

# *THE MOVEMENTS OF PEOPLE IN SCOTLAND*

*1851-1951*

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In recent years considerable concern has been expressed in Scotland regarding the loss of population from particular regions, such as the Highlands, the North-east and the Borders, and the increased concentration in the already well-populated Central Lowlands. In order to provide an historical perspective to the current discussion the present writer has considered it useful to show the state of internal migration in Scotland in the three years, 1851, 1901 and 1951.<sup>1</sup>

Since 1851 the population of Scotland has increased from 2.9 millions to 5.1 millions, i.e. by 76 per cent. One hundred years previously, in 1755, the population was estimated at 1.3 millions by Dr. A. Webster in the unofficial but valuable census carried out under his direction by parish ministers and entitled "An Account of the Number of the People in Scotland in the year One thousand Seven hundred and Fifty Five" (reprinted in Kyd 1952). The first official census, taken in 1801, revealed a population of 1.6 millions, indicating an increase of 27 per cent during the previous half-century. Between 1801 and 1851 the rate of growth was 80 per cent, between 1851 and 1901, when the population reached 4.5 millions, the rate was 55 per cent, while in the last fifty years the rate was 14 per cent.

Over the last two hundred years profound agricultural and industrial changes, in conjunction with a high rate of natural increase, at least until the beginning of the present century, fostered a transformation of the geographical pattern of employment opportunities and thus led to considerable internal migration. The redistribution of population effected since 1755 is indicated in Table I. This gives the numbers living in the various parts of Scotland in 1755 and in the census years 1801, 1851, 1901 and 1951, and also the percentage of the national population represented by these figures.

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## STATISTICAL REGIONS

The territorial units here adopted differ somewhat from those customarily used by the Registrar-General for Scotland. Four major divisions are distinguished, here called "North", "South", "Forth-Tay" and "Greater Clyde", the two latter in turn constituting a larger "Central" division. The North division consists of the seven crofting counties (Argyll, Caithness, Inverness, Orkney, Ross and Cromarty, Sutherland and Zetland) and the five counties of the North-east (Aberdeen, Banff, Moray, Kincardine and Nairn). In Table I the Crofting Counties have been split into two groups—"Argyll and Inverness" and "Remaining Counties"—while the North-east counties have also been split into two groups—"Aberdeen and Kincardine" and "Remaining Counties".

The Crofting Counties are commonly regarded as a distinctive region of Scotland, owing to the dominance (at least historically) of the crofting system over much of the area, and no defence of the adoption of this particular statistical region is therefore necessary. The North-eastern counties embrace the coastal lowlands between Montrose and Inverness, with their arable and beef cattle farms and fishing ports, including the city of Aberdeen. This group of counties also constitutes a fairly well-recognised economic region of Scotland, although it is true that the Highlands intrude into each of them, thus introducing a contrasting environment and economy. The Crofting Counties and the North-eastern counties together cover the greater part of the country lying to the north of the Highland Line, or Northern Boundary Fault, the geological boundary between the Highlands and the Central Lowlands, which extends from Helensburgh in Dunbartonshire to Stonehaven in Kincardine. These two regions taken together thus broadly correspond to the north of Scotland and here constitute the North division of the country.

About half of Angus and about two-thirds of Perthshire also belong to the north of Scotland, in so far as they lie to the north of this line in the Highland zone, but, as the bulk of the present population is found in their Lowland areas these counties are here treated as a separate region falling within the Forth-Tay division. These populous districts of the two counties include Dundee, Perth, Strathmore and the line of small towns commanding the entrances to the Highland valleys. To the south Fife and Kinross form a convenient region corresponding to the peninsula lying between the Forth and

TABLE I

## Distribution of Population, 1755-1951

Enumerated in	1755		1801		1851		1901		1951	
	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%
Crofting Counties:	255,513	20.2	302,817	18.9	395,540	13.7	352,371	7.9	285,786	5.6
Argyll and Inverness	125,849	10.0	153,949	9.6	185,798	6.4	163,716	3.7	148,291	2.9
Remaining Counties	129,664	10.2	148,868	9.3	209,742	7.3	188,625	4.2	137,495	2.7
North-east:	214,001	16.9	220,712	13.7	349,716	12.1	460,941	10.3	462,496	9.1
Aberdeen and Kincardine	139,225	11.0	147,414	9.1	246,630	8.5	345,302	7.7	355,411	7.0
Remaining Counties	74,776	5.9	73,298	4.6	103,086	3.6	115,579	2.6	107,085	2.1
NORTH	469,514	37.1	523,529	32.6	745,256	25.8	813,312	18.2	748,282	14.7
Angus and Perth	188,999	15.0	224,636	14.0	329,924	11.4	407,365	9.1	402,905	7.9
Fife and Kinross	86,459	6.8	100,468	6.2	162,470	5.6	225,818	5.0	314,196	6.2
Stirling and Clackmannan	46,017	3.6	61,683	3.8	109,188	3.8	174,320	3.9	225,059	4.4
Lothians	136,950	10.8	170,427	10.6	325,956	11.3	593,172	13.3	706,570	13.8
FORTH-TAY	458,425	36.2	557,214	34.6	927,538	32.1	1,400,675	31.3	1,648,730	32.3
Clyde	122,228	9.7	246,903	15.3	736,363	25.5	1,722,172	38.5	2,103,292	41.3
Ayr and Bute	66,134	5.2	95,998	6.0	206,466	7.1	273,255	6.1	340,520	6.7
GREATER CLYDE	188,362	14.9	342,901	21.3	942,829	32.6	1,995,427	44.6	2,443,812	48.0
Central	646,787	51.1	900,115	55.9	1,870,367	64.7	3,396,102	75.9	4,092,542	80.3
Solway	77,459	6.1	106,726	6.6	164,633	5.7	144,639	3.2	148,005	2.9
Tweed	71,620	5.7	78,050	4.9	108,486	3.8	118,950	2.7	107,586	2.1
SOUTH	149,079	11.8	184,776	11.5	273,119	9.5	262,689	5.9	255,591	5.0
SCOTLAND	1,265,380	100.0	1,608,420	100.0	2,888,742	100.0	4,472,103	100.0	5,096,415	100.0

Tay. Stirling and Clackmannan constitute another suitable territorial unit, in view of their close economic relations, associated with the mining of coal and with their joint command of the lowlands at the head of the estuary of the Forth. A thinly populated part of Stirlingshire does, admittedly, lie within the Highland zone, however. Finally, the Lothians, dominated by Edinburgh and embracing the fertile lowlands along the southern shores of the Firth of Forth, constitute another well-recognised region. The Forth-Tay division thus consists of a group of four regions which are drained by these two major river systems, the whole area corresponding to the eastern portion of the Central Lowlands.

To the west of this Forth-Tay division lies the Greater Clyde division, consisting of the highly-industrialised Clyde region, corresponding to the counties of Dunbarton, Lanark (including Glasgow) and Renfrew, and a region which straddles the Firth of Clyde, corresponding to the counties of Ayr and Bute. Although the group of islands forming the county of Bute belongs partially to the Highlands on the basis of geology, the population pattern is dominated by Rothesay and other resort towns serving the population of Central Scotland. Part of Dunbarton also lies in the Highlands, although most of its population is found along the north bank of the Clyde. The Greater Clyde Division thus broadly corresponds to the western portion of the Scottish Lowlands, and although smaller in area than Forth-Tay it is more populous (2.4 millions, compared with 1.6).

The geological boundary separating the Lowlands from the Southern Uplands—the Southern Boundary Fault—runs conventionally from Girvan in Ayrshire to Dunbar in East Lothian. Those parts of Ayr, Lanark, Midlothian and East Lothian falling within the Southern Uplands have only a small population, however, and, in fact, the county boundaries are here more appropriate on physical and economic grounds than those of Angus, Perth, Stirling and Dunbarton, on the northern margin of the Lowlands.

The South division consists of the seven counties which extend from the Southern Uplands to the Solway Firth and the English border. The four eastern counties, commonly known as “the Borders” (Berwick, Peebles, Roxburgh and Selkirk), are here called the Tweed region, after the river which drains them, while the three western counties (Dumfries, Kirkcudbright and Wigtown) are called the Solway region,

although strictly speaking Wigtown borders the Irish Sea rather than the Solway Firth. Both these regions have distinctive agricultural economies, the Tweed region being noted for its emphasis on sheep and the Solway region for its emphasis on dairy cattle. The Tweed region is further distinguished by its specialisation in the woollen textile industries.

These statistical regions necessarily consist of entire counties, since the county is the basic unit for the publication of most demographic statistics. It is inevitable, therefore, as has already been implied, that such regions based on whole counties are not necessarily ideal if a high degree of uniformity of regional characteristics is desired. As regards the particular county combinations and regional nomenclature there is also room for discussion. For instance, Kinross is here combined with Fife, although for local government purposes the county is associated with Perthshire. It should be pointed out, however, that for other purposes, e.g. telephone administration, Kinross is associated with Fife. The association of Angus with Perth may also be questioned. Here it may be stated that these two counties were treated as a convenient unit for a post-war planning survey (Payne 1950). The combination of Stirling with Clackmannan is found in the geographical organisation of the National Coal Board, which places the mines of the two counties in its Alloa Area.

The regional sub-division of Scotland suggested here may usefully be compared with the scheme adopted by C. P. Snodgrass (1943) based largely on types of agriculture. An inspection of the map of these regions shows that apart from the anomalies relating to the northern and southern fringes of the Lowlands already suggested, the arrangement of counties by the present writer only seriously violates this scheme in the Crofting Counties, where important areas of arable and stock farming occur in the Orkneys, in Caithness and around the Moray Firth. To summarise, it may thus be claimed that the ten regions here adopted have a fair measure of economic and physiographic homogeneity, given the need to adhere to county boundaries.

As regards the titles of the regions and divisions here adopted it will be seen that the names are in some cases those of the constituent counties and in others are related to type of economic activity (e.g. Crofting Counties), drainage basins (e.g. Clyde) or compass directions (e.g. North-east). While this mixture may not be entirely satisfactory the author considers that in each

instance the name is the most suitable on the grounds either of common usage or easy identification in the mind of the reader. The name "Solway" for the counties of Dumfries, Kirkcudbright and Wigtown may possibly be open to criticism. It should therefore be stated that this name was given to the area in an official survey of Scottish depopulation (Hutchinson 1949).

#### REGIONAL DISTRIBUTION OF POPULATION, 1755-1951

Table I shows how the numbers living in these Divisions and Regions of Scotland and the percentages these formed of the national population have changed since 1755. It will be seen that between 1755 and 1801 and again between 1801 and 1851 each region increased in population, although there were changes in the percentages of the national population held by each region. Between 1755 and 1801 the percentages did not change very markedly, however. Most of the regional percentages fell by small amounts, although slight upward changes occurred in Stirling-Clackmannan, Ayr-Bute and Solway. It must be remembered, however, that the 1755 figures, although given in exact numbers, are not as reliable as those for 1801 and succeeding years, so that too close a comparison of the two sets of percentages should not be made. The only really remarkable change between 1755 and 1801 is that occurring in the Clyde region, where the percentage rose from 9.7 to 15.3. The general situation is thus one of a slight decline in the position of all regions, except the three mentioned above, which experienced minor increases, but of a considerable increase in the proportion held by the Clyde region, where, it will be noted, the population doubled in size from 122,000 to 247,000.

Although the population of all regions increased between 1801 and 1851 the changes in the regional percentages were rather more marked than in the previous period. This time the percentage of Stirling-Clackmannan remained constant and that of Solway declined, while Ayr-Bute again experienced an increase. The percentage holding of the Clyde region again increased considerably (from 15.3 to 25.5), its population in 1851 being three times that of 1801. Apart from the Lothians, where the percentage increased from 10.6 to 11.3, all the remaining regions experienced a decline in their percentages.

Between 1851 and 1901, when the volume of internal migration in Scotland was probably at its height, the regional

pattern of population distribution underwent much more severe changes. The Crofting Counties and the Solway region actually declined in population, it will be observed. There was again an increase in the percentage of the Lothians, and again Stirling-Clackmannan was able to maintain its position. Clyde again experienced a substantial increase in its holding (25·5 to 38·5), but that of Ayr-Bute now declined. All the remaining regions suffered a decline in their percentages.

In the most recent period, 1901-51, the Crofting Counties again declined in population and, as the population of the North-east only increased by a mere 1,500 persons, there was a decline in numbers in the North Division as a whole. To the south of the North-east region population declined by about 4,500 in Angus-Perth. The Lothians region showed a slight increase in its percentage, but Stirling-Clackmannan and Fife-Kinross—the latter regaining its 1801 position—underwent greater proportionate increases in their holdings, especially the latter. The percentage of Ayr-Bute also rose during the period, but without regaining the level of 1851, while that of Clyde now increased only to a moderate extent compared with previous periods (38·5 to 41·3). In the South the population of the Tweed region declined by 10,500 and as there was only a slight growth of population in Solway the South Division as a whole declined in population. Nevertheless, in spite of the depopulation of three regions (Crofting Counties, Angus-Perth and Tweed) and the negligible growth of two others (North-east and Solway) the slowing-down in the rate of growth of the percentage of population held by the Clyde region and the rise in the percentages of Fife-Kinross, Stirling-Clackmannan and Ayr-Bute, suggest that, for Central Scotland at least, further regional differentiation in favour of the Clyde region has been halted.

