Time-space patterns of second-wave Irish immigration into British towns

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ABSTRACT. A time-space model, based on Hägerstrand's (1969) methodology, is used to illustrate the diffusion of a migration stream into new areas at destination and the associated changes in community characteristics at different stages in the settlement sequence. The empirical basis is recent (post-1930s) Irish immigration to Britain, studied at Gernani's (1964) 'objective' level using published regional Census data, and at 'psycho-social' level, drawing on detailed interviews with 142 Irish-born respondents in Luton and Bolton. Quotations illustrate and extend statistical evidence. At both levels, support was found for the hypothesis that change has been initiated by active migrants after a period of settlement in Britain, the resulting distribution being reinforced by sequent and passive migrants, usually direct from Ireland. Thus areas of nineteenth-century immigration in the North West continued to attract Irish immigrants during the period, but gradual adaptation to the pattern of economic opportunity for the total population was taking place. The South-East and West Midlands regions expanded most rapidly during the second wave, but recently greater net internal movement to the South West and East Anglia has been recorded. Communities in traditional areas had higher proportions of older female and settled migrants, while in newer areas they were generally younger and more active. Although the model is particularly relevant to groups with high economic motivation and few barriers to external social communication, it also provides a framework within which to study constraints on mobility and its effects on community composition over time.

Migration channels are deeply etched, notably as a result of the 'chain' process (Brown et al., 1963), but modifications of the original patterns are likely to occur over time (Hägerstrand, 1957). The mechanism by which changes are brought about and its implications for the character of immigrant settlement in centres at different stages in the reception sequence is of considerable interest. Here a conceptual approach linking these two aspects of the migration process is outlined, taking its empirical evidence from recent Irish movement into and within Britain. This migration stream has received little detailed attention, despite frequent comparative reference in studies of coloured groups and the involvement of far greater numbers than the nineteenth-century influx, which has been very fully investigated (Fig. 1). The second wave of Irish immigration, dating from the 1930s, is therefore also of intrinsic interest, both as a yardstick of white ethnic behaviour and as a significant contribution to the population of many British towns.

Accompanying the rapid increase in the size of the Irish-born group in Britain was a marked reorientation in the pattern of settlement at the national level. Whereas the first wave was directed strongly towards areas of heavy manufacturing on the north-western coast, especially Lancashire and Clydeside, recent foci have been centres of lighter manufacturing in the South East and Midlands (Fig. 2). This shift parallels developments in twentieth-century industrial location and can be explained relatively easily in general terms. But migrants usually act as individuals or in small groups and the links between their decisions and the aggregate results must be investigated if the process of decline of 'traditional' and growth of 'new' areas is to be understood.

CHANGE IN REGIONAL DISTRIBUTION, 1841–1971

Although the south-eastward shift has brought about an almost complete reversal in the relative importance for Irish settlement of different regions in Britain, the process has been a fairly
gradual one, as Table I suggests. A significant degree of correlation exists between all adjacent pairs of twenty-year-interval census dates from 1851 to 1971. Moreover, until 1951, association with the pattern of 1841 remained statistically significant. By 1971, however, movement away from the mid-nineteenth-century pattern had been completed, and association was significant only as far back as 1931. When the rankings are graphed, it is clear that the change in fact pivoted on 1931, and was preceded and followed by periods of considerable stability (Fig. 3). Regional proportions confirm that the South East and West Midlands, and to a lesser extent the East Midlands, experienced a rapid increase, largely at the expense of Scotland and the North West.
FIGURE 2. Total Irish-born as percentage of regional population, 1841–1971. Source: see Table I
**BRONWEN WALTER**

**TABLE 1**

<table>
<thead>
<tr>
<th></th>
<th>1841</th>
<th>1851</th>
<th>1871</th>
<th>1891</th>
<th>1911</th>
<th>1931</th>
<th>1951</th>
<th>1971</th>
</tr>
</thead>
<tbody>
<tr>
<td>1841</td>
<td>0.778*</td>
<td>0.756*</td>
<td>0.867*</td>
<td>0.867*</td>
<td>0.867*</td>
<td>0.680*</td>
<td>0.467*</td>
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<tr>
<td>1851</td>
<td></td>
<td>0.867*</td>
<td>0.956*</td>
<td>0.867*</td>
<td>0.733*</td>
<td>0.556*</td>
<td>0.467*</td>
<td></td>
</tr>
<tr>
<td>1871</td>
<td></td>
<td></td>
<td>0.911*</td>
<td>0.822*</td>
<td>0.728*</td>
<td>0.644*</td>
<td>0.467*</td>
<td></td>
</tr>
<tr>
<td>1891</td>
<td></td>
<td></td>
<td></td>
<td>0.911*</td>
<td>0.733*</td>
<td>0.511*</td>
<td>0.400*</td>
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</tr>
<tr>
<td>1911</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.733*</td>
<td>0.422*</td>
<td>0.333*</td>
<td></td>
</tr>
<tr>
<td>1931</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.756*</td>
<td>0.600*</td>
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<td>1951</td>
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<td></td>
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<td></td>
<td></td>
<td>0.956*</td>
<td></td>
</tr>
<tr>
<td>1971</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

