

“WE DON’T TRAVEL MUCH ... ONLY TO SOUTH AFRICA”: RECONSTRUCTING NINETEENTH CENTURY CORNISH MIGRATION PATTERNS

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INTRODUCTION

Dudley Baines poses a key question about nineteenth-century migration: ‘why did some places produce relatively more migrants than others which were outwardly similar?’¹ Yet pursuing an answer to this question is problematic in two ways. First, there is no agreed consensus on the scale to be adopted. In Britain most demographic data available to the historian of nineteenth century migration is organised at regional, county or at registration district (RD) level. The average size of the latter units were around 20,000 people. Although this enables investigation at a sub-county level, meeting Baines’ point that neither regional nor county scale is sufficiently sensitive to answer the relative migration question, it does not allow for easy testing of his further suggestion that the appropriate migration unit might be at the much smaller village or local community level. But the fluid process of immigration may need to be approached more flexibly. Charles Tilly has argued that the ‘effective units of migration were (and are) neither individuals nor households but sets of people linked by acquaintance, kinship and work experience’.² Transferring attention in this way from spatial units to neighbourhood, family or occupational networks tends to emphasise one of the broad approaches put forward by migration historians to explain the propensity to migrate, the existence of information networks, the other being economic conditions.³

The existence of information networks linking kin and community groups is seen as playing a particularly important role in the international migration that gathered pace in the nineteenth century.⁴ But widening migration fields after 1800 and the rise of mass overseas emigration from Europe also produce a second problem by creating a sub-division of migration history between studies of overseas emigration on the one hand and the explanation of internal migration (within the British Isles) on the other.⁵ But what if the question faced by potential migrants in the nineteenth century was not

so much ‘where shall I/we move’ but ‘shall I/we move’? If this was the principal issue facing would-be migrants then a merely geographical division between emigration studies and studies of internal migration would seem untenable. We can go further; this epistemological divide may actually distort our understanding of the migration process in the nineteenth century by focusing attention on one or other types of destination to the exclusion of viewing migration as a holistic process common to the majority of individuals in the nineteenth century. In one of the few works that encompass both processes, Baines concludes that there was no transparent trade-off between emigration and internal migration in England and Wales, at least at the county level.⁶ However, this conclusion does not preclude a trade-off at local or community levels. In order to test for this relationship he proposes that a ‘fruitful area of research’ might be the ‘very detailed micro-analysis of areas where internal and overseas migration overlapped’.⁷

One such area is of course Cornwall. Cornish migration has attracted a voluminous literature, much of this a direct result of the pull of the ‘great’ emigration on perceptions of Cornwall’s modern history. The enthusiastic and dramatic, even heroic, participation of thousands of Cornish people in the movement to the frontiers of the ‘British world’ in North America, Australasia and South Africa, and elsewhere to South America, has caught the imagination of late twentieth century Cornish historians. This has led to a raft of studies on Cornish emigration. Over the past decade there has been a determined attempt to move beyond the earlier classics of Cornish emigration that focused on the description of discrete migration streams.⁸ Philip Payton has synthesised this work and provided an overview of the process of emigration from Cornwall, connecting its disparate parts and linking it back to conditions in Cornwall itself. Other work by Payton highlights the role of the ‘emigration trade’ and the activity of emigration agents who stimulated and directed streams of migrants overseas.⁹ In a robust critique of the state of Cornish migration studies Sharron Schwartz added to the emergent revisionism by emphasising the dynamic nature of Cornish migration, making up a global circuit with multiple settings. She proposed that this is best understood by borrowing the concept of transnationalism from contemporary migration studies. At the same time, with Ronald Perry, she has re-assessed the feedback effect of migration on communities in Cornwall, revising an overly pessimistic picture of remittances and return migration.¹⁰