If the 1951 regional percentages are compared with those at the three earlier census dates the magnitude of the redistribution which has occurred in the last hundred and fifty years may be appreciated. The share of the nation's population held by the Crofting Counties has fallen since 1801 from 18·9 to 5·6 per cent (with the actual numbers falling by 17,000) while that of the North-east has fallen from 13·7 to 9·1 per cent. The proportion of the population inhabiting the North thus fell from nearly one-third (32·6 per cent) to well under one-sixth (14·7 per cent). Within the Crofting Counties both "Argyll and Inverness" and "Remaining Counties" showed

similar reductions in their percentage holdings. Within the North-east, on the other hand, there was a sharp distinction between "Aberdeen and Kincardine" and "Remaining Counties", the former experiencing a more than twofold increase of its population and a less severe proportionate reduction in its holding than the latter. The Forth-Tay Division, covering the eastern, and major, section of the Central Lowlands, has very nearly maintained its 1801 proportion of the population, the percentage having fallen only slightly, from 34·6 to 32·3. Within the Division, however, Angus-Perth has suffered a decline in its proportion, Fife-Kinross has maintained its position, while increases have occurred in Stirling-Clackmannan and the Lothians. In the western portion of the Central Lowlands the percentage held by the Greater Clyde Division has more than doubled, having increased from 21·3 to 48·0. This change was almost entirely due to the increase in the percentage of the Clyde region. In the South Division the percentage holding has been more than halved, having fallen from 11·5 to 5·0, with both of the constituent regions sharing in this decline. Already in 1801 Central Scotland held more than half of the national population (55·9 per cent), while the North and the South taken together held 44·1 per cent. To-day, however, the percentages are 80·3 and 19·7 respectively. Finally it should be noted that although only the Crofting Counties show a decline in population compared with 1801, other regions have declined since either 1851 or 1901, viz.:—Angus-Perth (1901), Solway (1851) and Tweed (1851 and 1901), while the North-east has remained stationary since 1901.

This redistribution was effected by internal migration movements in both a direct and an indirect sense. Migratory movements themselves, through the fact that they concern young people predominantly, frequently affect local rates of natural increase. Thus outward migration tends to cause a reduction in the local rate of natural increase, while on the other hand inward migration tends to cause an increase in the local rate of natural increase. It can also happen, of course, that even after correction is made for the age and sex structure of a local population its rate of natural increase (through high fertility or low mortality, or both) may be higher than the country as a whole, or lower as the case may be. The Tweed region, for instance, is notorious in Scotland for its low fertility rate, and it is this factor as well as the "ageing" of the population



structure, itself related in part to long-standing outward migration, which largely accounts for the low rate of natural increase in this part of the country. However, while such local differences in fertility and mortality have undoubtedly been of importance in the redistribution of population a consideration of this topic lies outside the scope of this paper.

The effect of internal migration movements has inevitably been to change the numbers and proportions of the population native to the various Scottish regions, as may be seen from Table II. This shows that the number of natives of the Crofting Counties has fallen since 1851 and the number of natives of the North-east since 1901. The total number of persons native to the North of Scotland has fallen by over 150,000 in the last fifty years and by over 20,000 in the last hundred years. During the latter period the proportion of Scots native to the North has fallen from 29·9 to 16·3 per cent. The population native to the South has also fallen—numerically since 1901 and proportionally since 1851 (10·3 to 5·0 per cent).

By contrast Central Scotland has more than doubled its number of natives in the last hundred years and these now form 78·7 per cent of the Scottish population compared with 59·8 per cent in 1851. This increase in representation is due to changes in the Greater Clyde Division (27·1 to 47·8 per cent) and within this to changes in the Clyde Region (19·7 to 41·2 per cent). In the Forth-Tay Division the proportion has fallen slightly, from 32·7 to 30·9 per cent. Within the Division Angus-Perth and Fife-Kinross, with smaller percentages than in 1851, show a contrast with Stirling-Clackmannan and the Lothians, where the percentages have increased. The natives of Angus-Perth have, in fact, declined by 40,000 since 1901. One ventures to suggest that the cultural, political and sociological implications of these changes in the pattern of regional origins have possibly received less attention than their immediate economic effects.

#### ENGLISH AND IRISH IMMIGRATION

Redistribution has also been assisted by the immigration of persons from outside Scotland, in so far as they have tended to settle in certain parts of Scotland rather than in others, or more precisely, to settle in varying ratio to the existing native population of such areas. Conversely, the emigration of Scots to England and other countries in a higher proportion from

certain parts of Scotland than from others will have tended to have a similar, though reverse, effect. While there is no available

TABLE II  
*Origin of Scottish-born Population*

Born in	1851		1901		1951	
	Nos.	%	Nos.	%	Nos.	%
Crofting Counties .	439,493	16·8	413,916	10·1	290,660	6·2
North-east . . .	345,089	13·1	500,271	12·3	471,248	10·1
<i>North</i> . . . . .	<i>784,582</i>	<i>29·9</i>	<i>914,187</i>	<i>22·4</i>	<i>761,908</i>	<i>16·3</i>
Angus and Perth .	319,254	12·2	406,505	10·0	365,124	7·8
Fife and Kinross .	167,091	6·4	226,167	5·5	263,451	5·7
Stirling and Clack.	106,502	4·1	166,659	4·1	209,990	4·5
Lothians . . . . .	263,188	10·0	474,871	11·6	604,291	12·9
FORTH-TAY . . . . .	856,035	32·7	1,274,202	31·2	1,442,856	30·9
Clyde . . . . .	517,488	19·7	1,315,856	32·3	1,928,091	41·2
Ayr and Bute . . .	193,392	7·4	286,542	7·0	307,672	6·6
GREATER CLYDE . . .	710,880	27·1	1,602,398	39·3	2,235,763	47·8
<i>Central</i> . . . . .	<i>1,566,915</i>	<i>59·8</i>	<i>2,876,600</i>	<i>70·5</i>	<i>3,678,619</i>	<i>78·7</i>
Solway . . . . .	159,642	6·1	161,563	4·0	138,323	2·9
Twweed . . . . .	111,581	4·2	128,297	3·1	96,877	2·1
<i>South</i> . . . . .	<i>271,223</i>	<i>10·3</i>	<i>289,860</i>	<i>7·1</i>	<i>235,200</i>	<i>5·0</i>
<i>Scotland</i> . . . . .	<i>2,622,720</i>	<i>100·0</i>	<i>4,080,617*</i>	<i>100·0</i>	<i>4,675,727†</i>	<i>100·0</i>

\* Excluding 5,108 persons not specifying county of birth.

† Excluding 20,102 persons not specifying county of birth.

statistical material regarding the contribution to emigration-flows at different periods made by the various parts of Scotland, the numbers and location of immigrants into Scotland can be obtained in some detail from the census reports.

Table III shows the composition of the population of Scotland by country of birth in the census years 1851, 1901

and 1951 (no similar information is available for 1801). It will be seen that in all three years the native-born population amounted to over 90 per cent of the enumerated population and that the percentage increased slightly from one year to the next. The percentage of persons born outside Scotland amounted to slightly more than 9 per cent in 1851 and fell to under 8 per cent in 1951. The English (including Welsh) and the Irish formed the bulk of these persons, although the English element has increased both relatively and absolutely since

TABLE III  
*Origin of Scotland's Population*

Place of Birth	1851		1901		1951	
	Nos.	%	Nos.	%	Nos.	%
Scotland . . .	2,622,720	90·8	4,085,755*	91·4	4,695,829†	92·1
<i>Elsewhere:</i> . . .	266,022	9·2	386,348	8·6	400,586	7·9
England & Wales‡	47,449	1·6	135,081	3·0	233,080	4·6
Ireland (all parts)	207,367	7·2	205,064	4·6	89,007	1·7
Empire/Commonwealth	6,543	0·2	15,907	0·3	28,810	0·6
Foreign countries	4,272§	0·2	29,858	0·7	49,446¶	1·0
At sea/Not stated .	391	0·0	438	0·0	243	0·0
Total population .	2,888,742	100·0	4,472,103	100·0	5,096,415	100·0

\* Including 5,108 persons not specifying county of birth.

† Including 20,102 persons not specifying county of birth.

‡ Including Channel Islands and Isle of Man (1851—658, 1901—1,058, 1951—1,286).

§ Including 1,202 British subjects.

|| Including 10,917 British subjects by birth and 1,287 by naturalisation.

¶ Including 7,925 British subjects by birth and 12,484 by naturalisation.

1851, whereas the Irish element has declined. However, the 233,000 English and Welsh persons living in Scotland in 1951 formed a smaller proportion of the population (4·6 per cent) than the 207,000 Irish in 1851 (7·2 per cent). (The number of English and Welsh persons actually fell between 1921 and 1931, but the 1951 figure rose to well above the 1921 level of 194,000. The number of Irish in Scotland fluctuated between 195,000 and 218,000 between 1851 and 1901, but the decline since 1901 has been progressive.)

Tables IV and V show respectively the distribution of the English and Irish by Divisions and Regions in these three census years and the percentage ratios which they bore to the

TABLE IV  
*Distribution of Population Born in England,\* 1851-1951*

Enumerated in :	1851		1901		1951	
	Nos.	% of popn.	Nos.	% of popn.	Nos.	% of popn.
Crofting Counties .	1,915	0.5	4,595	1.3	10,091	3.5
North-east . . .	3,112	0.9	8,533	1.9	16,995	3.7
<i>North . . . . .</i>	<i>5,027</i>	<i>0.7</i>	<i>13,128</i>	<i>1.6</i>	<i>27,086</i>	<i>3.6</i>
Angus and Perth .	3,417	1.0	8,848	2.2	16,828	4.2
Fife and Kinross .	1,708	1.1	4,973	2.2	18,222	5.8
Stirling and Clack.	1,185	1.1	3,919	2.2	8,053	3.6
Lothians . . . .	11,236	3.4	26,659	4.5	42,012	5.9
FORTH-TAY . . .	17,546	1.9	44,399	3.2	85,115	5.2
Clyde . . . . .	13,394	1.8	55,469	3.2	75,407	3.6
Ayr and Bute . .	1,658	0.8	5,843	2.1	13,862	4.1
GREATER CLYDE .	15,052	1.6	61,312	3.1	89,269	3.7
<i>Central . . . . .</i>	<i>32,598</i>	<i>1.7</i>	<i>105,711</i>	<i>3.1</i>	<i>174,384</i>	<i>4.3</i>
Solway . . . . .	4,232	2.6	6,749	4.7	11,642	7.9
Twced . . . . .	4,046	3.7	5,762	4.9	9,050	8.4
<i>South . . . . .</i>	<i>8,278</i>	<i>3.0</i>	<i>12,511</i>	<i>4.8</i>	<i>20,692</i>	<i>8.1</i>
<i>Scotland . . . .</i>	<i>45,993</i>	<i>1.6</i>	<i>131,350</i>	<i>2.9</i>	<i>222,162</i>	<i>4.4</i>

\* Excluding Wales, Channel Islands and Isle of Man (1851—1,546, 1901—3,731, 1951—10,918).

total number of persons enumerated in these areas. Table IV reveals that the English element has increased progressively since 1851, both absolutely and relatively, in all regions of Scotland. In each of the three years the highest percentages

were found in the Lothians, Tweed and Solway regions, with the percentage of Fife-Kinross becoming virtually as high as that of the Lothians in 1951. The proximity of the two southern

TABLE V

*Distribution of Population Born in Ireland, 1851-1951*

Enumerated in:	1851		1901		1951	
	Nos.	% of popn.	Nos.	% of popn.	Nos.	% of popn.
Crofting Counties .	2,185	0·6	1,552	0·4	1,927	0·7
North-east . . .	2,363	0·7	1,203	0·3	1,466	0·3
<i>North</i> . . . .	<i>4,548</i>	<i>0·6</i>	<i>2,755</i>	<i>0·3</i>	<i>3,393</i>	<i>0·5</i>
Angus and Perth .	18,664	5·7	7,143	1·8	3,468	0·9
Fife and Kinross .	2,684	1·7	2,102	0·9	3,205	1·0
Stirling and Clack.	6,194	5·7	4,998	2·9	3,029	1·3
Lothians . . . .	19,497	6·0	17,397	2·9	8,217	1·2
FORTH-TAY . . .	47,039	5·1	31,640	2·3	17,919	1·1
Clyde . . . . .	120,364	16·3	156,396	9·1	59,912	2·8
Ayr and Bute . .	21,552	10·4	11,107	4·1	4,921	1·4
GREATER CLYDE .	141,916	15·1	167,503	8·4	64,833	2·7
<i>Central</i> . . . .	<i>188,955</i>	<i>10·1</i>	<i>199,143</i>	<i>5·9</i>	<i>82,752</i>	<i>2·0</i>
Solway . . . . .	11,769	7·1	2,099	1·5	1,844	1·2
Tweed . . . . .	2,095	1·9	1,067	0·9	1,018	0·9
<i>South</i> . . . . .	<i>13,864</i>	<i>5·1</i>	<i>3,166</i>	<i>1·2</i>	<i>2,862</i>	<i>1·1</i>
<i>Scotland</i> . . .	<i>207,367</i>	<i>7·2</i>	<i>205,064</i>	<i>4·6</i>	<i>89,007</i>	<i>1·7</i>

regions to the Border explains their fairly high percentages, but the reasons for the substantial English proportions in the Lothians and Fife-Kinross, and why these should exceed the proportions of other Central regions, are less immediately apparent. Most of the English in the Lothians are located in

Edinburgh, which, with its high ratio of professional employment, may exert a greater proportionate attraction than the Glasgow district, which is only slightly more distant from the Border. The rise to importance of the English element in Fife-Kinross is no doubt largely connected with the presence of English personnel at the naval base of Rosyth. The 1951 County Census Report for Fife showed that the English population of Dunfermline, which includes Rosyth, totalled nearly 7,000 and formed nearly 20 per cent of the population of the burgh.