* Significant at five per cent level


Other regions changed little, and remain under-represented. The timing of the shift coincides with a sharp upturn in the numbers of Irish-born enumerated in Britain, followed by a peak of 958,000 in 1971, far exceeding the nineteenth-century post-famine maximum of 600,000 in 1861 (Fig. 1). Clearly, then, the change in distribution was brought about by the new direction chosen by a greatly increased stream of migrants, a high degree of internal relocation among existing settlers, or some combination of the two.

**Figure 3.** Ranking of G.B. regions by share of total Irish-born population, 1841–1971. *Source:* see Table 1.
Patterns of Irish immigration

Since the movement of Irish migrants is unrestricted and largely unorganized, the explanation must lie with the personal choice of individuals. This freedom results from the regional status in the United Kingdom of Northern Ireland and the anomalous position of the Republic, whose nationals are admitted freely to British citizenship and require no documentation for travel between the two countries. For one period, however, during the Second World War, Irish labour was controlled and directed, principally to war industries and airfield construction. As a result, the Midlands and East Anglia received an unusually large share of the immigrants, though the South East and North West continued to attract considerable numbers (Fig. 4). Thus although these regions also offered good employment opportunities in the post-war boom of the 1950s, it may be argued that new ground had been broken for both immigrants and employers (Jackson, 1963).

Comparison of the growth rates for the Irish-born and total populations show that whereas in the first part of the second wave, 1931–51, numbers of Irish-born increased most rapidly in areas of greatest total population growth, in the second half, highest rates were experienced in areas of moderate overall increase (Table II). Irish-born populations grew fastest in the two Midland regions and the South East, which increased by only eleven to sixteen per cent in total population. But the two most rapidly expanding regions overall, the South West and East Anglia, gained Irish-born numbers at only half this rate. The divergence may be explained by several factors. Most important is the occupational distribution of the Irish-born in Britain, heavily weighted towards the semi-skilled and unskilled sectors. Only ten per cent of Republic-born males were classified in the Registrar General’s Social Classes I and II in 1971, compared with twenty per cent of the total population, while 21 per cent were allocated to Social Class V (total population, nine per cent). The South West and East Anglia were over-represented in the highest Social Class categories, and rated particularly low in the two largest occupational groups for Republic-born males, construction and general labouring. Related to this was the concentration of the Irish-born in larger centres of population, 54 per cent being enumerated in settlements of 200,000+, in 1971, compared with 30 per cent of the total population. The South West ranked sixth and East Anglia tenth of the ten regions in this respect. Finally, the age-structure of the Irish-born shows clusters in the working ages, with fewer potential retirement migrants (ten per cent aged 65+; total population thirteen per cent) to contribute to the expansion of the South West (Law and Warr, 1976). These factors suggest the possibility of a time-lag in the diffusion of the Irish-born according to the pattern of the total population, related both to social mobility and to demographic structure.

DATA SOURCES AND METHODS

The twin processes of parallel and lagged change must be examined through migration flows rather than ‘snapshot’ census distributions. But information on aggregate flows, even at the regional level, is meagre. Only in the two most recent censuses (1966, 1971) have detailed questions concerning previous place of residence been asked. The tables are published for a ten per cent sample, providing very small totals for sub-groups of the population, such as the Irish-born. Moreover the time-space mesh is a broad one. Its axes, one and five years previously, and regional, or at most conurbation, scale allow only a skeletal and arbitrary selection of total moves to be captured. Finally, explanation must be inferred from such statistical analysis.

An alternative approach is the substitution of probability theory for comprehensive coverage, and the investigation of the migration histories of a sample of individuals. Data concerning all moves may be collected and some aspects of motivation and intention recovered. Here the detailed ‘biographies’ of a sample of 142 respondents will be used, the sampling frame
FIGURE 4. Conditionally landed Irish workers (non-agricultural) registered with the police: civil defence regions, 1942-5.
Source: Ministry of Labour unpublished data (Jackson, 1958)
Patterns of Irish immigration