Yet revisionist writings on Cornish migration continue to exhibit three more traditional aspects. First, their focus remains resolutely fixed on overseas migration, with the considerable migration streams to the rest of the UK receiving much less attention.¹¹ Second, they focus on either a Cornwall-wide scale or the individual level rather than on intermediate levels. And finally, they prioritise the issue of the production and reproduction of the Cornish identity.¹² In contrast, in this article I wish to supplement this traditional paradigm in three ways. My first contention is that we need to break down the wall that divides overseas emigration from Cornish migration to other parts of Britain and within Cornwall itself if we are to evolve a generally applicable model of migration in nineteenth century Cornwall. Second, I delve beyond a simple Cornwall-wide level in order to identify migration patterns at lower levels of analysis.¹³ Finally, much has been written on Cornish emigration but the quantitative basis for this is, on inspection, extremely sketchy. Analysis of the processes of migration has tended to be based on surprising uncertainty about the precise patterns of that migration and conclusions are drawn on the basis of general historical knowledge rather than quantitative evidence. Therefore, I intend to focus here on measuring the patterns of Cornish migration, beginning the task of establishing surer empirical grounds for the discussion of migration processes.¹⁴

In the remainder of this contribution I start not with emigration but with the migration process in general and not with models of contemporary migration but with a survey of actual historical migration. After setting the context by briefly reviewing patterns of western European migration in the nineteenth century I use three different sources of nineteenth century data to bring together what is known about movement from Cornwall, both overseas and to other parts of Britain. I provide some preliminary answers to two questions. First, how many migrated, of what age and from which parts of Cornwall? Second, where did they go? After establishing the patterns of Cornish migration I return in the final section of the article to the processes of Cornish migration, comparing them with other migrations and identifying why many migrants left some places in Cornwall while few migrants left other places.

A TYPOLOGY OF MIGRATION¹⁵

Three types of migration were present in Europe around 1800. First, there were short-distance moves responding to local land, labour and marriage markets. This migration was closely related to the life cycle, including the migration of young people for service, and was directionless, sometimes described as circular. Second, we can discern a more purposefully directed migration stream from the countryside to towns. Peter Clark has divided this into betterment and subsistence migration.¹⁶ The former, which could also be termed career migration, relied on kin support, was relatively short-distance (although movement to capital cities was an exception) and respectable. Grounded in social networks, it was an early example of chain migration. The other kind of movement to towns has been characterised as subsistence migration: nomadic, longer-distance, not reliant on kin and less respectable. Finally, there was another form of circular migration but this time temporary and involving the regular return of the migrant. This was seasonal migration of people from economically marginal regions in search of work. This labour migration had become a part of life for many, particularly in upland regions in western Europe and was usually highly selective by sex, having a major impact on gender relations, child rearing and the household economy.

In eighteenth century Cornwall all these were occurring. Seasonal, or more properly temporary migration (as it might have involved several years), was especially associated with the mining industry as miners began to be sought out for mining developments elsewhere in Britain.¹⁷ Labour migration of miners was joined in the new century by a further variant, international or overseas migration. For example, by the 1820s Cornish miners were being recruited on a three year contract to work at mines in Mexico.¹⁸ Brettell notes how in the early modern period the most common migration was local and circular but that rural to urban migration grew in the later eighteenth and nineteenth centuries with the rise of industry and then longer-distance international migration became increasingly common in the mid and late nineteenth century. Emigration, she claims, was paradoxical in its effects. Broadly, it acted as a safety valve allowing peasant owners of land to sustain their way of life and maintain standards of living as family members emigrated and sent remittances home. But this conservative aspect combined with changing the lives of those who left, especially those who never returned.¹⁹ Work on Cornish emigration, often prefixed by the

descriptor 'great', would suggest that the phenomenon of mass emigration occurred early and strongly in Cornwall.

WHEN DID THEY GO?

From the aggregate population numbers in Cornwall we can fairly accurately pinpoint the beginnings of mass emigration. Before the 1830s population grew at a mean 16 per cent a decade, exactly the same rate as that of England and Wales. During the 1830s the Cornish growth rate slowed but was still within one per cent of that of England and Wales. Then growth slowed abruptly in the 1841-51 period to just 3.9 per cent, compared with 12.7 per cent in England and Wales. Massive net out-migration had set in during the 1840s, probably in response to the economically depressed years and bad harvests of 1846-48. Once begun, out-migration proceeded at a vigorous rate.