Table V shows that the Irish element declined relative to total population in all regions between 1851 and 1901, and that, except in Clyde, the decline was also absolute. Between 1901 and 1951, however, the percentages increased slightly in the Crofting Counties and in Fife-Kinross (where there were numerical increases), and remained constant in the North-east (numerical increase) and Tweed (numerical decrease). These numerical increases may possibly be associated with the employment of Irish labour on hydro-electric schemes in the North of Scotland and with the expansion of mining and industry in Fife in recent years. In all other regions there was again a relative and absolute decrease. In all three years the highest percentage occurs in the Clyde region. In 1851 there were also high percentages of Irish in Ayr-Bute, Angus-Perth, Stirling-Clackmannan, the Lothians and Solway.

This great influx was connected with the potato famine of the 1840s and with the differences in employment and wages existing between Ireland and Scotland. In the second half of the century the main current of migration was more and more directed to North America, however. The Irish were typically employed in textiles, mining and general labouring, and formed a considerable element of the population in many localities, especially Glasgow and neighbouring towns, Dundee and Edinburgh. The pattern of immigration reveals the attraction of the urban and industrial districts, especially Clydeside and Lanarkshire, and also, to a certain extent, mere proximity to Ireland (Solway and Ayr-Bute). An account of the Irish immigration has been given by Macdonald (1937, Chap. IV), who also shows a map of the distribution of Irish immigrants in 1851 (1937: 160).

It is plain from these tables that Central and Southern Scotland have benefited considerably, from the point of view of numbers, as a result of English and Irish immigration,

notably the latter. The population of Northern Scotland has not, on the other hand, been supplemented to any great extent by such immigration. It must be remembered, of course, that the figures given in the tables relate only to persons born outside Scotland and not to their children and later descendants born in Scotland. The tendency on the part of the Irish to a higher rate of natural increase has no doubt enhanced the effect of the Irish immigration.

TABLE VI  
*Migration to and from Rest of British Isles*

	1851	1901	1951
English and Welsh in Scotland Scots in England and Wales .	46,791 130,087	134,023 316,838	231,794 580,806
Migration Balance . . .	-83,296	-182,815	-349,012
Irish in Scotland . . . . Scots in Ireland . . . .	207,367 12,309	205,064 30,101	89,007 21,371 10,155 } 31,526*
Migration Balance . . .	+195,058	+174,963	+57,481
Total Migration Balance with rest of British Isles†	+111,762	-7,852	-291,531

\* Northern Ireland (1951), 21,371; Republic of Ireland (1946), 10,155. Questions regarding birth-place were not asked in the 1951 census of the Republic of Ireland.

† Excluding negligible migration balances with Channel Islands and Isle of Man.

As has been stated earlier it is not known to what extent these inward movements were counterbalanced by outward movements to England and Ireland from the different regions of Scotland. We do know, however, that the total number of Scots in Ireland formed only a small proportion of the Irish in Scotland in 1851 and 1901, and only about one-third in 1951. Again, we know that the total number of Scots in England greatly exceeded the number of English in Scotland in all three years. Table VI shows the large increase which has taken place since 1851 in the net migration loss from Scotland to England, in spite of the growing numbers of English living in Scotland. The table also shows the heavy fall

in the net migration gain from Ireland which has occurred since 1901. It is interesting to note that the large net influx from Ireland considerably exceeded the net loss to England in 1851, giving Scotland a net intake of over 100,000 from the rest of the British Isles. By 1901 the increased loss to England slightly exceeded the reduced gain from Ireland, giving a position of near-equilibrium. In 1951, with the great decline of the Irish element and the much greater loss to England, Scotland shows a net loss approaching 300,000. In fact, of the 5.3 million Scots enumerated in Great Britain in 1951 over half a million, or about 11 per cent, were actually resident in England.

#### INTERNAL MIGRATION OF POPULATION—COUNTIES

Although the contribution made by English and Irish immigrants to the differential regional growth of population in Scotland cannot be overlooked, it is plain that the chief factor causing the regional redistribution of population must have been internal migration movements of the native Scottish population. It is with an analysis of these movements in their broader aspects that we are now concerned.

Certain calculations have been made from the birth-place tables contained in the census reports for 1851, 1901 and 1951. These are presented for counties in Table VII and are also shown cartographically in a series of maps showing the state of internal migration as recorded in these three census years (Figs. 1, 2 and 3).

As the birth-place tables show the Scottish-born population of each county of Scotland by county of birth, the volume of flow both ways between individual counties can be readily extracted, and a simple subtraction of the two figures gives the net flow from one county to another. In 1851, for instance, there were 8,505 natives of East Lothian enumerated in Midlothian (including Edinburgh), but only 3,205 natives of Midlothian were enumerated in East Lothian. Thus there was a net migration flow from East Lothian to Midlothian amounting to 5,300. Such figures cannot be related to a well-defined period of time; they merely record the situation as it existed in 1851 in respect of all persons living in that year whose county of birth was stated on the census schedules as East Lothian or Midlothian and who were enumerated in Midlothian or East Lothian respectively. Nevertheless, it is obvious, in view of the average lifespan, that the migration flows thus



recorded must largely be attributed to population movements occurring in the preceding half-century, and within this period probably to the most recent decades. The difference between

TABLE VII  
*Net Migration—Counties*

County	1851		1901		1951	
	Nos.	Rate	Nos.	Rate	Nos.	Rate
Aberdeen . . .	+5,451	+2.7	-23,815	-7.4	-16,053	-4.9
Angus . . .	+12,704	+8.0	+2,359	+0.9	+1,077	+0.4
Argyll . . .	-24,099	-21.7	-16,969	-19.3	-1,890	-3.2
Ayr . . .	-11,522	-6.5	-34,485	-12.7	+4,124	+1.4
Banff . . .	-4,103	-7.1	-17,363	-22.3	-14,795	-23.4
Berwick . . .	-7,415	-17.7	-9,564	-25.2	-3,105	-12.6
Bute . . .	+560	+3.7	+1,671	+10.5	+3,489	+26.8
Caithness . . .	-3,003	-7.3	-11,537	-25.7	-7,804	-26.3
Clackmannan . . .	+2,139	+10.9	-2,613	-7.9	+4,752	+15.7
Dumfries . . .	-6,494	-8.2	-13,207	-16.5	-2,014	-2.6
Dunbarton . . .	+844	+2.2	+15,881	+19.0	+29,959	+25.8
East Lothian . . .	-5,919	-14.7	-9,157	-20.2	+3,817	+8.7
Fife . . .	-8,776	-5.6	-7,769	-3.6	+20,336	+7.9
Inverness . . .	-9,078	-8.7	-13,257	-13.2	+368	+0.5
Kincardine . . .	-4,110	-10.8	-5,685	-12.6	-3,756	-12.5
Kinross . . .	-792	-8.2	-2,062	-23.2	+1,413	+26.0
Kirkcudbright . . .	-803	-2.0	-3,082	-7.7	-878	-3.1
Lanark . . .	+80,495	+23.2	+152,398	+15.3	-56,835	-3.7
Midlothian . . .	+37,982	+19.7	+77,226	+21.1	+32,685	+6.9
Moray . . .	-652	-1.7	-5,722	-11.6	-1,309	-3.0
Nairn . . .	+1,348	+15.9	-240	-2.6	+104	+1.3
Orkney* . . .	-2,630	-4.1	-4,840	-14.6	-2,862	-12.3
Peebles . . .	-2,995	-22.6	-1,103	-7.2	+1,185	+9.5
Perth . . .	-25,225	-15.8	-21,253	-15.3	+6,493	+5.9
Renfrew . . .	+173	+0.1	+104	+0.0	+25,268	+9.4
Ross & Cromarty . . .	-7,648	-8.5	-15,502	-17.1	-6,045	-9.5
Roxburgh . . .	+531	+1.1	-8,029	-15.0	+367	+0.9
Selkirk . . .	+377	+4.2	+867	+4.0	-601	-3.0
Stirling . . .	-7,278	-8.4	-528	-0.4	-5,675	-3.2
Sutherland . . .	-2,329	-8.3	-4,296	-16.9	-2,360	-15.4
West Lothian . . .	-3,539	-11.6	-4,360	-6.9	-2,439	-2.8
Wigtown . . .	-4,194	-10.5	-10,622	-25.7	-4,597	-13.9
Zetland* . . .	...	...	-3,446	-11.1	-2,419	-11.4

\* 1851 figures for Orkney include Zetland.

the total number of natives of a particular county (whether living in that county or in the rest of Scotland) and the total number of Scots living in that county (including natives) gives the overall net migration balance for that county *vis-à-vis* the rest of the country. This same figure can also be derived by summing the individual net migration flows for a particular county to or from all the others, or by taking the difference

between the number of natives enumerated outside the particular county and the number of natives of other counties enumerated within that county.

Such county migration balances, i.e. both the net movement between individual counties and the overall net movement between a particular county and the rest of Scotland, merely show the migration pattern at a particular point of time. Changes in the volume and direction of internal migration movements, coupled with the deaths of the older migrants, take place continually and in time may lead to the emergence of a new pattern of migration flows. A time-lag necessarily occurs, however, before a change in the pattern of movements fully reveals itself in this type of analysis derived from the birth-place returns. A further necessary observation is that the children born to migrants after their arrival in the county of enumeration are inevitably considered to be natives of this county. The children born to immigrants are thus a further reinforcement to the population of the receiving county; on the other hand they represent a theoretical loss from the native counties of their parents. As has been mentioned above, migration tends to enhance still further the local demographic losses and gains occurring through migration, since, except in the case of migration at retirement, the transfer of reproductive capacity is also usually involved.

Table VII shows the overall net migration balances for each county in relation to the rest of Scotland in the years 1851, 1901 and 1951. The second column for each year gives the percentage ratio of these figures to the number of natives of these counties enumerated in Scotland (this equals the Scottish-born population of each county minus its net migration balance). This "migration rate", as it may be called, is therefore a measure of the impact of the net loss or gain, as the case may be.

It will be seen that of the thirty-three counties only Angus (including Dundee), Bute, Dunbarton, Midlothian (including Edinburgh) and Renfrew showed gains from the rest of the country in all three years. Lanark (including Glasgow) showed gains in 1851 and 1901, but a loss in 1951, while Aberdeen (including Aberdeen city) showed a gain only in 1851. Ayr, East Lothian, Fife, Inverness, Kinross, Peebles and Perth all recorded gains in 1951, compared with losses at the two preceding dates. Clackmannan, Nairn and Roxburgh, which had gains in 1851 and losses in 1901, also recorded gains in

1951. In Selkirk gains in 1851 and 1901 were followed by a loss by 1951. All the remaining counties registered losses in all three years.

Several extraneous factors qualify any conclusions to be drawn from the figures. In the first place 20,000 Scottish-born persons omitted to state their county of birth at the 1951 census. At the 1901 census the figure was only 5,000, while in 1851 it would appear that no one failed to give this information. It is highly improbable that there were no omissions of this kind in 1851, and it may be that in such instances the persons not attributable to any particular county of birth were either added in with the natives of the county of enumeration, or otherwise distributed.

In 1891 boundary changes were made to nearly all counties, under the Local Government (Scotland) Act of 1889<sup>2</sup>, chiefly with the aim of disposing of their detached portions. In most instances the areas transferred from one county to another contained few inhabitants, but there were, nevertheless, a number of transfers involving larger numbers, notably the transfer of Milngavie from Stirling to Dunbarton, Culross from Perth to Fife, and Alva from Stirling to Clackmannan. Part of Galashiels had been transferred from Roxburgh to Selkirk in the 1870s. Other major boundary changes took place in Banff, where there were notable gains from Moray and losses to Aberdeen. Apart from these changes there were also important changes in the county boundaries of Lanark and Renfrew associated with the absorption of Govan by Glasgow. While the census of 1901 observed the new county boundaries it is not clear whether persons born in such transferred areas gave the name of the old or new county as their birth-place, nor is it known whether the Registrar-General corrected any entries he discovered to be at variance with the new boundaries. The 1901 county migration balances for some counties, and especially those mentioned above, may therefore be liable to some degree of error.

Boundary changes since 1901 have chiefly concerned the extension of Aberdeen city into Kincardine, the extension of Glasgow into Dunbarton and Renfrew, particularly the latter, and the annexation by Dumfries burgh of Maxwelltown in Kirkcudbright. It is understood that erroneous entries regarding county of birth resulting from such changes were corrected by the Registrar-General at the 1951 census. A further qualification arises from the fact that in 1951 a larger number

of Scots than in 1851 and 1901 were away from their usual residence, especially those enumerated in Defence Establishments elsewhere in Scotland.