TABLE II

<table>
<thead>
<tr>
<th>Total population change</th>
<th>Region</th>
<th>Total G.B.</th>
<th>I.R.born</th>
<th>N.I.born</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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<tr>
<td>(a) 1931–51</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>10–20%</td>
<td>W.M.</td>
<td>+18.18</td>
<td>+270.18</td>
<td>+474.95</td>
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<tr>
<td></td>
<td>S.E.</td>
<td>+13.31</td>
<td>+81.07</td>
<td>+99.52</td>
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<tr>
<td></td>
<td>E.A.</td>
<td>+12.00</td>
<td>+115.10</td>
<td>+44.04</td>
</tr>
<tr>
<td></td>
<td>E.M.</td>
<td>+11.61</td>
<td>+115.44</td>
<td>+209.44</td>
</tr>
<tr>
<td>0–10%</td>
<td>S.W.</td>
<td>+7.98</td>
<td>+32.39</td>
<td>+82.90</td>
</tr>
<tr>
<td></td>
<td>Y.H.</td>
<td>+5.26</td>
<td>+29.57</td>
<td>+96.13</td>
</tr>
<tr>
<td></td>
<td>SC.</td>
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<td>-36.15</td>
</tr>
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<td>N.W.</td>
<td>+5.21</td>
<td>-9.00</td>
<td>+24.95</td>
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<td>N.</td>
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<td>-7.39</td>
</tr>
<tr>
<td></td>
<td>Wa.</td>
<td>+0.21</td>
<td>-7.93</td>
<td>+113.36</td>
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<tr>
<td>(b) 1951–71</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Over 20%</td>
<td>S.W.</td>
<td>+24.84</td>
<td>+31.66</td>
<td>+98.35</td>
</tr>
<tr>
<td></td>
<td>E.A.</td>
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<td>+34.05</td>
<td>+106.96</td>
</tr>
<tr>
<td>10–20%</td>
<td>E.M.</td>
<td>+16.30</td>
<td>+73.30</td>
<td>+102.62</td>
</tr>
<tr>
<td></td>
<td>W.M.</td>
<td>+15.38</td>
<td>+72.24</td>
<td>+65.38</td>
</tr>
<tr>
<td></td>
<td>S.E.</td>
<td>+11.77</td>
<td>+52.46</td>
<td>+60.91</td>
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<tr>
<td>0–10%</td>
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<td>-0.34</td>
<td>+21.13</td>
</tr>
<tr>
<td></td>
<td>Wa.</td>
<td>+4.83</td>
<td>+1.73</td>
<td>+58.92</td>
</tr>
<tr>
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<td>+41.46</td>
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<td></td>
<td>Sc.</td>
<td>+2.49</td>
<td>-21.63</td>
<td>-24.36</td>
</tr>
</tbody>
</table>

Source: See Table I

being a random selection of Irish-born people drawn at two levels of areal stratification. At the urban scale, Luton (1971, population 160,000) and Bolton (1971, population 153,000) were selected to represent medium-sized towns with substantial Irish communities in the second and first waves respectively. Within each town interviews were carried out in a range of social areas, corresponding to the social and demographic spread of the ethnic group.

Individual biographies may be plotted as time-space flows, or ‘life-lines’, on a two-dimensional graph (Hägerstrand, 1969). Adapting Hägerstrand’s (1957) definitions, migrants may be categorized as active, sequent or passive, according to the motivation guiding their choice of destination. Active migrants select the optimum location to meet the prime deficiency in their existing condition, though their information field is necessarily restricted. Sequent migrants prefer to overcome such difficulties within a familiar framework, by following particular earlier migrants. Here passive refers to migrants who make no positive choice, but accompany or join other at the latters’ request. From this typology it may be hypothesized that the active migrants spearhead changes in the distribution of the total Irish-born population in Britain, and that their moves are subsequently reinforced by sequent and passive migrants. Individuals may change categories at different space-times, and the friction of settlement is likely to result in a leakage into settled behaviour for all groups. Thus a time-lag is again inevitable if external conditions continue to change.

Each destination contains combinations of the above types of migrants, according to the nature of its attraction at any particular time. A hypothetical situation may be outlined, using
the above typology (Fig. 5). Place A offered advantages to active migrants at time period x, and several arrived in close succession. Most attracted sequent or passive migrants by a process of chain migration. External conditions subsequently changed, however, and by time period y Place A had declined in relation to Place B. Two still-active migrants moved there. One was followed by a sequent internal migrant from Place A and both set up new chains of immigrants from their home areas in Ireland. One particularly active migrant continued to move as other places were perceived to offer better opportunities, pioneering settlement in Place C and finally Place D at time period z. But the majority settled in Places A and B, and did not intend to move again. If life-cycle changes, such as ageing, marriage and the arrival of children contribute to this inertia, such settled populations are likely to include older migrants, especially those married and with families. Moreover, since males are usually predominant in ‘pioneer’ flows (Bogue, 1969) a high proportion of females may be expected, reinforced in later stages by greater

![Diagram](image)

**FIGURE 5.** Time-space model showing effects of selective migration on community characteristics
female longevity. Eventually the group in Place A will move into the second and third generations, and lose its immigrant status entirely, as at time period z.

These hypotheses may be tested at two of Germain’s (1964) levels of explanation. At the ‘objective’ level, Census data will be analysed, while at the ‘psycho-social’ level the actions and attitudes of the respondents in Luton and Bolton will be used to corroborate or challenge the statistical inferences.