We know this from Baines' county level analysis of migration within and beyond the boundaries of England and Wales.²⁰ Cornish migration historians have made much of this. Yet they have also misread Baines' work in a number of particulars. The most important error has been to confuse his results for net emigration flows from the UK with net emigration from Cornwall. In fact, Baines' study gives him a global figure for the net migration of all Cornish-born, irrespective of place of residence. Thus it includes those Cornish-born who emigrated from Cumberland as well as from Cornwall. As a result, a table published in 1998 that has served as the basis for overall estimates of gross migration flows needs to be revised, using new estimates of native net migration flows direct from Cornwall (for the method see below) and combining these with Baines' results for migration of all Cornish-born. This is done in Table 1.²¹

Table 1: Migration from Cornwall, 1851-1901

	<i>Net Cornish-born migration to counties in England and Wales (% of mean native population)</i>	<i>Net Cornish-born emigration direct from Cornwall (% of mean native population)</i>	<i>Net Cornish-born emigration from other places in England & Wales (% of mean native population)</i>	<i>Total net Cornish-born out-migration (% of mean native population)</i>
1851-61	18400 (4.8)	25100 (6.6)		43500 (11.4)
1861-71	26200 (6.7)	27800 (7.1)	10300 (2.6)	64300 (16.4)
1871-81	40800 (10.4)	32400 (8.3)	3300 (0.8)	76500 (19.6)
1881-91	18100 (4.7)	18900 (4.9)	11100 (2.9)	48100 (12.5)
1891-1901	24000 (6.3)	13000 (3.4)	1800 (0.5)	38800 (10.2)
total	127500	115200	28500	271200

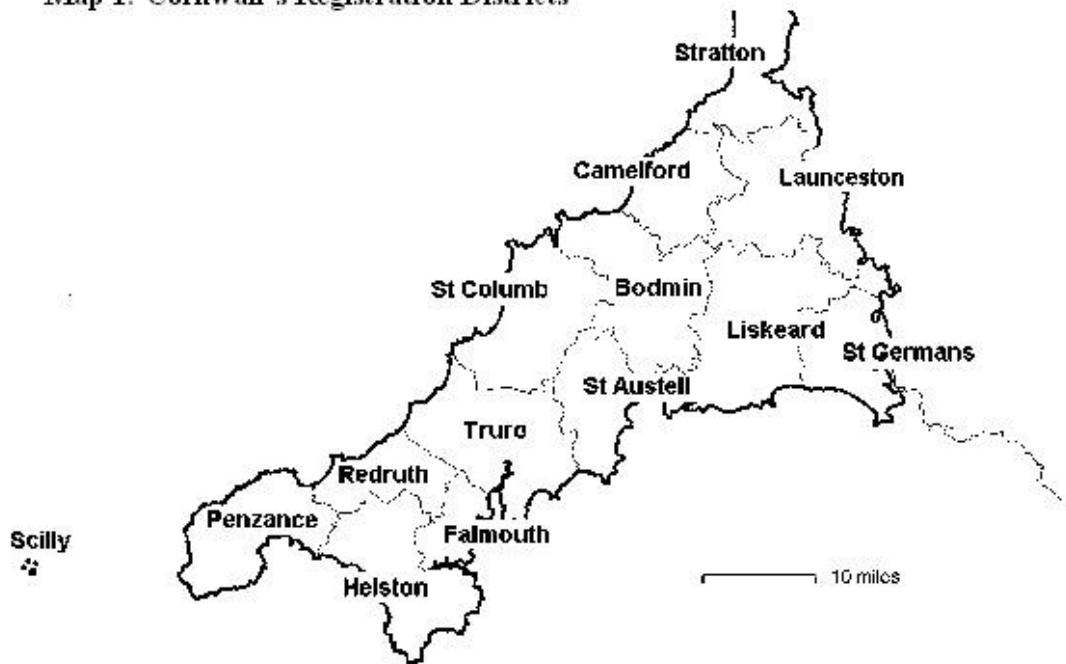
Source: Deacon, 2007; Baines, 1985, 289; 1851-61 calculated from published Census (BPP 1852-53 [1631] LXXXV; 1863 [3221] LIII) and *Registrar General's Annual Reports*, BPP 1852-1862.