The figures given in Table VII are presented in map form in Figs. 1, 2 and 3. (It should be noted, incidentally, that the county boundaries used for all three maps are those for 1951.) Here the net migration balances are shown as circles with areas proportional to the number of persons involved, the circles for net inward movements being shown in solid black and the circles for net outward movements being shaded. The background shading for each county represents the migration rate referred to above, unshaded counties having negligible migration rates lying between plus and minus 2.5 per cent. For rates above 2.5 per cent line- or dot-shading of increasing intensity is used for positive and negative rates respectively, as indicated in the key to the maps.

(a) 1851

Fig. 1, illustrating the position in 1851, shows the powerful attraction exerted by Lanark and Midlothian, with their gains of 80,000 and 38,000 and their high rates of inward migration. Elsewhere the only substantial gains are those of Angus and Aberdeen (13,000 and 5,000). Smaller gains, but with fairly high inward migration rates, occur in Nairn and Clackmannan. In the Clyde estuary, Bute, Dunbarton and Renfrew show very slight gains, as do also the Border counties of Roxburgh and Selkirk.

An interpretation of the pattern of movement thus revealed can only be made in general terms. This is not only because of the impossibility of attributing the net shifts to exact periods of time, but also because much migration occurs within individual counties in addition to migration from one county to another. The county balances represent the outcome of many individual migrations, producing local gains and losses within each county through the movements both of persons native to the county and persons born in other counties. Thus many counties will have experienced local net gains and yet show an overall loss, and vice versa. Again, the larger and more populous a county and the more varied its economy the more difficult it becomes to suggest reasons explaining the county migration balance. In the smaller counties it is likely that the balance may fluctuate quite widely within short

periods since small numerical changes in employment opportunities (whether negative or positive) may have a large

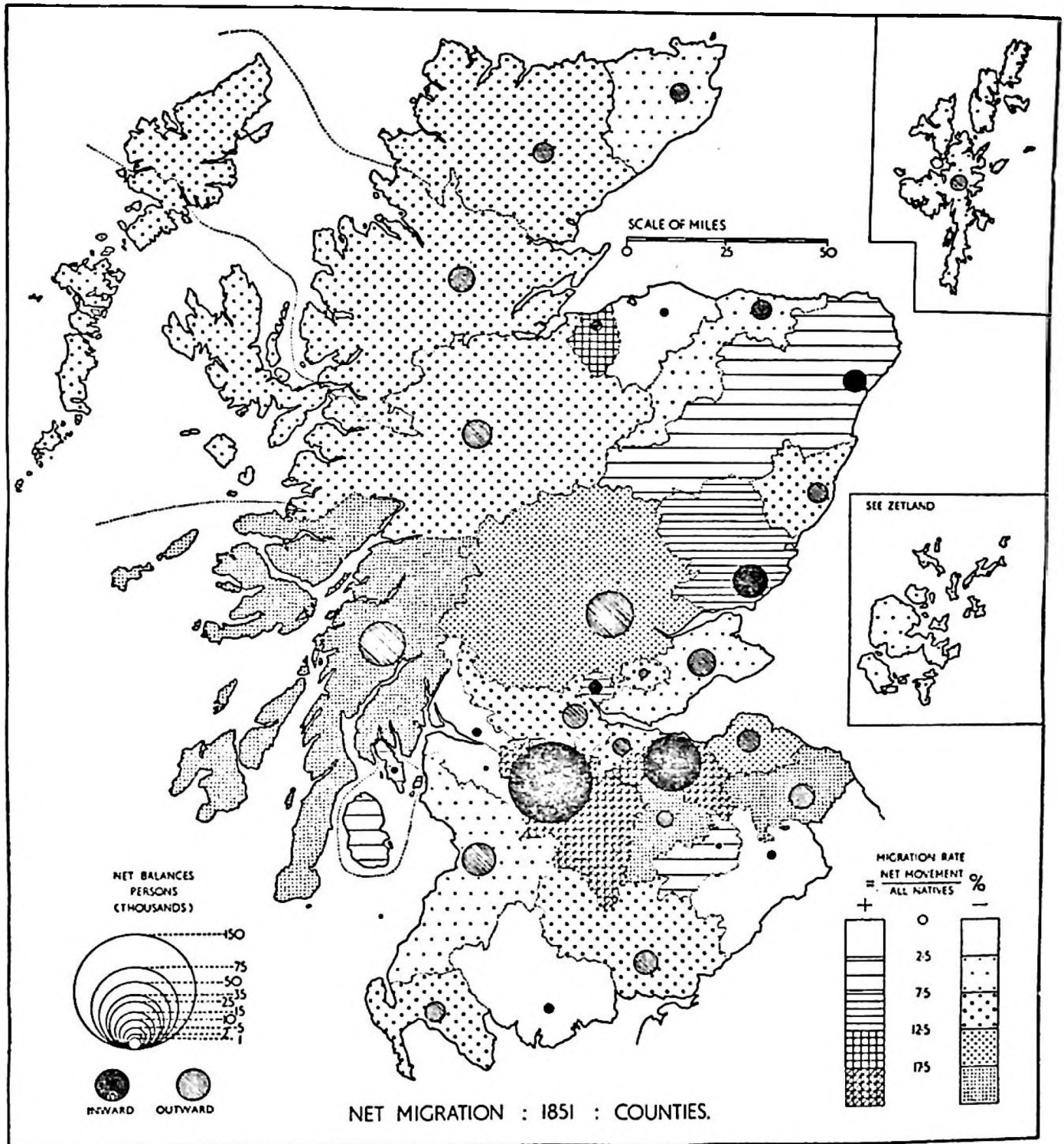


FIG. 1

proportionate effect on migration. The great disparity of the Scottish counties in respect of area and population thus somewhat reduces the usefulness of this type of migration analysis.

The remarks that follow are based to a large extent on an inspection of the census figures and any associated comments for the two decades preceding the year 1851<sup>3</sup>. Attention is given to the counties of gain rather than to the counties of loss, since it happens that, while net county gains can frequently be associated with exceptionally large population increases in a few localities, resulting from the generation of new urban employment which tends to attract migrants from a wide area, it happens that overall losses are frequently compounded of a multitude of individual local losses from widespread rural areas. The latter remark is admittedly more true of 1851 and 1901 than 1951, when the residual effects of industrial depression in the inter-war period are reflected in the migration figures. Furthermore, in two leading counties—Ayr and Fife—the overall net losses for 1851 and 1901 mask considerable industrial (including mining) and urban development.

The large gains by Lanark and Midlothian reflect the growth of population in the Glasgow district and the Lanarkshire coalfield, with their specialisation in the cotton and iron industries, and the expansion of Edinburgh, including Leith. The gain by Angus is probably related to the growth of Dundee and other towns, largely on the basis of the linen industry, while Aberdeen's gain would appear to be related to the growth of Aberdeen city. Both at Dundee and Aberdeen shipping had increased, and elsewhere along the coast the smaller ports seem to have been thriving, with fishing as an important activity (e.g. Fraserburgh and Peterhead). The gain by Nairn (and the negligible loss from Moray) may also be connected with this factor. The small towns of Clackmannan had been affected in recent years by the growth of the woollen textile industry, as had also Hawick in Roxburgh and Gala-shiels in Selkirk. In Bute the net gain may be associated with the growth of the fishing port of Rothesay and the local cotton industry. In Dunbarton the cotton-print industry had led to a growth of population in the Vale of Leven. In Renfrew, on the other hand, the cotton industry of Paisley had experienced a recent depression and along the Clyde population had been stagnating in the 1840s in Greenock and Port Glasgow, in the former as the result of "the decline of shipbuilding and the removal to Glasgow of a portion of the trading population" (according to the 1851 census). Near Glasgow Govan, by contrast, was growing rapidly in the 1840s. The negligible

migration gain by Renfrew may thus reflect the recent contraction in industrial employment.

As might be expected, the counties with the largest losses were all mainly agricultural in character. It is, perhaps, noteworthy, however, that the highest outward rates were experienced by counties easily accessible to growing urban centres, i.e. Argyll, Perth, Berwick, East Lothian and Peebles. Within the Crofting Counties the low rates for Caithness and Orkney-with-Zetland may reflect the relative prosperity of fishing at this period. In the South of Scotland no explanation can be offered for the very small degree of loss from Kirkcudbright. Migration from rural areas resulted not only from the fairly high rate of growth of the population, but also from the changes which had taken place in agriculture in recent decades. "Enlargement of farms" is, for instance, frequently mentioned in the census notes as a cause of migration, and sheep-farming is cited in the Highland counties. On the other hand the cultivation of waste land is given as a reason for rural increases earlier in the century in the North-east. In some counties a decline of domestic manufacture or of commercial activity appears to have enhanced the outward flow of population resulting from any inadequacy of agricultural employment. For instance, local declines in Perthshire are attributed by the census to "depression in the weaving trade", and in East Lothian "the decline of the shipping trade, occasioned by the opening of the North British Railway" is mentioned in connection with population loss at Dunbar.

Other counties besides those registering net inward balances of migration had also been experiencing some degree of industrial development and urban growth, especially Ayr and Fife, chiefly related in these counties to coal-mining, iron-works and textiles (cotton and linen respectively). Here, however, the level of development was apparently insufficient to induce a net inflow of population from the rest of Scotland. Nevertheless it will be noticed that the outward migration rates are relatively low. Similar comments may be made regarding Stirling and West Lothian, where coal-mining was increasing, although here the migration rates were rather higher.

(b) 1901

Between 1851 and 1901 the seven Crofting Counties and the three Solway counties all declined in population, and in all of these except Inverness, where the population remained

static after 1861, there were successive declines in all, or nearly all, of the five decades. In the Tweed counties, Peebles experienced successive increases, as also did Selkirk, except in 1891-1901, when there were boundary changes. Roxburgh declined over the fifty-year period taken as a whole, partly as a result of boundary changes, while Berwick declined in successive decades, except in 1851-61. In the North-east there were increases in each decade in Aberdeen and Banff (except in 1891-1901, when there were boundary changes). Kincardine and Nairn both declined over the fifty-year period, partly owing to boundary changes, while the population of Moray increased over the period, although remaining static after 1871.

In the Clyde and Forth-Tay Divisions there were successive increases in Angus, Ayr, Dunbarton, Fife, Lanark, Midlothian, Stirling and West Lothian, while Bute, Clackmannan, East Lothian and Renfrew suffered only one decennial decline, in the latter as a result of boundary changes. On the other hand, the small non-industrial county of Kinross, and Perth, with its substantial Highland element, both experienced successive declines, except in one decade. The effect of these county increases and decreases on regional populations may be seen in Table I.

The situation regarding internal migration in 1901 (Fig. 2) shows a much more profound contrast between the gaining and losing counties. The gains by Lanark (152,000) and Midlothian (77,000), where the development of mining had now been taking place, in addition to the further growth of Edinburgh and Leith, are seen to be considerably higher than in 1851, while Lanark's gain is supplemented by a further gain of 16,000 in adjacent Dunbarton and by smaller gains in Renfrew and Bute. In Dunbarton there was great expansion of population in Clydebank, together with growth in the Dumbarton-Vale of Leven and Helensburgh areas. The very small gain by Renfrew would conceivably have been much greater but for the recent transfer of part of Govan and part of Cathcart to Glasgow and thus to Lanark. The area concerned had a population of 60,000 in 1891. Urban expansion had also been proceeding in the Paisley-Renfrew and Port Glasgow-Greenock districts.

