Historical Internal Migration in Ireland

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1. Introduction

Since the middle of the nineteenth century the dominant theme in Irish population history has been the continued emigration of people out of Ireland. The main focus of historical and geographical research on Irish population movements has consequently been on the flow of people off the island. As a consequence relatively little has been carried out on the movements within Ireland of those that remained. This has resulted in the view that those who did not emigrate were not very mobile. Fitzpatrick found Irish county-to-county migration in 1851 to 1871 to be 'generally sluggish' particularly the more remote western regions (Fitzpatrick, 1989) whilst Guinnane's analysis of the 1911 data identifies the slow rates of internal migration as a distinctive feature of Irish population history (Guinnane, 1997: 122).

However some of the factors that fuelled emigration also served to stimulate internal migration. The move away from the traditional practice of dividing family farms among all male sons on marriage meant that siblings not in line for inheritance had to seek employment elsewhere (Guinnane, 1997; Turner, 1996). The move away from more labour intensive tillage and the introduction of labour saving technologies led to reduced rural employment and consequently encouraged out-migration (Kennedy, 1973; Fitzpatrick, 1989). The social vacuum left by emigration made rural life less attractive and therefore further incentivised movement (Johnson 1994). Recent analysis of census data from 1851 to the present shows that, since the second half of the nineteenth century, there was a shift in the population geography of the island whereby the east became the most densely populated region on the island (Kelly and Fotheringham, 2011). This was in part the spatial imprint left by emigration and its depleting effects on population numbers in the west. However it is also an imprint shaped to some extent by the internal movements of Irish people and in particular the increasing gravitation of people towards towns and cities (Figure 1).

In this paper we use OD maps to investigate changing patterns of inter-county migration in Ireland between 1851 and 1911. We do so, firstly, to explore a neglected area in Irish population studies, secondly, to identify and explain the key changes that took place during this formative period in Irish population history and, thirdly, to consider what this tells us about the emerging geographical orientations of Irish people as they embarked on the new century.

2. Data

Data were taken from the 1851 and 1911 censuses. In these censuses, migration was not

recorded explicitly, but the county of birth and the county in which people were living were recorded. We used these and county populations to infer internal migration.
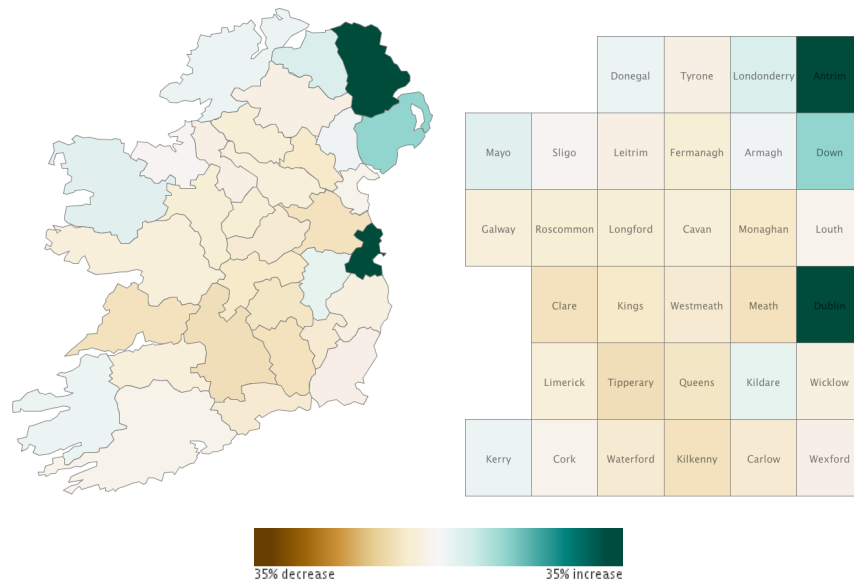

Figure 1: County population change between 1851 and 1911 as a choropleth map (left) and grid map (right; see Figure 3). There is an overall drop in population, with declines felt most severely in central areas. There were however, increases of over 30% in Antrim and Dublin.

