employing one-third of the men and textiles 55 per cent of the women. Textiles consisted almost entirely of linen manufactures, with only a few men employed in bleaching. Between 1911 and 1951 the number of men engaged in agriculture actually increased, and though the number of women employed in textiles fell by 43 per cent the linen industry continued to employ not much less than 100 women, accounting for nearly 40 per cent of the female labour force. This was one village and parish in which the linen industry was by no means extinguished.

PERTHSHIRE PARISHES

Auchterarder and Coupar Angus were two parishes in which a substantial number of people were employed in manufactures in the landward parts of the parishes as well as in the burghs. In both, textiles were the manufactures of chief importance, and to a lesser extent clothing and footwear, though in Coupar Angus there was also a diversity of male employment in metals and engineering, food and drink and leather goods. Textile employment in Auchterarder was for much the greater part in cotton weaving and other processes, with a smaller woollen industry, while in Coupar Angus two-thirds were employed in linen and one-third in jute. Between 1911 and 1951 cotton manufactures were virtually extinguished in Auchterarder, but the woollen industry expanded. The textile industry was now very largely confined to the burgh, but there was still some female employment in the landward part of the parish. In Coupar Angus the linen industry virtually disappeared, only a little female employment remained in the jute industry, and this was restricted to residents in the burgh. In both Auchterarder and Coupar Angus the male occupied population of the parish increased a little, while the female occupied population substantially fell, and there was a slight decline in the total occupied population. In Coupar Angus, however, unlike Auchterarder, there was a substantial increase in the number of females who were gainfully occupied in the burgh, while in the landward part there was a heavy fall in the female occupied population to one-third of its former level. This can be accounted for largely by a great increase in female employment in the distributive trades in the burgh of Coupar Angus.

The non-burghal parish of Auchtergaven in 1911 had a relatively high level of manufacturing employment, 33 per cent of the males being employed in manufactures, and 56 per cent of the females. Apart from a little employment in clothing manufacture almost all the women were employed in textiles. In the textile industry, half the men and more than half the women were engaged in cotton manufactures, while the rest were about evenly divided between the linen industry and bleaching. Of the men, three-quarters of those employed in manufactures were engaged in textiles, but the most important single industry was agriculture, which employed one- third of the occupied male population. In 1951 there was almost no change in the aggregate labour force in the textile industry, which was unique among the predominantly textile parishes, though the number of males was reduced by more than 40 per cent, while the number of females on the contrary increased by more than 40 per cent. The number engaged in cotton manufactures remained much the same, but linen manufacture disappeared, few were left in bleaching, and the others in the textile industry, amounting to over one-third of 300 still employed, were engaged in the manufacture of "narrow fabrics".

Male employment increased substantially in building and contracting, and to a lesser extent in agriculture and some other industries as well. In spite of the earlier and continued dependence of this parish on the cotton industry, which had declined very greatly in many parts of the United Kingdom, the mate and the female labour force both increased substantially between 1911 and 1951.

Attention may next be directed to those other parishes in the lower

valleys of the Tay and the River Almond in which there had been a high level of employment in the textile industry in 1911. These include Redgorton, Methven, Scone and Kinnoull, but Tibbermore is excluded since it was largely absorbed by the expansion of the City of Perth.

In the parish of *Redgorton* in 1911 some 370 people were employed in textiles, accounting for 64 per cent of the female occupied population and 43 per cent of the males. Of those employed in textiles, 80 per cent of the males and 75 per cent of the females were employed in bleaching, most of the remainder in dyeing and finishing, and a few in cotton manufactures. Between 1911 and 1951 employment in dyeing and finishing more than doubled, but female employment in bleaching was now negligible and male employment had declined by more than 40 per cent. Bleaching still employed more men than dyeing and finishing, but aggregate employment in the latter was now of greater importance in the parish. There was some increase in male employment in various other industries, so that the male occupied labour force and the total labour force appreciably increased, but the number of occupied females declined.

In *Methven* parish in 1911, textiles had been of substantially less importance, employing only 21 per cent of the female and 9 per cent of the male occupied population. Bleaching accounted for two-thirds of the textile employment and dyeing and finishing for the remainder. Employment in bleaching was greatly reduced by 1951, and though employment in dyeing and finishing remained the same total employment in textiles declined by half. This did not make much difference to the structure of employment, however, and an increase in employment in services, supplemented by the stationing of armed services in the parish, resulted in some increase in the occupied population.

Scone was another parish in which there was appreciable employment in bleaching, dyeing and finishing in 1911, though neither these industries nor other textiles were of great importance in the industrial structure, which was more than usually diversified. Contrary to Methven, bleaching survived while dyeing and finishing declined, and textile employment in general was reduced by half. There was, however, a substantial increase in the occupied population by 1951, due chiefly to increased employment of both males and females in the distributive trades, public administration and the professions, and of males also in transport and communications.

In *Kinnoull* parish, in 1911, domestic service provided nearly half the employment of women, and other services, particularly public administration and the professions and distributive trades, provided more than one-third of the employment of the men. However, employment in textile manufactures was not negligible, accounting for 15 per cent of female and 9 per cent of male employment. Except for a few employed in the linen industry, almost all of these were employed in dveing and finishing. By 1951 employment-in textiles in Kinnoull had practically disappeared, except for a few who remained in the linen industry. The female occupied population declined by 30 per cent, reflecting a decline not only in textile manufactures but also in clothing and footwear and in domestic service, which exceeded the increase in female employment in public administration and the professions and in distribution. Male employment, on the other hand, increased by 12 per cent, in spite of a decline in manufacturing employment. The increase was mainly in building and contracting, transport, distribution and public administration and the professions. In manufactures, an increase in male employment in metals and engineering and the food and drink industries did not compensate for a decline in textiles and clothing.