Of the remaining counties only Angus and Selkirk show gains, and in both cases these are fairly modest. The gain by Angus of only 2,000 is perhaps surprising in view of the fact



that Dundee experienced considerable growth in the preceding decades, largely as the result of the great expansion of the

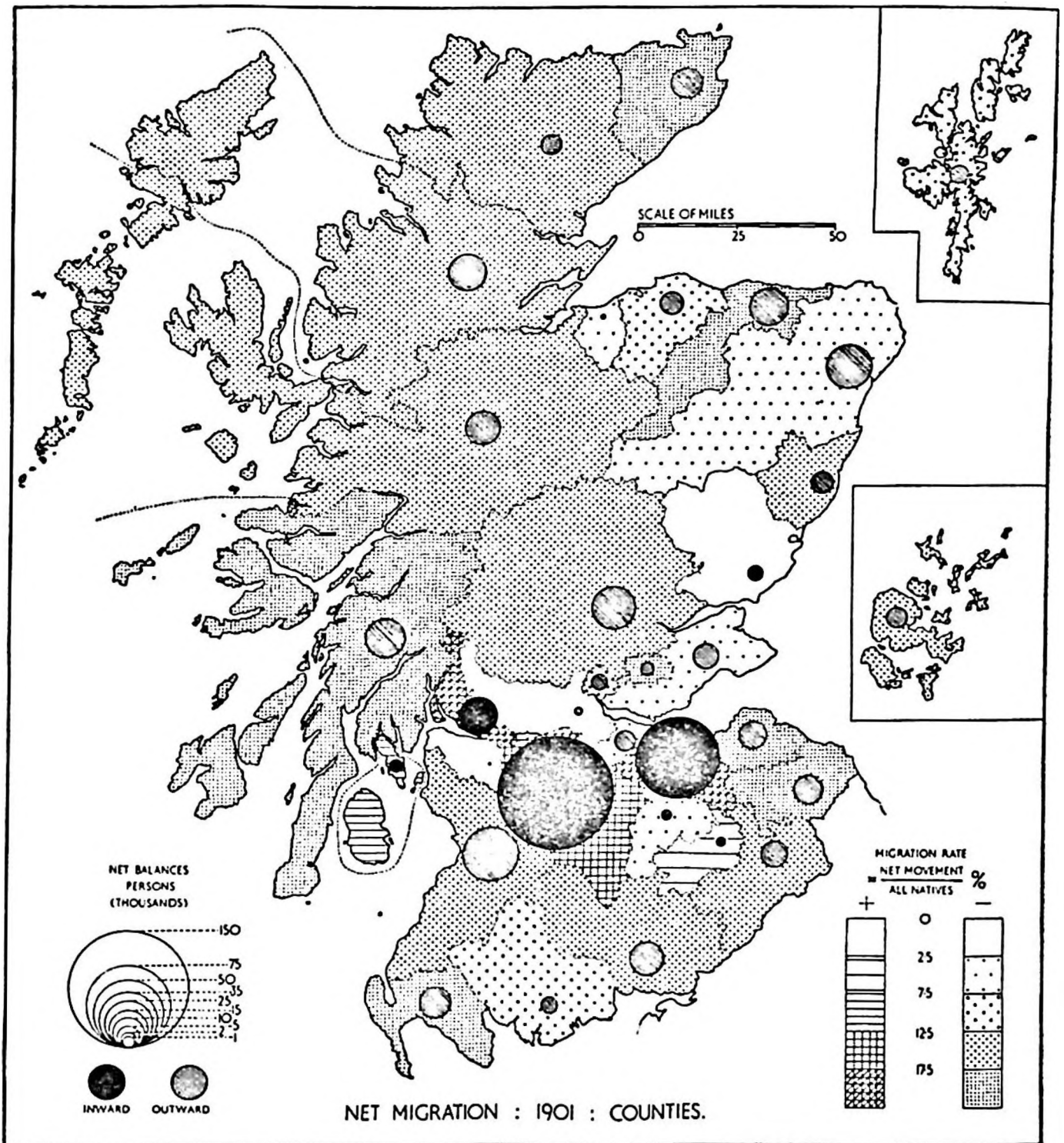


FIG. 2

jute industry. Towards the end of the nineteenth century, however, expansion slowed down, and this factor, together with the stagnation or decline of population in the countryside and the other towns of the county, may account for the

smallness of the gain. The gain by Selkirk is again apparently related to the growth of Galashiels.

The remaining counties nearly all show large numerical losses, reaching 24,000 in Aberdeen, 34,000 in Ayr, and 21,000 in Perth, and high rates of outward migration. These exceeded 17·5 per cent in Argyll, Banff (where boundary changes may have had some effect), Berwick, Caithness, East Lothian, Kinross and Wigtown, and exceeded 12·5 per cent in Ayr, Dumfries, Inverness, Kincardine, Orkney, Perth, Ross and Cromarty, Roxburgh and Sutherland. Some of the lowest outward migration rates occur in counties undergoing an expansion of mining, such as Fife, Stirling and West Lothian, or of industry, such as Peebles (woollens). In the former group many mining communities were developing at a great rate, particularly in the later decades of the century. Stirling's very small loss may, incidentally, be somewhat overstated as a result of the loss of Milngavie and Alva. The further growth of Aberdeen city and other fishing ports, notably Fraserburgh and Peterhead, appears to have kept the migration rate fairly low in Aberdeen. As in 1851 Nairn appears as the most buoyant county of the North-east. In Ayr the high outward rate is somewhat surprising in view of the continuing development of the county's coalfield, ports, textile industry (chiefly lace) and resort towns. Even in the losing counties, most of which were largely agricultural in character, urban expansion was not absent, of course. In Argyll there was the growth of the resorts of Dunoon and Oban, for instance, and in Roxburgh the growth of the knitwear-manufacturing town of Hawick, while several county towns also experienced notable increases, such as Dumfries, Inverness and Perth. On the other hand urban growth was not necessarily universal in the gaining counties; the town of Lanark stagnated, for instance, and in Angus, Brechin, Forfar and Montrose all declined in the last twenty years of the period, and there was only slight upward change in Arbroath.

(c) 1951

The population changes in Scottish counties revealed by the census returns during the period 1901-51 were affected by a number of important factors. These include the losses of the two World Wars (especially those of the First World War); the holding of the 1921 census in June instead of the usual month of April, with the result that the populations of counties

containing holiday resorts were temporarily inflated; the depressed conditions in mining and heavy industry during the 1920s and 1930s, which induced a high level of emigration leading to a fall in the national population between 1921 and 1931 (4·88 millions to 4·84); and the succeeding conditions of fuller employment during the Second World War and in the years 1945-51. The fact that no census was taken in 1941 means that the overall changes recorded between 1931 and 1951 embrace two distinct periods in terms of employment conditions, frequently related, therefore, to opposing population trends. Evidence of improved economic conditions, both in agriculture and in industry and mining, may perhaps be adduced from the fact that whereas twenty-two of Scotland's thirty-three counties declined in population in the period 1911-31 and twenty-eight in the period 1921-31 (some of them admittedly because of inflated 1921 populations) only ten declined in the period 1931-51 and most of these had been affected to some extent by an excess of deaths over births in certain years. On the other hand it is also true that discouraging economic conditions abroad probably inhibited potential emigration in the 1930s.

Fig. 3, illustrating the state of internal migration in 1951, shows the extent to which the acute differences revealed in 1901 have now been mitigated. This change has been associated with such diverse factors as the deaths of the older migrants with the passage of time, the marked fall in the rate of natural increase of the population since 1911<sup>4</sup>, and the higher rate of external migration to England and abroad, the two latter factors tending to reduce local disparities in employment opportunities and labour supply. Another factor was inter-war economic depression in Lanarkshire and Clydeside, resulting in a repulsion of would-be migrants from the rest of Scotland and, indeed, a current of outward migration to other counties and other countries.

Compared with the position in 1901 the number of gaining counties has increased noticeably, the newcomers being Ayr, Clackmannan, East Lothian, Fife, Inverness, Kinross, Nairn, Peebles, Perth and Roxburgh. The gains of Inverness, Nairn and Roxburgh are so small, however, that a position of equilibrium would be a more appropriate description of the state of these counties. Selkirk, lying between Peebles and Roxburgh, now appears as a losing county.

Perhaps the most striking feature is the fact that Lanarkshire

now shows a net loss (57,000) in place of the large net gains registered in 1851 and 1901. The gains by adjacent Dunbarton

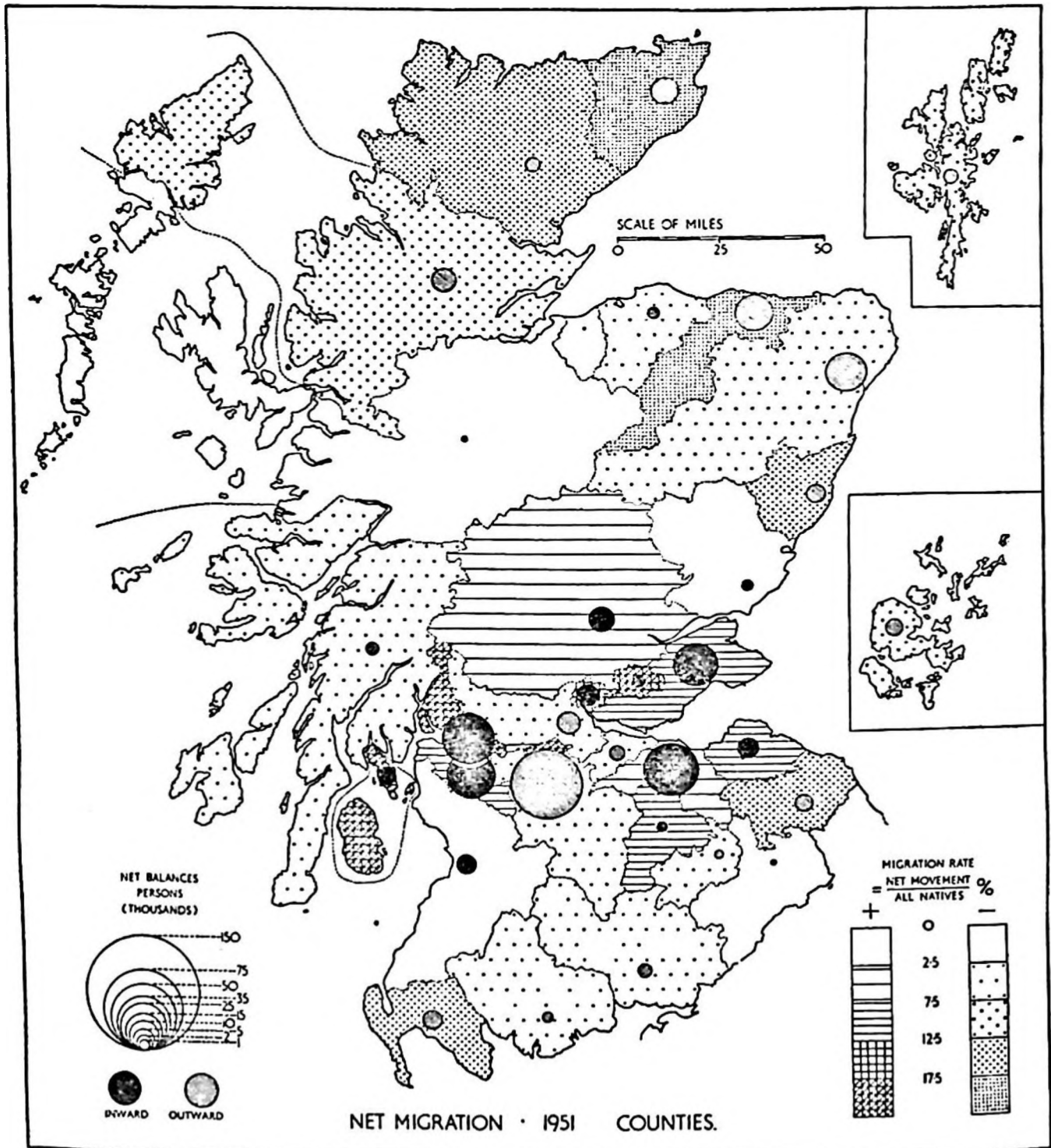


FIG. 3

and Renfrew (30,000 and 25,000) offset this loss, however, and are mainly due to the recent growth of suburban neighbourhoods beyond the boundaries of Glasgow (and therefore of Lanark), such as Bearsden and Milngavie in Dunbarton and

Cathcart and Eastwood in Renfrew. The gain to Dunbarton may also partially reflect the rapid growth of Clydebank in earlier decades. Bute, with its resort towns of Rothesay and Millport, once more appears as a gaining county. The gain by Ayr appears to be due to the growth of its coastal resort towns and to the expansion of industrial employment, representing in effect, if not in fact, a decentralising movement from the Clyde region. Within Lanarkshire many of the industrial and coal-mining towns which formerly had been centres of attraction to migrants now themselves lost population to other areas owing to economic depression, and suffered a decline in numbers as a result. This tendency also applied to certain industrial districts in Dunbarton (e.g. Clydebank) and Renfrew (e.g. Greenock), although, as has been seen, the entire counties registered net inward balances. Even the improved conditions of the 1940s and consequent population increases were not sufficient to offset these declines in all cases. The population of Glasgow in 1951 was slightly below that of 1931—a reflection of both industrial depression and normal “overspill” into surrounding areas.

The absence of a net inward movement to the three Clyde counties taken as a whole should now be compared with the position in the Forth-Tay counties. Here Midlothian, including Edinburgh, shows a large, though reduced, net inward movement. Although West Lothian recorded a net loss, no doubt related to its heavy commitment to coal and oil-shale mining and to its decline of population in the period 1921-31, this loss was more than offset by the gain to East Lothian. This can be related to an expansion of coal-mining in the west of the county and to the popularity of its coastal settlements as residential areas. On the other side of the Firth of Forth Fife and Kinross have also experienced net inward movements, the total population of Fife growing, in fact, by 40 per cent between 1901 and 1951. This was the second highest rate for any county and was exceeded only by Dunbarton. In Fife we can cite the great expansion of coal-mining and the associated growth of mining settlements (e.g. Cowdenbeath, Lochgelly) and coal-exporting ports (e.g. Methil) at the end of the nineteenth century and during the early part of the twentieth. At the same time the development of the naval base of Rosyth also provided new employment. Although the depression in the coal trade led to a decline of population between 1921 and 1931 prosperity was subsequently reinstated

and the renewed expansion of coal-mining since the war is leading to immigration from other coalfield areas, notably Lanarkshire. The gain by adjoining Kinross may probably be ascribed to its attractiveness as a residential district, although it must be admitted that its population has declined since 1921.