The effect of this revision is to reduce the decadal flow of net emigration direct from Cornwall (and incidentally re-emphasise the importance of net flows to England and Wales). Nonetheless, Baines' point that Cornwall was unique in that more people eventually went overseas than went to England and Wales stands. In fact, Cornish men had a higher relative propensity to emigrate than any group at county level in England or Wales.²² Overall, migration out of Cornwall gathered pace from the 1840s to peak in the 1870s and then fell back in the final two decades of the century. Net overseas emigration ran strongly from the 1840s to peak in the 1860s and 70s, but fell away rapidly in the 1890s. (Although the fall in the 1890s may mask an increase in returns.) Migration to English and Welsh counties was more volatile. Only in the crisis decade of the 1870s, when plummeting copper and lead prices and seriously depressed tin prices led to a widespread contraction of the mining industry, and in the final decade of the nineteenth century, did migration across the Tamar exceed that of Cornish-born overseas. But many migrants to England and Wales in the 1870s later moved overseas from other places in Britain. This reinforces the point that in some decades overseas emigration and internal migration were clearly interrelated.

WHO WENT?

How far did net migration rates vary by age and sex? Andrew Hinde has proposed a method of calculating net native and non-native migration for small areas by age, deriving survival probabilities from age-specific death rates.²³ To make use of this, we need to know the number of births by sex and deaths by age in any particular decade as well as the age structure of natives and non-natives at the beginning and end of each decade. Fertility and mortality data were published for Registration Districts for the 1850s, 1860s and 1880s in the decennial supplements to the *Annual Reports* of the Registrar General of Births, Deaths and Marriages while the gap in the 1870s can be filled from the *Annual Reports* themselves. Meanwhile the age structure is available in the published census reports although not broken down between natives and non-natives.²⁴ However, the proportions of natives and non-natives in the population at each census date can be derived from the census enumerators' books (CEBs). Because of the time involved in extracting the CEB data Hinde restricted his method to individual parishes, assuming the death rate of the RD of which they were a part applied to them. This is of course only an acceptable method if the parish is representative of the RD and is best reserved for occupationally homogenous RDs. However, in the Cornish case, we can derive the age structure of natives and non-natives by RD relatively easily by making use of the computerised databases of the nineteenth century censuses supplied by the Cornwall Family History Society (CFHS).²⁵

Map 1: Cornwall's Registration Districts



A second and more subtle qualification of Cornish migration historians' readings of Baines' work can be made in relation to his discussion of the age structure of emigration flows. Payton and Schwartz both report Baines' conclusion that 'Cornwall lost [overseas] (net of returns) 44.7 per cent of the male population at risk (15-24) but only 29.7 per cent to other English and Welsh counties, 26.2 per cent of the female population at risk went overseas compared with 35.4 per cent who moved internally'.²⁶ But their statements could give rise to the potential misunderstanding that in every decade between 1861 and 1900 in Cornwall 45 per cent of men and 26 per cent of women aged 15-24 emigrated. This is not the case. Baines' calculation was obtained by dividing the total number of natives aged 15-24 in the whole period 1861-1900 by the estimated number of emigrants (net of returns).²⁷ This tells us that total emigration of Cornish born in the later nineteenth century was *equivalent to* 44.7 per cent of the male population aged 15-24 over the whole period from 1861-1900. This is not the same as saying that 44.7 per cent of all men aged 15-24 emigrated in any one decade. That would only be so if all emigrants had been aged 15-24. Although this was indeed the age group that was most likely to migrate, the calculations of age-specific net native migration from Cornwall in this period would suggest that they accounted for at most 60 per cent of all migration net of returns. Therefore it would be more accurate to say that an average 26-27 per cent of those men aged 15-24 in any

one decade may have emigrated, net of returns, still a very large proportion. That for women was lower, at round 10 per cent.²⁸