**Process of Change: Mechanism and Effects**

**Objective level**
It has already been suggested that redirection towards objectively optimum locations, usually towns with good employment opportunities, may be brought about either by direct migration, based on information relayed to Ireland, or by indirect migration after a period of settlement elsewhere in Britain. Census data may be used to examine the weighting of the two processes in changes at the regional level. Migrants stating their place of residence as ‘Ireland’ one and five years previously will be treated as direct migrants, while those specifying other regions will be classified, with greater confidence, as indirect. Analysis will be limited here to those born in the Irish Republic, who formed 71 per cent of the total Irish-born population stating the part of the island in which they originated (1971), though some interesting differences may be observed in the Northern Irish sample.

Rank correlations indicate the extent to which the distribution of direct migrants, so defined, accords with the existing pattern of Irish-born population concentration (Table III). A clear relationship is shown between the initial destination of direct migrants and the size of its Irish-born community, but no significant association with expansion or decline in numbers during the latter half of the second wave. New arrivals thus reinforced the existing pattern, rather than initiating change, suggesting that information fields were limited to well-populated areas, and possibly that sequent and passive migrants dominated the flow.

Indirect migrants displayed a markedly different pattern. Although greatest gross immigration by one-year migrants (1971) was recorded in the southern half of Britain, gross out-migration was also high from these areas. In fact a net loss of internal migrants was suffered by the three regions of greatest direct immigration (South East, West Midlands, North West), while gains were made by surrounding regions.

**Table III**

<table>
<thead>
<tr>
<th></th>
<th>1966</th>
<th>1971</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>One-year migrants</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Irish-born</td>
<td>0.911*</td>
<td>0.800*</td>
</tr>
<tr>
<td>Percentage change Irish-born 1951–71</td>
<td>0.200</td>
<td>0.400</td>
</tr>
<tr>
<td><strong>Five-year migrants</strong></td>
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</tr>
<tr>
<td>Total Irish-born</td>
<td>0.867*</td>
<td>0.844*</td>
</tr>
<tr>
<td>Percentage change Irish-born 1951–71</td>
<td>0.289</td>
<td>0.267</td>
</tr>
</tbody>
</table>

* Significant at five per cent level

**Source:** Sample Census of G.B. 1966, Migration Summary Tables. Pt. I, Tables 2A, 2B; 1971, Pt. I, Tables 1A, 1B
When net exchanges are mapped as inter-regional flows of five-year migrants, for which numbers are larger though the pattern is similar, the main features are brought out more clearly (Fig. 6). Redistribution from the South East stands out as the principal flow, while major destinations were the three top-ranking overall growth areas (1951–71), East Anglia, the South West and the East Midlands. The West Midlands experienced a smaller outflow to the immediate north and west, while losses from the North West to Yorkshire and Humberside, Wales and the South West were slightly outweighed by in-migration from the South East in this case.

The ratio of direct to net internal migrants may thus be used to identify the main types of settlement region (Table IV). Regions with ratios generally above unity, that is those with a large number of direct migrants and a net loss by internal migration (West Midlands, North West, South East) may be termed primary reception and redistribution regions. A second group, with more than 0.4 below unity for direct migrants and the larger number of net internal migrants, comprises secondary settlement regions. The South West and East Anglia are the main representatives, with Wales in the anomalous position of having a small total of internal migrants. The remaining regions are intermediate.

It seems, therefore, that the new pattern, closer to the growth of the total population, was initiated by active migrants after arrival in Britain, as a result of improved access to information or greater adaptation to British conditions. There is some evidence of a similar decentralization at the sub-regional level, though the disaggregated figures are very small. In the five most urbanized regions (South East, North West, West Midlands, Yorkshire and Humberside, North) there were net losses to outlying ‘remainders’ in 1971. Distribution by settlement size, however, gave apparently contradictory results. The proportion of the total Irish-born population enumerated in centres of over 200,000 increased from 46.0 per cent in 1951 to 54.6 per cent in 1971 (total population, 28.6 per cent, 30.1 per cent), the loss being borne almost entirely by small settlements of under 50,000, whose share fell from 34.2 per cent to 21.8 per cent in those
years (total population, 48.9 per cent, 47.4 per cent). Direct migrants must have become increasingly concentrated in larger centres during the second wave, perhaps reflecting the greater role of social dissatisfaction in reasons for emigration (Healy, 1968; Brody, 1973).

The process outlined above has important implications for the Irish communities at the urban scale in different regions. Although the characteristics of migrants involved in these flows cannot be ascertained satisfactorily from census data alone, some inferences may be drawn from the resulting regional Irish-born population composition (Table V). Primary reception and redistribution areas generally contained an above-average proportion in the younger working-age group (15–44), and fewer in older categories. The South-east region also had a smaller proportion of children, suggesting more single people, while the North West had an over-representation in the retired group (65+), probably residual from an earlier period of immigration. Secondary settlement areas, on the other hand, had above-average proportions in both older (45+) and young (0–14) groups, consistent with dispersal during a later stage in the life cycle, during the child-bearing years of families. Regional variations in sex ratios also accord with the earlier hypothesis, more females being recorded in long-established regions and those with large Irish-born populations. Finally, period of arrival in Britain confirms the weighting given to indirect migration in the process of change. Both the South West and East Anglia had higher than average proportions arriving before 1931, though their share of the total Irish-born increased during the second wave.