In a number of mainly agricultural parishes in 1911, the clothing and footwear industry had provided some measure of manufacturing employment, both for males and females. These included *Blackford*, *Comrie*, *Dunning* and *Killin*. In all of them employment in this industry was greatly reduced or practically eliminated altogether, and employment in manufactures generally declined.

In *Little Dunkeld*, also, there was some employment in clothing and footwear in 1911, which greatly declined by 1951, but also some employment in wood manufactures, which did not, and there was an expansion in metals and engineering, so that manufacturing employment generally increased to a small extent. Nevertheless, the occupied population declined, male and female alike, partly because of a decline in employment in agriculture but to a greater extent due to a decline in the infrastructural industries and, contrary to the general trend, in the service industries as well.

In *Dunkeld and Dowally* there had been some employment of women in clothing manufactures and some men in food and drink and wood manufactures, but almost all this employment had gone by 1951. Employment of women in service industries increased, and consequently the total number of women in employment, but the number of men in all sectors of employment declined.

Longforgan was primarily an agricultural parish in 1911, but paper manufacture employed 15 per cent of the men, and this industry and clothing manufacture employed about one-third of the women. Although female employment in clothing manufacture declined, it actually increased in miscellaneous textile manufactures, with a few in some other manufacturing industries as well; and male employment increased particularly in paper manufacture and metals and engineering. Both male and female employment in manufactures increased between 1911 and 1951, and so did employment in services, so that the total occupied population appreciably increased during this period.

In 1911, *Errol* employed over 40 per cent of its male labour force in agriculture, their number increased by 1951, and by then not much fewer than half the men were employed in agriculture. Manufactures had accounted for 13 per cent of the employment of men, of which the most important was brick and drainpipe manufactures, while 13 per cent of the women were employed in clothing. In 1951 brick and drainpipe manufactures still survived, but among manufactures there was a greater employment of men in metals and engineering and in wood manufactures, while female employment in clothing manufactures had practically vanished. Male employment in manufactures generally increased; female employment in services increased while male employment declined. The final outcome was an increase in both the male and the female occupied population.

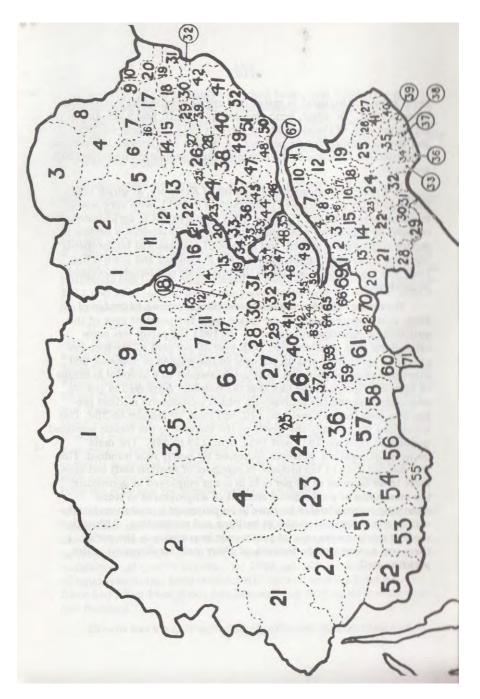
St. Madoes was another parish in which brick and drainpipe manufacture had provided a measure of employment in 1911, but this had completely disappeared by 1951. This was not only an essentially agricultural parish in 1911, but it was one of the smallest in terms of numbers employed in Tayside. By 1951 agricultural and other forms of employment had been reduced still further, and the total labour force had fallen from about one hundred and fifty to little more than one hundred.

Caputh was a highly agricultural parish which nevertheless provided some

employment in metals and engineering in 1911 and rather more in 1951. However, agricultural employment, which accounted for 54 per cent of the male labour force in 1911, increased by 1951 and then accounted for 64 per cent. A decline in miscellaneous services accounted for a decline in the occupied male population between 1911 and 1951.

In a different category is the parish of *Kenmore*, in which half the population was occupied in agriculture in 1911, with very few in manufactures. Between 1911 and 1951 employment in agriculture was reduced by half; there was, apart from the armed services, a decline in service employment as well; and in spite of a substantial but probably temporary increase in male employment in building and contracting there was a substantial decline in the total male and female occupied population.

Dunbarney parish, containing the village or town of Bridge of Earn, is in many respects an exception from the point of view of the structure of industrial employment. In 1911 the parish was more agricultural than anything else, with over 30 per cent of the men employed in agriculture and 45 per cent of the women in domestic and other miscellaneous services. The establishment of a hospital at Bridge of Earn is reflected in the fact that the numbers employed in public administration and the professions, which includes the medical professions, rose from 12 males to 140, and from 10 females to 350. This accounted for virtually the whole of the increase in the female occupied population between 1911 and 1951 from 129 to 489. The male occupied population, however, increased by nearly four hundred. This was due not only to the increase in numbers of medical staff but even more to an increase of 50 per cent in males employed in agriculture, the emergence of a substantial amount of employment in stone quarrying, a considerable increase in employment in metals and engineering, and an expansion also in building and contracting. Although medical services were now of paramount importance in the parish, there was a considerable diversity of other male employment in the parish as well.



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