At the head of the estuary of the Forth Stirling and Clackmannan show loss and gain respectively, possibly related to the inter-war depression in the coal and iron trades in Stirling, and to the newer mines and more varied industrial structure in its smaller neighbour. The gain by Perthshire results on the one hand from a reduced outward migration, related to the nineteenth century depletion of population and the deaths of many of the older migrants represented by this exodus, and on the other hand from an increased number of residents from the rest of Scotland, some of whom may have contributed to the recent marked growth of population in the county-town. The figures relating to this change in Perthshire are as follows. There were 139,310 natives of the county resident in Scotland in 1901, of whom 82,729 were living in Perthshire and 56,581 in other counties. At the same time there were 35,328 persons from other counties resident in Perthshire, so that the net outward balance of migration totalled 21,253. In 1951 the number of natives of Perthshire had fallen to 109,270, of whom 69,063 were living in the county and 40,207 outside the county. At the same time the number of other Scots living in the county increased to 46,700, so that the net balance of migration was now positive (6,493). These figures are quoted in detail since similar changes to these also operated to produce an improvement in the situation of other counties, especially the counties of the North and South, which had also been heavy losers in 1901. The neighbouring county of Angus which, unlike Perth, showed an overall decline of population between 1901 and 1951, again exhibits only a fairly small net balance of inward migration. The inter-war depression of the Dundee jute industry and the associated lack of significant population growth in the Dundee district may be quoted here.

In the North-east Banff and Nairn declined between 1901 and 1951, the latter increasing, however, between 1931 and 1951, while Aberdeen, Kincardine and Moray increased in population, although only very moderately. The decline of fishing may possibly account for the fall in the population of Banff and for the high rate of outward migration. This factor and the limited opportunities for alternative employment in

the largely agricultural economy of the North-east may account for the outward movement from the other counties. Once again the growth of the city of Aberdeen was insufficient to induce net inward migration to the county of Aberdeen as a whole. The slight gain by Nairn is somewhat unexpected in view of its overall decline between 1901 and 1951.

In all seven Crofting Counties population declined between 1901 and 1951, although numbers increased in Argyll and Inverness between 1931 and 1951. This may account for the now much-reduced migration loss from the former county and the slight gain by the latter. As in Perth, however, the deaths of older migrants would seem to have played a part in reducing migration losses. Caithness, the county with the highest proportionate loss, may have been more affected by the decline of fishing than other counties. The population of the fishing town of Wick has fallen steadily in recent decades.

In the South of Scotland the 1951 map shows a considerable reduction of net outward migration compared with 1901. Only Berwick and Wigtown, at either extremity of the Division and both containing negligible industry, show high outward rates. The slight gain by Roxburgh and the small loss by adjoining Selkirk should probably be viewed as a general position of balance in this main part of the Tweed textile area. At the same time, however, both of the leading textile towns, Galashiels and Hawick, declined over the fifty-year period since 1901. The gain by Peebles possibly represents the increasing popularity of this county for residence and retirement. The experience of Peebles and four other of the smaller counties—Bute, Kinross, Nairn and Roxburgh—shows that despite a stationary or even declining population in recent decades they have been able to gain population on balance from the rest of the country. In all instances, as Fig. 3 implies, the number of other Scots enumerated in each of these counties exceeded the number of natives enumerated elsewhere in Scotland.

#### INTERNAL MIGRATION—REGIONS

In Table VIII the net migration balances for individual counties have been combined into regional totals for each of the three years and regional migration rates have been calculated. The table shows that the Lothians and Clyde, the two regions with net gains in 1851, increased these gains in the succeeding fifty years, while the remaining regions all

experienced increased losses, with the exception of Stirling-Clackmannan. In Fife-Kinross the increase in loss was extremely slight, however. At the same time the inward migration rate

TABLE VIII  
*Net Migration—Regions*

Region	1851		1901		1951	
	Nos.	Rate	Nos.	Rate	Nos.	Rate
Crofting Counties .	-48,787	-11.1	-69,847	-16.9	-23,012	-7.9
North-East . . .	-2,066	-0.6	-52,825	-10.6	-35,809	-7.6
<i>North</i> . . . . .	-50,853	-6.5	-122,672	-13.4	-58,821	-7.7
Angus and Perth .	-12,521	-3.9	-18,894	-4.6	+7,570	+2.1
Fife and Kinross .	-9,568	-5.7	-9,831	-4.3	+21,749	+8.3
Stirling and Clack.	-5,139	-4.8	-3,141	-1.9	-923	-0.4
Lothians . . . . .	+28,524	+10.8	+63,709	+13.4	+34,063	+5.6
FORTH-TAY . . . .	+1,296	+0.2	+31,843	+2.5	+62,459	+4.3
Clyde . . . . .	+81,512	+15.8	+168,383	+13.0	-1,608	-0.1
Ayr and Bute . . .	-10,962	-5.7	-32,814	-11.5	+7,613	+2.5
GREATER CLYDE . .	+70,550	+9.9	+135,569	+8.5	+6,005	+0.3
<i>Central</i> . . . . .	+71,846	+4.6	+167,412	+5.8	+68,464	+1.9
Solway . . . . .	-11,491	-7.2	-26,911	-16.7	-7,489	-5.4
Tweed . . . . .	-9,502	-8.5	-17,829	-13.9	-2,154	-2.2
<i>South</i> . . . . .	-20,993	-7.7	-44,740	-15.4	-9,643	-4.1

of the Lothians increased, although that of Clyde fell slightly, and the outward rates increased in all the losing counties, except in Fife-Kinross and Stirling-Clackmannan.

Between 1901 and 1951 a reversal of these tendencies took place, the losing regions of 1851 and 1901 now showing either a reduced loss or a conversion of their loss into a gain (Angus-Perth, Fife-Kinross and Ayr-Bute). In addition the losing regions experienced a reduction in their outward migration



rates. On the other hand the Lothians region experienced a reduction of its 1901 gain, which was accompanied by a fall in its inward migration rate, and in the Clyde region the large gain of 1901 was replaced by a slight loss.

If we look at the changing experience of the Divisions we see that the loss from the North in 1951 was slightly higher both relatively and absolutely than in 1851, although very much lower than in 1901. Both in 1851 and 1901 the Crofting Counties had been losing population to a greater extent than the North-east, both absolutely and relatively, but by 1951 the rates of loss were similar and the amount of loss from the North-east exceeded that from the Crofting Counties. In the South Division the rate and amount of loss in 1951 were only at about half the level of 1851, with the Tweed region showing the greatest reduction. Since 1901 Central Scotland has suffered a decline both in the amount of net gain and in the rate of inward migration. This development conceals opposing tendencies as between the constituent Forth-Tay and Greater Clyde Divisions, however. In the former both the net inward balance and the migration rate have nearly doubled since 1901, while in the latter both have fallen very markedly.

The regional migration balances and migration rates are shown diagrammatically in Figs. 4, 5 and 6. Here the total of natives of each region, whether resident there or elsewhere in Scotland at the time of the respective census dates, is expressed as a shaded circle and the migration rate is represented by a segment of this circle. The white, detached, segments show outward migration rates and the black, superimposed, segments show inward migration rates. A migration rate of, say, 12.5 per cent thus appears as a segment with an angle of 45 degrees. These three maps also show the net currents of migration between individual regions of which the net migration balance of each region is compounded. These currents are shown by flow lines whose widths are proportional to the numbers represented, the thickest representing a net flow of between 20,000 and 40,000, and the thinnest a net flow of between 1,000 and 2,500.

These three maps should now be compared with the maps showing the county migration balances for the corresponding years, and the three pairs should then be viewed in historical sequence. It is clear that internal migration in Scotland was at a much higher level in 1901, than in either 1851 or 1951. To put this the other way round we can say that a compulsory

return of all migrants to their native counties and regions would have caused a much greater net redistribution of the

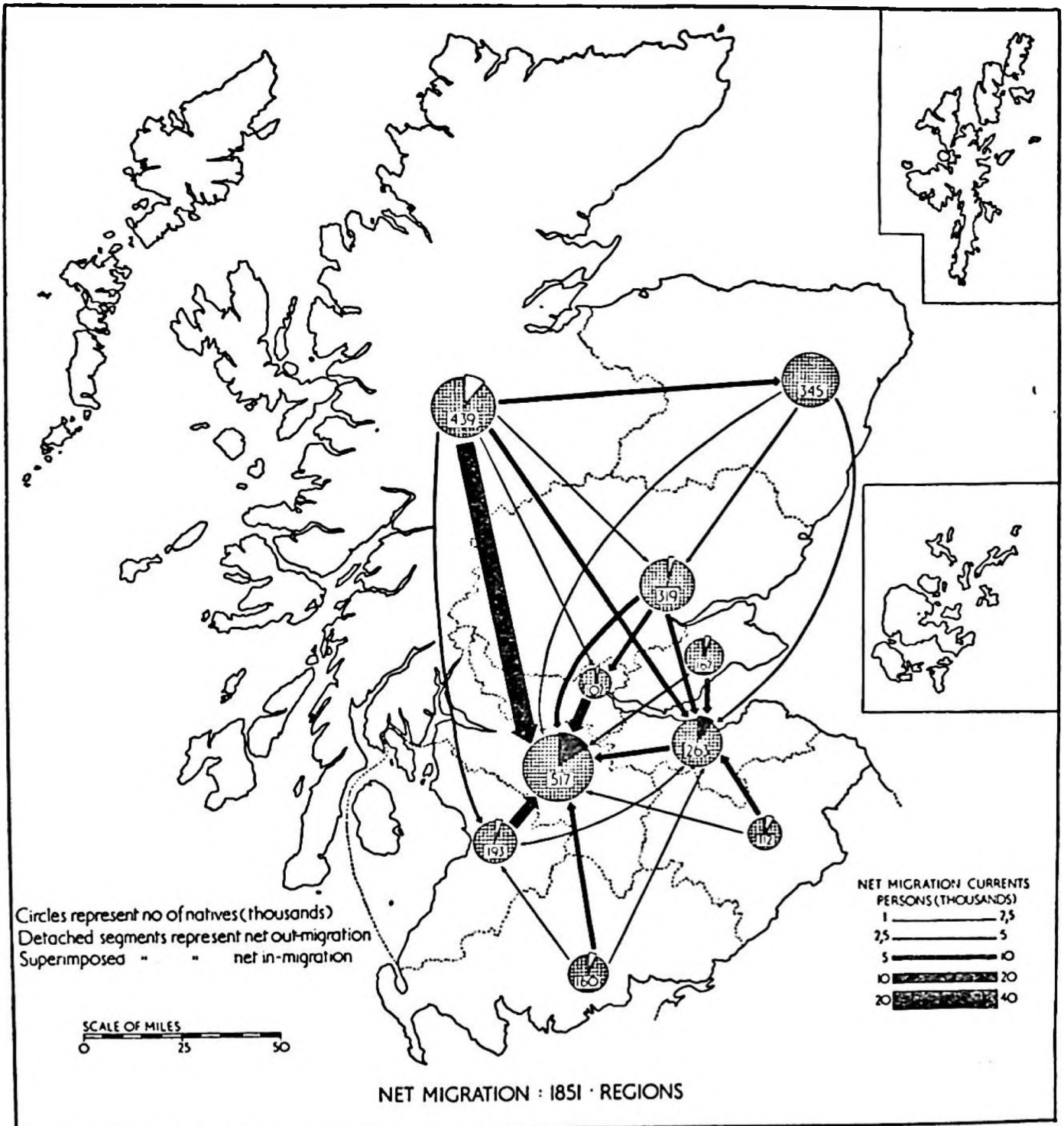


FIG. 4

population in 1901 than in either 1851 or 1951. For instance, if such a compulsory return could have been effected in 1901 the counties constituting the South of Scotland would have reclaimed 44,740 natives over and above their now departing immigrants from the rest of the country, whereas in 1851 they

would have been entitled to only 20,993 and in 1951 to only 9,643, and these two latter figures would have represented much