3. Method

OD Maps (OD="origin-destination"; Wood et al, 2010) allow us to investigate spatial aspects of the county-to-county migration. OD Maps have a number of advantages over more conventional representations of migration. Flow maps often result in occlusion that makes interpretation difficult (Figure 1, left), choropleth maps are limited to one-to-many or many-to-one origin pairs (Figure 1, centre) and OD matrices do not preserve the spatial structure (Figure 1, right), though row and column ordering can be used to reflect other useful (1D) information.
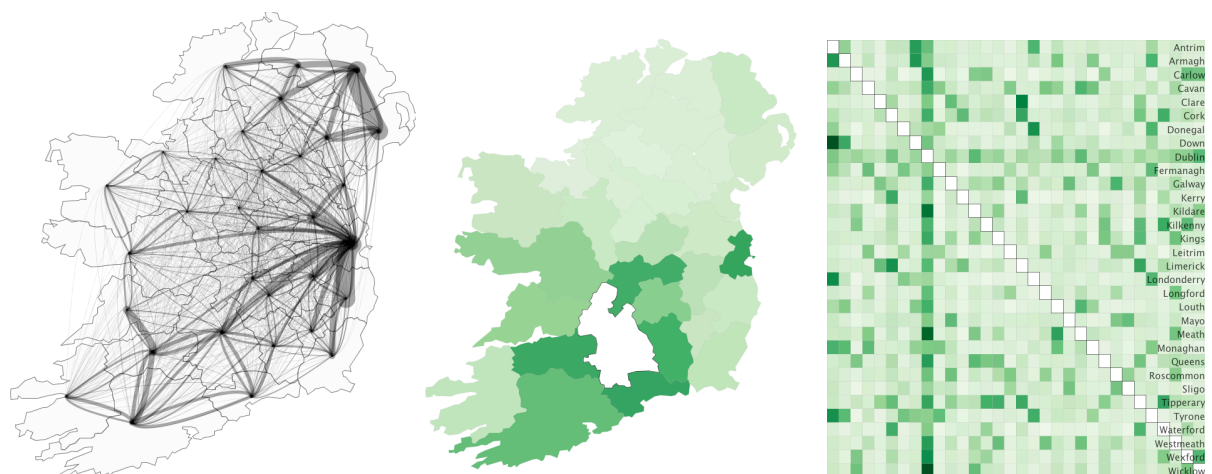

Figure 2. Approaches for showing county-county flows: flow map (left), choropleth maps (centre) showing migration out of Tipperary (white); and OD matrices (right) with origin counties as rows and destination counties as columns.
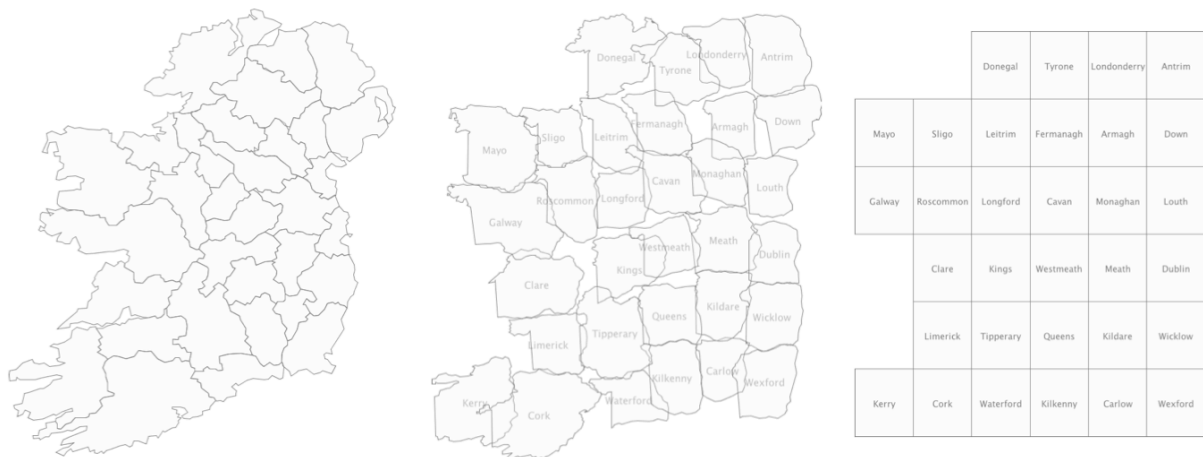
Figure 3. Constructing a grid-map.