**Psycho-social level**

The migration histories of the sample interviewed in Luton and Bolton must be examined in the light of these findings at the aggregate level. Time-space graphs showing their past moves and present intentions, by sex, provide a profile of the present-day community in each case (Figs 7 and 8). The most important distinction, in this case, is between direct and indirect migrants (Table VI).
FIGURE 7. Time-space paths of respondents: Luton. Source: interviews
Patterns of Irish immigration

TABLE VI

<table>
<thead>
<tr>
<th></th>
<th>Luton</th>
<th></th>
<th>Bolton</th>
<th></th>
<th>Total</th>
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<tr>
<td></td>
<td>N.</td>
<td>%</td>
<td>N.</td>
<td>%</td>
<td>N.</td>
<td>%</td>
</tr>
<tr>
<td>Never</td>
<td>40</td>
<td>47</td>
<td>33</td>
<td>59</td>
<td>73</td>
<td>52</td>
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<tr>
<td>At least once</td>
<td>46</td>
<td>53</td>
<td>23</td>
<td>41</td>
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<td></td>
<td>86</td>
<td>100</td>
<td>56</td>
<td>100</td>
<td>142</td>
<td>100</td>
</tr>
</tbody>
</table>

Observed chi-square 2.12
Critical value, five per cent level 3.84

Source: Interviews

In each town, about half the respondents arrived direct from Ireland and the remainder had made at least one subsequent move. The former relied heavily on personal contacts, only fourteen per cent (10/73) basing a decision on economic information alone. Kin were the main contacts, comprising two-thirds of the total (Luton, 62 per cent; Bolton, 72 per cent), though the proportion rose to 90 per cent for single females. These were clearly sequent migrants, who placed great weight on support and companionship, particularly of siblings, in their choice of destination.

My eldest sister was here. I never thought of going anywhere else. (84.8 Luton, single female, arrived 1960)

I was terrified of leaving my brothers and sisters and going to a strange place. We came to Bolton because my brother was here. (17. Bolton, married female, arrived 1960)

Many single men, however, used the contact instrumentally and made an ‘active’ decision based on a limited information field. Help was accepted temporarily during the settling-in period, and often the initial contact moved on.

My cousin brought me over. He took me down to Vauxhall and I put my name down. I had to work for the Corporation for three months before a job came up. I lived in his digs. He then went back to Ireland for a while, and now he’s in Cambridge. (83. Luton, single man, arrived 1957)

A chap over here came home on holiday. He said he’d bring me over to see how I liked it. His wife had a lodging-house so I stayed there. He then went back to Ireland. (43. Luton, single man, arrived 1961)

The similar proportion of direct migrants in both towns is perhaps surprising in view of their widely differing experiences of Irish settlement. It suggests that the Luton community, with an average length of residence among respondents of 12 years, compared with 22 for Bolton, had already reached a degree of maturity in terms of migration chains. Bolton, on the other hand, continued to attract indirect migrants, despite the apparent disadvantage of higher unemployment rates during the period. When time of arrival is considered, it is possible to pinpoint this development more precisely. In the Luton sub-sample, a change in the proportion of different types of migrant is apparent during the mid-1950s, coinciding with the peak of the second wave itself. Before 1957 only 27 per cent of the total were direct migrants, but in the subsequent period the proportion rose sharply to 65 per cent. In Bolton, however, there was
only a small increase over the period from 55 to 64 per cent. The proportion of females also increased, from 40 per cent of the total before 1957 to 62 per cent afterwards, while in Bolton there was little change (49 per cent, 52 per cent respectively), but the difference was not significant at the five per cent level.

Among indirect migrants, by contrast, impersonal factors played a much larger role in attracting the Irish-born to the two towns. Employment alone had influenced 42 per cent of the respondents. Some had seen advertisements, especially those connected with the expansion of the Vauxhall motor works in Luton in the 1950s, but the majority had simply ‘heard’ of good opportunities there.

We were going to my aunt in Canada, but heard there was more money at Vauxhall. (34. Luton, married male, arrived in Britain 1943, came to Luton from Southend 1957)

My mate had sisters in Bedford who said it was rosy there so we came down from Huddersfield. But we couldn’t work in the brickyards because of the snow, so we had to get work on the buildings. I heard there was more money here building Vauxhall. (57. Luton, single male, arrived in Britain, 1948, came to Luton 1957)

A bloke in my digs said there was stacks of work in Luton and more money. (47. Luton, single male, arrived in Britain 1964, came to Luton from London 1964)

A few respondents had been sent to Luton by national building firms and had remained. Another fourteen per cent, all in Luton, gave housing as the principal reason for moving. Several said that they knew nothing about the town before starting to search for a house to buy.