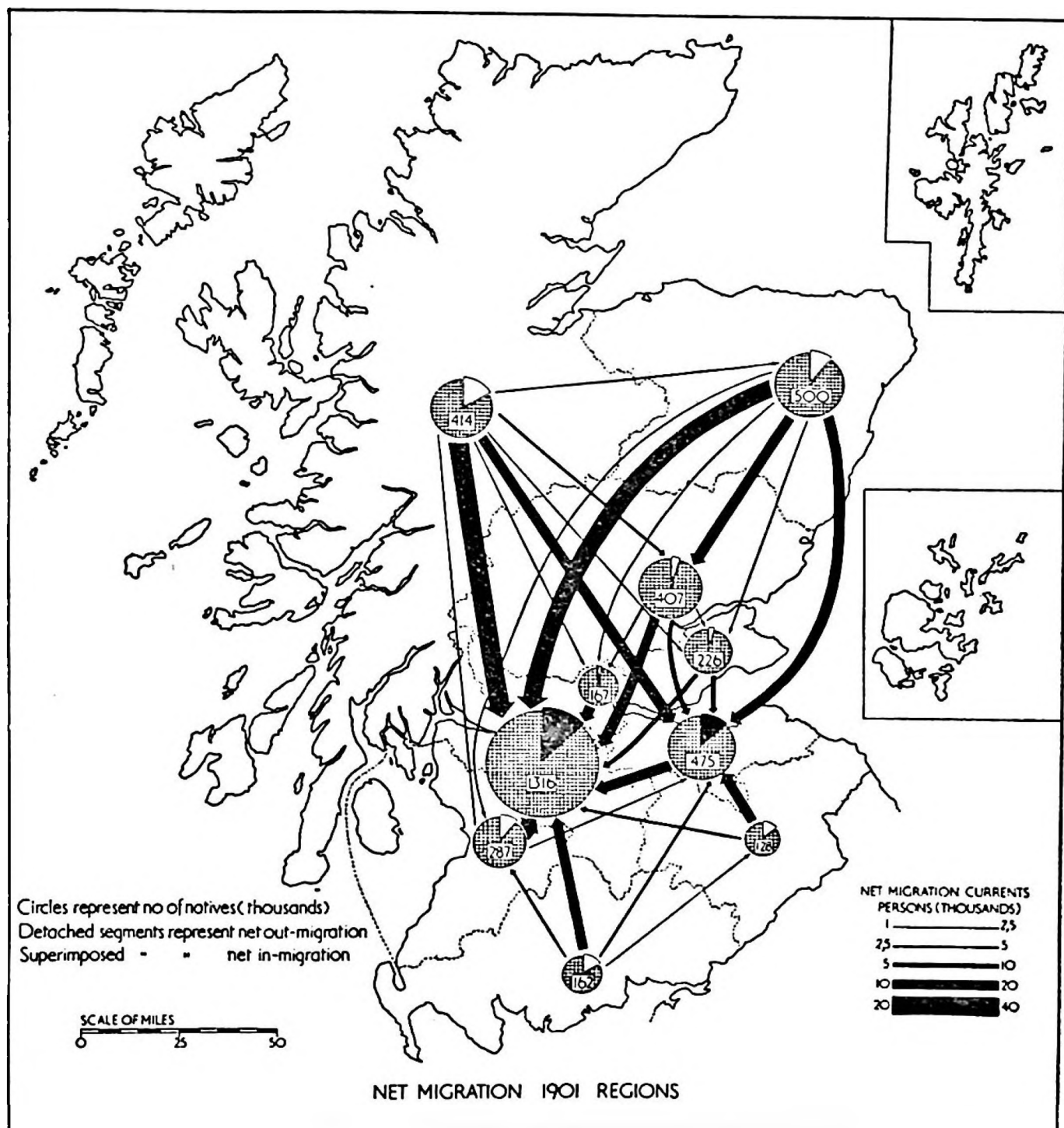


FIG. 5

smaller proportions of their natives present in Scotland at the time. Another important feature is that whereas the position revealed in 1851 may be said to foreshadow the position revealed in 1901, which thus can be seen as an intensification of the migrational tendencies apparent fifty years earlier, the

position revealed in 1951 shows an important change in the pattern of inter-regional migration currents.

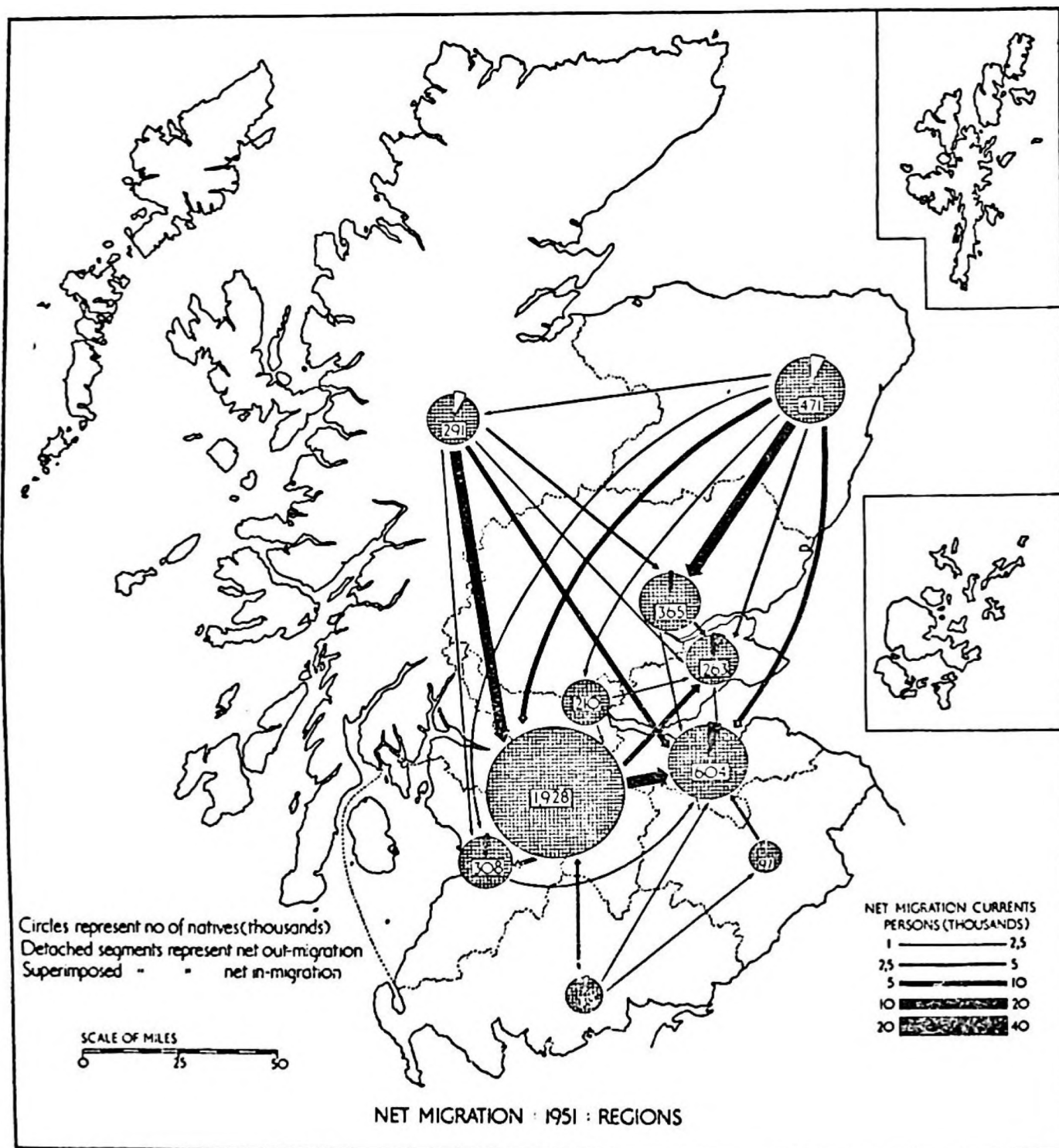


FIG. 6

In all three years the convergence of population on Central Scotland from both North and South can plainly be seen, although, as has been noticed, this was more intense in 1901 than in the other two years. However, in 1851 and 1901 the

chief focus of inward migration was the Clyde region, which drew net intakes not only from the North and South Divisions, but also from all the other regions of Central Scotland. In 1951 the only net gain of more than 1,000 from the Central regions to be experienced by Clyde was from Stirling-Clackmannan (and this was only 1,778). The Clyde region lost on balance to Ayr-Bute, Fife-Kinross and to the Lothians, and although it gained on balance from the Crofting Counties, the North-east and Solway, these gains were insufficient to offset entirely the losses to East Central Scotland and Ayr-Bute. However, the Clyde region appears in a state of equilibrium in the map because its net loss of 1,608 is too small to be shown. The gains by the counties of East Central Scotland have already been noticed in Fig. 3, showing the county migration balances for 1951. This shift in emphasis within Central Scotland may be attributed to the positive factor of expansion in mining and industry in the east and to the negative factor of recent large-scale industrial depression in the west.

Apart from the persistent migration to Central Scotland from the North and South, the maps also show something of a wavelike or "shunting" motion as part of the process of movement. This well-known phenomenon of migration studies may be illustrated by the experience of Angus-Perth, occupying an intermediate position between the persistently losing regions of the North and the more buoyant regions of Central Scotland, especially Clyde and the Lothians. In all three years Angus-Perth experienced net gains from the Crofting Counties and from the North-east, and in turn suffered net losses to the regions lying to the south. A north-south chain of migration movements can, in fact, be discerned, extending from the North-east to Clyde. Thus the North-east lost to Angus-Perth, which in turn lost to Stirling-Clackmannan (the 1951 loss is too small to be mapped), which in turn lost to Clyde, but at the same time, however, there were also direct losses from the North-east to Stirling-Clackmannan (the 1851 loss being too small to be mapped), and to Clyde, and there was also a direct loss from Angus-Perth to Clyde (too small to be mapped in 1951). This chain of movement can be carried back a stage further in 1851 and 1901, since in these years the North-east itself attracted a net inward movement from the Crofting Counties. In 1951 the North-east was a net loser to the Crofting Counties. A somewhat similar though less complete chain occurs between the North-east and the Lothians, via Angus-Perth and

Fife-Kinross, with the "overshooting" of intermediate regions occurring here also.

The maps also suggest a broad relationship between distance and volume of migration. Thus in all three years the volume of net outward flow from the Crofting Counties was greater to the Clyde region than to the rather more distant Lothians, while the flow from the North-east, with its similar distances to Clyde and the Lothians, shows a rough division between these two regions, except in 1901. It is quite likely, of course, that the economic pull of the Clyde region was greater than that of the Lothians in the second half of the nineteenth century and that this therefore partially offset the distance factor. The distance factor is perhaps most vividly seen in the South of Scotland, where questions of distance and accessibility would appear to have determined that the largest outward movements from Solway were to Clyde and from Tweed to the Lothians. All these general features of the inter-regional migration pattern are also revealed on a smaller scale by the figures of net migration between individual counties. Considerations of space preclude an examination of these and other aspects of the birth-place tables, e.g. the *gross* migration figures from which the net flows are derived, and the sex-ratios of migrants.

#### NATURAL INCREASE AND NET MIGRATION, 1861-1951

Although we are here primarily concerned with the geography of migration in Scotland as revealed by an analysis of birth-places it is useful to view the results in conjunction with the information derived from a comparison of natural increase and total population change in each inter-censal period. This other method of calculating net migration does not, however, reveal anything about the origins and destinations of migrants, nor does it exclude from consideration those inhabitants of Scotland born outside the country, but the figures obtained do, on the other hand, relate to definite periods of time. The method is to subtract the total of deaths registered during a given inter-censal period from the births registered during the same period and then to subtract this figure of natural increase (or decrease) from the total population increase (or decrease). The difference gives the net inward or outward migration.

The centenary of the introduction of statutory registration of births, deaths and marriages in Scotland, in 1855, was marked by the publication in the Registrar-General's Annual

Reports for 1953 and 1954 of statistics of natural increase and net migration during the previous hundred years (Registrar-General for Scotland 1954: 8-11, 71-95; 1955: 9-19, 80-137). These Reports show the natural increase and net migration for each county and for Scotland as a whole in the eight intercensal periods, 1861-1951. While the 1953 Report contains the more extensive commentary the 1954 Report contains the more detailed figures and also gives revised county migration balances for the two periods affected by war deaths, 1911-21 and 1931-51. Details of changes for 1931-51 within counties, separately distinguishing the four "counties of cities" and the "large burghs" are shown in the General Volume of the 1951 census (1954, Tables 1 and 2, pp. 4-5). Since the present writer (Osborne 1956*b*) has summarised elsewhere the main facts relating to migration as given in the two Annual Reports and the General Volume of the 1951 census they will not be recapitulated here. The reader is also referred to the "National Atlas" series of Ordnance Survey maps showing changes by migration in local government areas in Scotland for the periods 1921-31, 1931-38 and 1938-47.

The figures of natural increase and net migration for the period 1861-1951 given in the Hundredth Annual Report are, however, now shown here for the first time in diagrammatic form. Fig. 7 shows the county figures combined into the regional groupings already used for the analysis of migration by the birth-place method. Natural increase in each period is represented by diagonally shaded columns of a height corresponding to the numbers involved, while net inward migration is represented by solid black extensions to these columns, the total height being equivalent to the total increase in population for the particular period. Where net outward migration has occurred the natural increase column is shaded horizontally from the top downwards, so that the lower "uncovered" part of the column represents the total increase in fact achieved. Where net outward migration has exceeded natural increase and has thus caused depopulation (in the sense of a decline in total population) the horizontally shaded column extends below the base line. Thus it will be seen, for instance, that the Crofting Counties experienced net outward migration to an extent exceeding natural increase in all periods, and, as a result, registered persistent depopulation.