A grid layout needs to be produced that preserves as much spatial structure as possible (Figure 3). This can be done by hand, perhaps with the assistance of a suitable algorithm (e.g. Wood *et al*, 2008; Eppstein *et al*, 2012). This grid can be used to layout choropleth maps of migration destinations spatially by origin country (Figure 4, left), producing an effective means of showing the spatial structure of internal migration. Replacing these county choropleth maps with county grid maps produces an *OD Map*, which has the advantage of giving more and equal visual salience to each county (Figure 4, right). In both maps, the 'home cell' (equivalent to the diagonal in the OD matrix in Figure 2, centre) is outlined in black.

Figure 4. Spatially arranged choropleth maps of 1851 migration (left) and an OD map (right), coloured by migrant proportion (cubic colour scale).

4. Comparing 1851 and 1911

Figure 4 (left) shows that, as expected, county-to-county migration is rather local, with exceptions for Antrim (containing Belfast) and Dublin. This distance-based pattern is difficult to determine with the graphics in shown in Figure 2.

When comparing numerical values graphically, it is often effective to directly encode difference. Figure 5 shows the difference in the proportions of people migrating in 1851 and 1911 where *purple indicates that a higher population proportion migrated in 1911*. Taking Dublin as an example, we calculated how many migrants we would *expect* in 1911 for each county-to-county pair, assuming the same Dublin-destination migrant ratios as in 1851. We then subtracted this *expected value* from the *observed* 1911 migrants, expressing the result as a percentage of the county population at the origin.
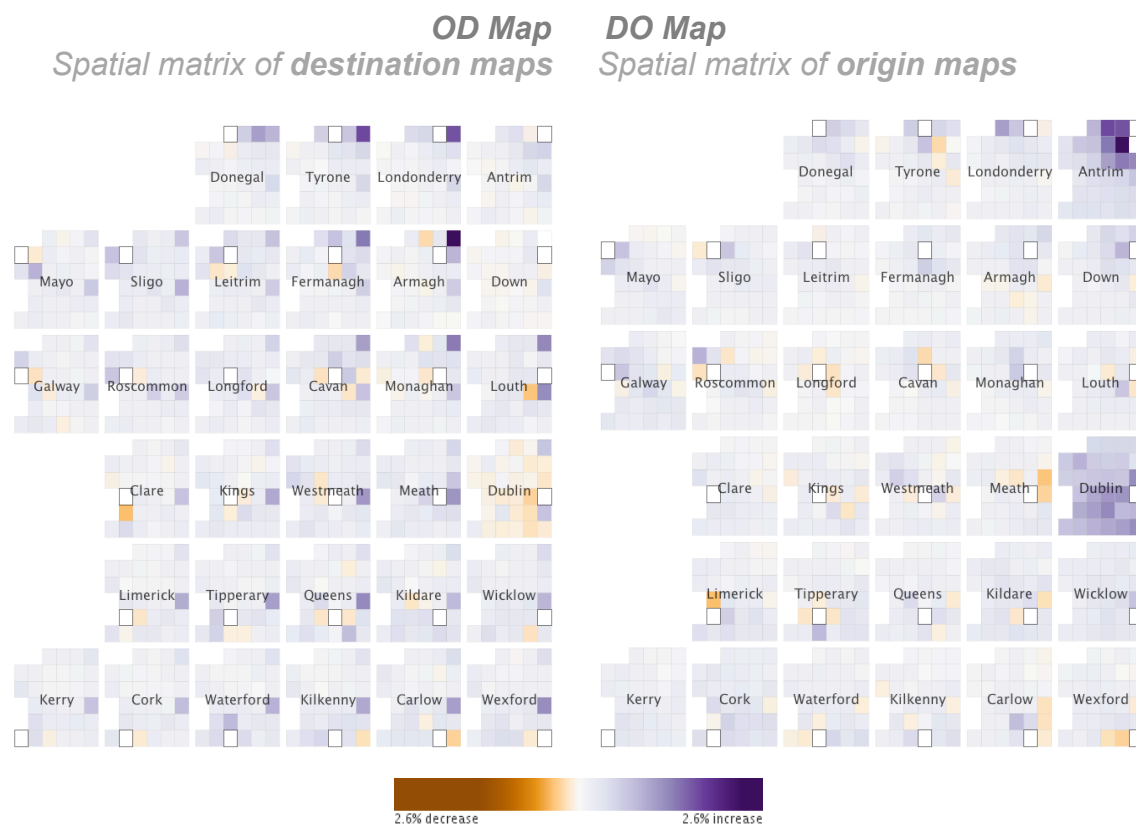

Figure 5. OD map (left; spatially-arranged matrix of destination maps) and a DO map (right; spatially-arranged matrix of origin maps) showing the how migration patterns differ between 1851 and 1911. Purple indicates that there were proportionally more migrants in 1911 from the origin county than in 1851 (cubic colour scale).