We had to leave our house in Stanmore because the landlady wanted it for herself. It was impossible to buy a house for which we could get a mortgage with my savings. The estate agent suggested that houses were much cheaper in Luton and a friend’s uncle was working here and said it was a good area for work. (67. Luton, married male, arrived in Britain 1959, came to Luton from London 1963)

We wanted a house. My wife looked in the paper and saw an estate agent advertising cheap housing. We knew nothing about Luton, just the name. (28. Luton, married male, arrived in Britain 1967, came to Luton from London 1974)

In Luton, therefore, personal contacts accounted for only 26 per cent of reasons for choosing the town, compared with 92 per cent for direct migrants, though they still formed the largest group in Bolton (46 per cent). Thus although they were greatly outnumbered by the active, sequent migrants were found in both cases, reflecting the consolidation process.

I went straight to Birmingham and shared a flat with a friend for nine months. But I was only seventeen, so my mother said I must either go home or come to my brother in Bolton. (46. Bolton, single female, arrived in Britain 1956)

My wife’s sister was in Luton and she wanted to come here. (1. Luton, married male, arrived in Britain 1957, came to Luton from Birmingham 1963)

Married couples (49 per cent) were best represented among indirect migrants, most moving after a period of settlement, in response to pressures to improve family conditions. Single males (37 per cent) were mainly concerned with employment, some having moved very frequently (seventeen per cent, 5 + moves).

The migration fields of the two towns conform to the pattern of fairly localized redistribution suggested by the Census evidence. Of indirect migrants in Luton, 64 per cent (23/36) had
last lived elsewhere in the South East, with a further 25 per cent (9/36) in the two Midlands regions. The figures for total moves were 37 per cent and 35 per cent respectively. Although the North West provided the largest proportion of Irish in-migrants to Bolton (43 per cent, 9/21 last move: 41 per cent, 23/56 all moves), the South East was also mentioned quite frequently (24 per cent, 5/21; 18 per cent, 10/56 respectively), again reflecting net flows recorded in the census. In about half of the cases, the last move had been from the respective regional centres, London and Manchester, giving further evidence for a process of filtering down through the urban hierarchy after arrival.

Clearly migrants interviewed on a single occasion are captured at an arbitrary point on a continuing life line on the time-space graph. Answers concerning intentions cannot be the basis of any firm conclusions, but they give an indication of the proportion regarding themselves as settled. The respondents were asked whether they would like to leave the towns and whether they thought they would do so. Preferences were significantly different between Luton and Bolton. Considerable dissatisfaction was expressed with life in Luton, 26 per cent (20/76) wishing to leave, compared with only nine per cent (5/53) in Bolton.

Very unfriendly. Too many nationalities all going their own way. They’ve no time for anyone. It’s a rat race. (83. Luton, married male, arrived in Britain 1928, came to Luton 1939)

There’s no night life, no freedom for the kids. Just work and sleep. (30. Luton, married female, arrived direct 1970)

But very few seriously considered leaving either town (Luton 5/76; Bolton 4/53), and the majority believed that they would remain for the foreseeable future. The high proportion of settled migrants illustrates the inertia or friction of settlement, already observed in the distribution of the Irish-born at the national level. Most of those who intended to move were critical of social life in Luton, and wanted to return to London. They thus included mainly indirect migrants. Among those who were uncertain, on the other hand, employment prospects were the major factor considered, and no alternative destination had yet been selected.

As long as there’s work I’m content. I don’t know if I’ll stay. It depends how work goes. (31. Luton, single male, arrived direct 1973)

It’s all right here. I’d only move for a job. (16. Luton, single male, arrived direct 1963)

These respondents, though few in number (seven per cent of total sample), were a particularly significant group, being the potential pioneers of future redistribution.

The existing core of immigrants also acted as agents of attraction in the chain-migration process. Over a quarter of the sample in each town (Luton, 32 per cent; Bolton, 28 per cent) had given some form of help to new arrivals from their home area in Ireland. Usually this included accommodation and often more extensive assistance until the newcomer was established in a job.

I helped a friend from home. I gave him his fare, paid his digs for two weeks and got him a job. (13. Bolton, single male, arrived in Britain 1964, came to Bolton 1965)

My niece and nephew lived with us for two years. She worked at Vauxhall as a machinist. He was a welder who came over for a holiday and stayed. We also put up a cousin and many girls from home until they could get accommodation and jobs. Two have gone home now. One is a contractor in Luton. He came at sixteen and now employs forty men. My husband
brought his brothers over and they are now established in Luton with their families. (35. Luton, married female, arrived direct 1952)

The rapid establishment and complexity of these chains helps to explain the maturing of Irish-born communities in new areas of Britain by the middle of the second wave of immigration.