Owing to the absence of a census in 1941 the final column of the series covers a twenty-year period and is of double

width, the figures of natural increase and net migration therefore being halved in order to preserve areal comparability

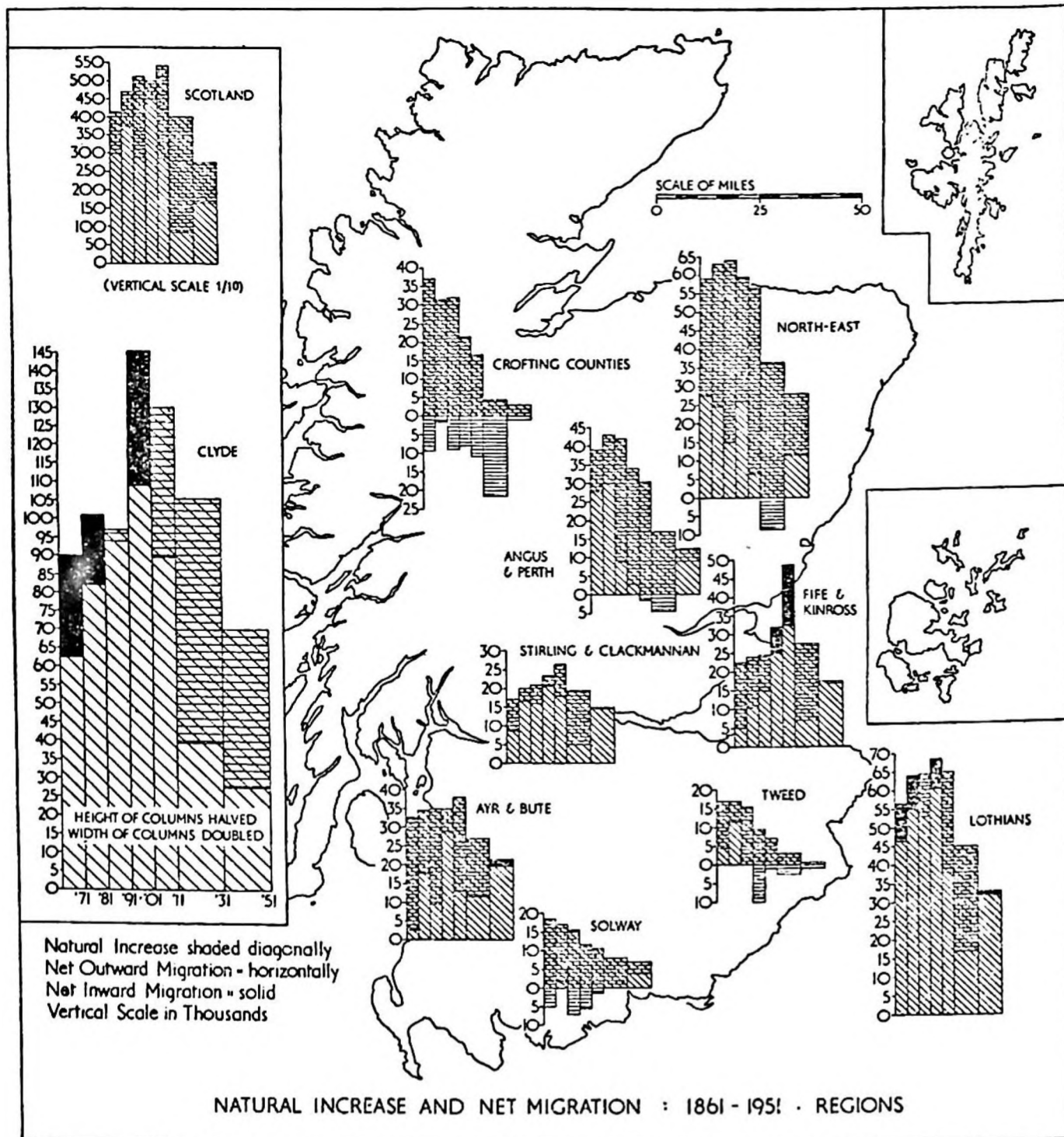


FIG. 7

with the ten-year columns. The readings on the vertical scale should thus be doubled for the complete intercensal period. As has been mentioned above, the holding of the 1921 census in the month of June resulted in the inflation of population in counties containing resort areas and in the complementary,



though more widely diffused, depletion of population in the other counties. The migration balances published by the Registrar-General thus give an unrealistic picture of migration changes in the two decades 1911-21 and 1921-31.<sup>5</sup> In order to avoid this difficulty the figures for the two decades have been combined and are shown in a similar way to the figures for 1931-51. Needless to say, it must not be assumed that changes in the two decades of each twenty-year period were identical.

A further qualification is that while total change can be calculated from an inspection of the columns for the decades between 1861 and 1911 this procedure cannot be adopted for the periods 1911-31 and 1931-51, since net migration does not here correspond to the difference between total increase and natural increase. This is because overseas war deaths in the two World Wars (amounting to 74,000 and 34,000 respectively) lay outside the scope of the civil registration system and could not be attributed to particular counties. The Registrar-General did not subtract these from the county natural increase figures, which, therefore, are somewhat too high in the diagrams for these two periods. On the other hand the Registrar-General did make appropriate adjustments in respect of these deaths to the county net migration figures, which thus are rounded to the nearest hundred in the published tables. For the period 1931-51 an allowance was also made for the larger numbers serving in the Forces outside Scotland in 1951 than in 1931. It has been thought preferable in the diagrams to retain the figures of natural increase as provided by the Registrar-General rather than alter these to conform to his adjusted net migration figures. The inset diagram for Scotland is also subject to the same qualifications. Finally it should be pointed out that the height of the columns has been halved, and their width doubled, in the diagram for the Clyde region, with the result that although the proportionality of numbers to area is the same as in the other regional diagrams the readings on the vertical scale should be doubled (and quadrupled for the last two periods).

All the regional diagrams show a considerable fall in the amount of natural increase in the two periods since 1911 (which was typical also of England and Wales). It will also be observed that the volume of net outward migration in the period 1931-51 was in all regions less than in the preceding twenty years and also (when halved) less than in any earlier decade, with the exception of Clyde. At the same time it

must be remembered that natural increase was also lower than in any other period, not only in those regions where total population declined but also in those regions with increased populations. In two regions natural increase in the last twenty years has been either negligible (Tweed) or very small (Crofting Counties). A continual excess of outward migration over natural increase led, as we have seen, to continual depopulation in the Crofting Counties and in the nineteenth century to almost continual depopulation in Solway. Angus-Perth, the North-east and Tweed were depopulated in various periods between 1891 and 1931. Only four regions have ever had a favourable balance of migration, viz. Clyde, Lothians, Fife-Kinross and Ayr-Bute. By far the greater part of these gains was experienced in the decades before 1911. The substantial gains by Clyde in all but one decade of the period 1861-1901 resulted from the large internal gains of population from the rest of Scotland, already suggested by the 1901 map of internal migration, and also from the later contributions of the Irish immigration. Since 1901 migration trends have not favoured the region, however: the differential between immigration to the region and emigration from the region has changed in character from positive to negative.

A somewhat similar situation has occurred in the Lothians, except that in the last twenty years the region has recovered its character as an area of net gain to a limited extent. In Fife-Kinross the late nineteenth and early twentieth century development of the coalfield fostered a considerable net immigration, followed in the period 1911-31 by a large net loss and in the most recent period by a position of equilibrium. In Stirling-Clackmannan net losses in the period 1861-1911 were followed by a very much larger proportionate loss between 1911 and 1931, and then by a slight gain between 1931 and 1951. In Ayr-Bute also the recent net gain follows a succession of losses.

The position of the three Forth-basin regions in the last period (with a combined net migration balance of +1,700) should be contrasted with that of the Clyde region with its large net loss (amounting to 169,500). Direct comparison with the situation revealed by the birth-place analysis of 1951 cannot be made, of course, since the latter method does not relate to a definite period and also excludes any consideration of external migration. Nevertheless the results of both methods show the present lead of the Forth regions over the Clyde

region in terms of population gain by migration. The situation may be summarised as follows:—

	Net Migration, 1951	
	Internal (by birth-place)	Internal and External (Registrar-General, 1931-1951)
Clyde . . .	-1,608	-169,500
Forth . . .	+54,889	+1,700

The total amount of natural increase occurring in Scotland between 1861 and 1951 may be assessed by summing the natural increase columns of the regional diagrams, while the external balance of migration with the rest of the world may be derived by subtracting the sum of the solid black columns from the sum of the horizontally shaded columns. The resulting situation for the whole country is shown in the inset diagram and reveals that Scotland experienced an outward balance of migration in all periods. This was particularly heavy between 1911 and 1931. The smaller numerical and proportionate loss since 1931 has been associated, as we have seen, with a reduction of net outward migration in seven regions and the introduction of a net gain in three.

The fall in natural increase in recent decades means that any given volume of net outward migration now tends to have a greater effect on the level of population than it would have had in the Victorian period. The position has already been reached where entire regions of the country produce only a small volume of natural increase, so that only fairly modest net outward balances of migration can lead to population decline. This is even more true of particular counties and individual parishes; indeed negative natural change not infrequently occurs, apart from any unfavourable balance of migration. Such conditions are typically related to an age-structure with a high proportion of the population in the older age-groups, a state of affairs in turn related to the cumulative effect of outward migration in the past. Contemporary depopulation is not, therefore, necessarily associated with a large volume of net migration loss.

As has been seen in Fig. 3, a county such as Inverness,

which includes many depopulated communities in the Highlands and Islands, actually showed a slight gain (368) from the rest of Scotland in 1951. It might, therefore, be claimed that any restoration of local population losses in the county ought to be a purely domestic problem, involving a redistribution of the county population without claims being made on the rest of the country to assist with any policy of repopulation. No doubt Inverness contributed its share to the negative external balances affecting Scotland as a whole (which are not, it will be remembered, reflected in Fig. 3), and possibly contributed more than its share, but again it can be argued that any attempt to recoup such losses should not involve claims on other Scottish counties. It might, of course, be held that counties which have gained in the past should be expected to disperse some of their present population to counties which have persistently sustained heavy losses. This would imply calling on the present inhabitants of gaining counties to relocate some of their numbers in accordance with the various county deficits calculated in respect of both living and deceased migrants. Clearly there would be many objections to such a policy.

More seriously, however, it must be stressed that the 1951 situation shows a number of features which suggest that a simultaneous condition of more even distribution and greater stability of the population might well be establishing itself, in contrast to the situation in the nineteenth century. We can point to the reduced migration losses in the losing counties, the increased number of gains, the reduction of the overall gain by Central Scotland, and within Central Scotland to the shift of emphasis from west to east as shown by the absence of any gain in the congested Clyde region and the occurrence of gains in three of the four regions of East Central Scotland. Within the west there is now a loss from Clyde to Ayr-Bute.

Economic change in Scotland since 1951 may well be promoting the continuation of similar tendencies and, indeed, one suspects that even more striking changes may in time reveal themselves. The inward migration resulting from the installation of an atomic reactor in Caithness, for instance, can scarcely fail to lessen the negative migration balance of this county. Ayr, Fife and Midlothian, with their expanding coal-fields, may well increase their gains, while Stirling may benefit by the growth of the oil-refining centre of Grangemouth. Measures to provide more varied industrial employment in the

North-east may help to reduce adverse balances here. In fact, a comparison of the birth-place tables of the forthcoming 1961 census with those of 1951 will provide a useful guide to the economic development of Scotland during the first intercensal period of the post-war era and also to the success or failure of public policy with regard to employment and industry.

#### STATISTICAL SOURCES

Sources of the statistics from which the tables have been compiled:—Table I:—Kyd, *op. cit.*, App. I, p. 82; *Census of Great Britain, 1851, Population Tables I, Vol. II, Scotland* (1852), p. 2 (for 1801 and 1851); *Census, 1951, Scotland, Vol. III (General Volume)* (1954), Table 5, p. 8 (for 1901 and 1951). Tables II-VIII:—*Census of Great Britain, 1851, Population Tables II, Vol. I, Summary Tables* (1854), Table XL, pp. ccxcvii-ix. *Eleventh Decennial Census of Scotland, 1901, Vol. II, Abstracts, Section III* (1903), Tables 1 and 2, pp. 338-349. *Census, 1951, Scotland, Vol. III (General Volume)* (1954), Tables 32 and 34, pp. 49-50 and 52-53. Additional sources for England and Wales and Ireland used in Table VI:—*Census of Great Britain, 1851, Population Tables II, Vol. I* (1854), Table 42, p. ciii. *Census of England and Wales, 1901, Summary Tables* (1903), Table XLIV, p. 246. *Census, 1951, England and Wales, General Tables* (1956), Table 32, p. 114. *Census of Ireland, 1861, Part V (General Report)* (1864), Table XXVII, p. xxxiv. *Census of Ireland, 1901, Part II (General Report)* (1902), Table 24, p. 138. *Census of Population of Northern Ireland, 1951, General Report* (1955), Table 16, p. 21. *Census of Population of Ireland, 1946, Vol. III* (1952), Table 1A, p. 74.

#### NOTES

- <sup>1</sup> This study was made under the auspices of the Social Sciences Research Centre of the University of Edinburgh. For a similar investigation of England and Wales in 1951 by the same author, see Osborne: 1956a.
- <sup>2</sup> For a detailed list of the boundary changes, see Shennan (1892), and for the effect of these on local population figures see *Tenth Decennial Census of Scotland* (1893).
- <sup>3</sup> The 1851 census report contains revised population figures for previous years and also gives reasons for large increases or decreases in local populations. (*Census of Great Britain, 1851, Population Tables I, Vol. II, Scotland* [1852], pp. 4-97). Unfortunately this practice was not continued in later years. For a survey of population changes and the associated economic background in the period preceding 1851, see Macdonald 1937.
- <sup>4</sup> The intercensal rates (per hundred of population in initial year) were as follows:—1861-71, 13·6; 1871-81, 14·0; 1881-91, 13·6; 1891-1901, 12·4; 1901-11, 12·1; 1911-21, 7·6; 1921-31, 7·2; and 1931-51 (twenty years), 10·4. Overseas war deaths in the two World Wars are included. (*Census, 1951, Scotland, Vol. III [General Volume]* [1954], Table B, p. vi).
- <sup>5</sup> A similar distortion occurred in the percentage changes of county populations between 1911 and 1921 and 1921 and 1931. For a map showing intercensal changes in counties between 1801 and 1931 see O'Dell (1932: 283). See also Snodgrass (1944) for an account of changes between 1921 and 1931 (with maps).

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