The overwhelming purple hue of Figure 5 indicates increased overall migration in 1911. Figure 5 (left) shows that destinations with fewer migrants in 1911 in central Ireland tend to neighbour their origin counties, suggesting that migration was *less local in 1911*. Areas that experienced overall population increases between 1851 and 1911 (Figure 1) had less out-migration in 1911. These counties contained large urban settlements and employment opportunities; and as such, were counties of absorption rather than dispersion (Ravenstein 1885). Absorption effects are visible as the intense purple cells for most origin counties. These indicate large increases in migration to Antrim (particularly from northern counties)

and Dublin (particularly from southern counties). This can be seen more clearly in Figure 5 (right), which shows the increase in migrants at *destinations* rather than origins. Antrim and Dublin receive more migrants from *all* counties in 1911. The strength of the local pattern for Antrim contrasts with the more spatially diffuse patterns for Dublin and demonstrates that by 1911, the spheres of influence commanded by these provincial capitals were already well established.

Figure 6. Top row: difference between the gender-balance of migrants and population, where red is more female and blue is more male for 1851 (left) and 1911 (right). Bottom row: same as above, but only statistically significant values (chi-statistic, p=95%) shown, indicating that the main features of the pattern observed are statistically significant.

5. Gender differences in migration

Figure 6 shows the gender balance of migrants in 1851 and in 1911 compared to that of the population in the origin county, where red indicates that females are overrepresented, i.e. the gender-balance of migrants is more female than that of the origin county's population.

In 1851 (Figure 6, left), the red cells surrounding the home cell clearly indicate that women migrate shorter distances than men and do so in much larger concentrations.. In most cases, these differences are statistically-significant (chi-statistic; p=95%; Figure 6, bottom-left). This is consistent with social conventions at the time. Unmarried females often took up positions as domestic servants in neighbouring counties. Those that married tended to marry relatively local men and went to live with them. Long distance movements are more male-oriented, though with less intensity. This may be due to the fact that as the move towards single inheritance became more prevalent male siblings not in line for the family farm had to move farther away to find work. This became increasingly prevalent and by 1911, the move towards single inheritance was almost complete.

In 1911 (Figure 6, right), the situation is similar for northern as well as extreme western countries, but more muted. This might be due to the fact that nineteenth century traditions prevailed longer in the west which was in general slower to change and slower to modernise whilst opportunities in the textile industry in northern Ireland may have contributed to greater stability here. The situation in the southern half of the country is, however, very different, here the migrant gender-balance is overwhelming more female than that of the underlying population. By 1911 women in the south had become much more migratory.

6. Conclusion

Subsumed under the broader narrative of national exodus and hidden in the tabulated confines of the census tract, Irish internal migration has received limited attention from population historians. Here we have used OD Maps to help redress this issue, helping us study internal movements of male and female Irish migrants in 1851 and 1911 at a level of detail not possible using conventional forms of migration mapping. We have been able to analyse migration choices of men and women at these points in time but also, and more importantly, to identify key changes that took place during this formative period in Irish population history. These are, firstly, that the general move towards the east began in this period between the famine and independence. This move would have implications for the population geography of the island in the following century. Secondly, the distinctive patterns of migration towards Dublin and towards Belfast, that would become even more distinctive after partition, had also been well established by 1911. Finally, while Irish people were in general becoming more migratory, females particularly in the south and east had become significantly more migratory both in terms of their overall numbers and in terms of the distances that they were now prepared to travel in search of employment and/or more attractive marriage opportunities.

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Biography

Mary Kelly teaches cultural and historical geography. Most of her work to date has been on 19th century Ireland. Her research interests include population change, geographies of the Irish famine, literary geographies and historical GIS.

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