CONCLUSIONS

Evidence at both levels of explanation supports the process hypothesized in the time-space graph. Decisions to move to new locations in Britain were taken by active migrants, mainly after an initial period in more established areas of Irish settlement. These then attracted sequent migrants, most direct from Ireland, so that gradual diffusion into new areas took place, while more traditional centres continued to attract, and retain, new arrivals. Thus despite its decline from the nineteenth-century heyday of cotton spinning, which generated a large demand for female and child labour, Bolton still received migrants direct from Ireland, though on a much reduced scale. It may be thus be compared with Place A at time-period y (Fig. 6), a long-established community which had by no means reached the end of its first-generation reception stage. Luton, on the other hand, had moved beyond the pioneer stage of predominantly active, indirect migrants during the course of the second wave, and had established well-developed chains of sequent and passive migrants. The earlier phase, completed by the mid-1950s, was analogous to Place B at time-period y, but had given way to maturity, typical of time-period z, by the time of the interviews. At the national level, the result was a more even spread of Irish-born population (Fig. 9).

This reduction in concentration, however, is associated with increasing differentiation in the character of Irish urban communities. As the time-space graph suggests, this varies according to the stage reached in two important ways. First, length of immigration affects the mix of Irish-born and those of Irish descent, which influences attitudes to Irish people in the town and thus the ease with which new arrivals are, and feel themselves to be, accepted. Particularly important seems to be the degree of integration of the Catholic church and its associated activities into the life of the town. Significant differences on behavioural indices, such as the size and ethnic composition of friendship networks, were found between the Luton and Bolton sub-samples, related in part to the variation in total numbers and average length of residence, but also apparently to the greater acceptance of Catholics in Bolton (Walter, 1978).

Secondly, the ‘bundling’ of individual life lines at each time-space produces Irish-born populations with particular sets of demographic characteristics and attitudes to settlement. Towns such as Bolton, in the older traditional areas, have large, and increasing proportions of females (Census 1951: 1077 females per 1000 males; 1971: 1081 females per 1000 males), a bias towards older age-groups and a majority regarding themselves as settled (59 per cent of sample). In the newer areas, illustrated by Luton, there is a preponderance, albeit decreasing, of males (Census 1951: 849 females per 1000 males; 1971: 934 females per 1000 males) and a higher proportion of potentially active migrants (33 per cent of sample settled). Rate of assimilation is again affected through factors such as availability of Irish marriage partners. Since Irish-born people were enumerated in all settlements of over 50,000 population in 1971, no British town has yet reached the stage of Place A at the time period z, where only Irish descendants remain. However, the decline in the second wave, marked by net immigration to Ireland during the 1970s, may produce this result after a few generations.

Although the empirical data presented here relate to twentieth-century migration patterns, the model implies relevance to a longer time-span. It is not possible to examine the behavioural
Figure 9. Location quotients of total Irish-born population, by G.B. regions, 1851–1971. Source: see Table 1
aspects of the mechanism for earlier periods, though oral history may be used to push back the temporal boundaries to a limited extent. However aggregate census data, available in much greater detail from enumerators’ returns in the mid-nineteenth century, suggest that changes in community composition took place according to the predicted sequence within traditional areas of Irish settlement. In the 1840s, for example, Dundee was in the pioneer stage, attracting large numbers of active, young female migrants to the linen industry. At the same time Paisley had passed its peak immigration period and its Irish community had matured to a more balanced age and sex distribution (Collins, 1979).

A number of assumptions implicit in the model limit its precise application to all migrant flows. These include the primacy of economic motives among active migrants and their ‘footloose’ occupational structure in sectors such as construction, semi- and unskilled factory work and transport. Ease of social communication outside the group and the absence of external constraints are further requirements. Thus direct coloured immigrants in Britain during the 1950s and 1960s did not conform to the pattern but were a ‘replacement’ population, complementing active internal migration to areas of economic opportunity (Peach, 1968). Subsequent indirect movement by Pakistanis has been channelled through community networks, so thatsequent rather than active migration predominates (Dahya, 1974; Anwar, 1979). Even among white groups, such as the Italians, internal cohesion seems likely to have discouraged pioneer movement from established centres of immigration at least in the first generation (King, 1977). Moreover in both cases, the higher incidence of ethnic entrepreneurship reduces both the necessity for, and ease of, subsequent interurban mobility. Nevertheless, the time-space approach should help to identify these barriers to diffusion and allow changes over subsequent generations to be traced.

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NOTES


Only JACKSON (1963) and O’CONNOR (1972) continue the study into the second wave. JACKSON deals with the first half of this movement in general sociological terms, while O’CONNOR writes as a journalist on the Irish emigrant newspaper, the Irish Post.


4. Under the 1948 British Nationality Act, the ‘special position’ of citizens of the Irish Republic was recognized. They continued to be entitled to the same rights in the United Kingdom as British subjects and could register as British citizens after completing five years’ residence, without other requirements. The 1971 Immigration Act, however, substituted ‘Discretionary Registration’, enabling the Home Secretary to impose conditions of acceptance on those arriving after 1973. In practice there has been no change in the former position. In 1972, moreover, both countries joined the E.E.C. which provides for free movement of labour between member states.


6. Among towns with population in the range 100–200,000, Luton ranked highest both in proportion of Irish-born population (1966: 5.89 per cent; second, Salford, 3.54 per cent) and in absolute numbers (1966: 9000; second, Salford 5040). In fact, Luton ranked third amongst all settlements over 50,000 by proportion (after Stretford and Coventry) and seventh by absolute numbers (after Greater London, Birmingham, Manchester, Coventry, Liverpool and Leeds).
Patterns of Irish immigration

In 1866, Bolton, by contrast, ranked sixteenth by proportion (1.47 per cent) in the 100–200,000 range, and fourteenth by size (22,530). But in 1861 there had been 5,540 Irish-born people in the town (7.87 per cent). Of towns with sizeable nineteenth-century Irish-born populations, Bolton was closest in total population to present-day Luton.

The difference in their pattern of immigration is brought out by the size of the Irish-born population at different census dates:

<table>
<thead>
<tr>
<th>Year</th>
<th>Luton</th>
<th>Bolton</th>
</tr>
</thead>
<tbody>
<tr>
<td>1861</td>
<td>57</td>
<td>5,540</td>
</tr>
<tr>
<td>1891</td>
<td>n.i.</td>
<td>3,401</td>
</tr>
<tr>
<td>1911</td>
<td>308</td>
<td>1,762</td>
</tr>
<tr>
<td>1951</td>
<td>1,927</td>
<td>1748</td>
</tr>
<tr>
<td>1961</td>
<td>7,235</td>
<td>2,405</td>
</tr>
<tr>
<td>1971</td>
<td>9,340</td>
<td>2,593</td>
</tr>
</tbody>
</table>

7. Social Area Analysis was carried out on 1866 census enumeration district data for the two towns. Four E.D. were selected in each case, being those with the largest Irish-born populations in each social class/family status category proportional to the distribution of the group in the town. Total enumeration of Irish households in each area was attempted, using a combination of methods, including name identification from the Electoral Registers, Catholic parish censuses, personal information from priests and schools, Irish club membership records and ‘snowball’ techniques while interviewing. A random sample proportional to this total was interviewed in each area.

8. Interview numbers, see Figures 7 and 8

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On uninterpretability of factor analysis results

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ABSTRACT. A much neglected stumbling-block in interpreting factor analytical results is the indeterminacy of factors and factor scores. The Guttman criterion is presented as a standard to judge whether in a given case this is so serious a drawback as to prohibit justified interpretation. The criterion is illustrated with some examples from geography. The technique under discussion is factor analysis in a strict sense, as opposed to principal component analysis.

INTRODUCTION

Factor analysis is a technique for investigating the association between a number of variables, as far as this association is reflected in product moment correlation coefficients. A factor analyst tries to show that the observed association can be accounted for by postulating that the observed variables are linear functions of a small number of non-observed variables, called factors. As such, factor analysis is mostly used in an explorative way, to check whether it is possible at all to postulate some sensible factors. Sometimes it is used confirmatively as well, in order to prove that a given set of factors can explain the observed association.

We make a distinction here between factor analysis, which is the subject of the present paper, and principal component analysis, the latter being unfit for the above-mentioned goal. Component analysis does not set out to account for association. It is meant to find those linear combinations of the observed variables that show the greatest variance among all linear combinations. Moreover it does not presuppose a falsifiable model and so cannot be used to investigate, either exploratively or confirmatively, whether factors can be postulated. Principal component analysis is in our view a valuable method of data reduction.

In this paper component analysis is explicitly excluded from consideration. We assume the reader possesses some familiarity with the concepts and terminology of factor analysis.

We distinguish two phases in a successful factor analysis: the technical phase is meant to demonstrate that it is not impossible, from a mathematical point of view, to account for the observed association by postulating some factors; the interpretational phase is meant to make plausible that a real meaning, as seen from the science under discussion, can be attached to these mathematically possible factors. The interpretational phase requires that we work within a theory powerful enough to be able to decide whether a proposed interpretation is tenable or not.

That does not mean that a ready made, fully developed background theory has to be present, but certainly some theory, even if vague or rudimentary, must be made explicit to be able to discuss the tenability of proposed factor interpretations. We believe that the very audacity of an investigator to defend or reject a certain interpretation can make factor analysis a valuable research tool, whereas on the contrary an analysis without an interpretational phase ought to be considered as hardly more than an exercise in computation. We refer to this theory, within which we work, as the underlying theory.