How do these estimates of the more global net migration of natives compare with evidence for the age and sex composition of net native migration flows out of Cornwall's thirteen mainland RDs?²⁹ The quantitative evidence reinforces the impression that migrants were overwhelmingly young. In all RDs and in all decades the 15-24 age group dominated net native male out-migration. In the 1870s in the mining districts of Redruth, Truro and Liskeard net out-migration of this age group was over 50 per cent of those present in 1871, indicating that well over half of young men left those districts in that decade. Together, the 15-24 and 25-34 age groups supplied over two thirds of male net out-migration, reinforcing the view that most migrants were young adults. The exception was the 1870s when young men aged 15-34 accounted for only 60 per cent of male native migration net of returns, evidence for a greater level of migration by families in this crisis decade. The pattern of female migration was however significantly different. The total net native migration rate for women was consistently lower than for men, at almost two thirds of the male level, although the two rates converged during the 1870s. Furthermore, women in the 15-24 age group accounted for a lower proportion of net female out-migration and young women aged from 15-34 made up only 56-57 per cent of female native net migration. However, the distribution of female migration by age shows the same changes as that of men in the 1870s, implying the structural conditions of that decade affected both sexes in the same manner.

While there was little difference in male native net migration rates by age group across Cornwall the female pattern betrayed an interesting difference between east and west Cornwall. In the 1850s east of Truro RD the highest female net native out-migration occurred in the 15-24 age group, as for men. But in west Cornwall net native out-migration was significantly lower in this age group, with net migration actually peaking in the older 24-35 age band. This may be evidence for the greater job opportunities for young women as surface workers in mining and the presence of the larger towns of Penzance, Camborne, Redruth, Falmouth and Truro which kept them within their RD. By the 1880s this difference in the female migration pattern was restricted to Penzance and Redruth RDs, suggesting it was related to the mining

sector, possibly to overseas migration, as women followed men overseas, but with a lag of a few years.

FROM WHERE DID THEY GO? NET OUT-MIGRATION FROM CORNWALL

Birth data by sex and death data by age are unfortunately only available at RD level. This means that calculating the more sophisticated age specific net migration rates for natives and non-natives is only possible for relatively large units. However, an alternative and much simpler measure is that of overall net-migration. To understand this we need to appreciate that population change is caused by changes in three components: fertility, mortality and migration. This relationship can be seen in the basic demographic accounting equation, which can be stated as:

$$P1 + \text{births } P1 \text{ to } P2 - \text{deaths } P1 \text{ to } P2 + \text{net migration } P1 \text{ to } P2 (\text{in-migrants} - \text{out-migrants}) = P2$$

where P1 is the population at a particular census date and P2 the population at the succeeding census.³⁰

If we apply this equation to Cornwall, we obtain the following figures for net migration out of Cornwall as a whole.

Table 2: Net migration, Cornwall, 1841-1891

	<i>Net migration</i>	<i>% of mean population</i>
1841-51	-31650	-9.1
1851-61	-35466	-9.8
1861-71	-53827	-14.7
1871-81	-65560	-18.9
1881-91	-39140	-12.0

Source: *Population Census* (BPP 1841 Session 2 [52] II; 1852-53 [1631] LXXXV; 1863 [3221] LIII; 1872 [C.676] LXVI; 1883 [C.3563] LXXIX; 1893-94 [C.6948-1] CV); *Registrar General's supplement to twenty-fifth annual report*, BPP 1865 XIII, 216-25; *Registrar General's thirty-fifth annual report: supplement*, BPP 1875 XVIII, 220-29; *Registrar General's supplement to fifty-fifth annual report, Part 1*, BPP 1895 XXIII, 386-99; *Registrar General's Annual Reports*, BPP, 1841-62 and 1873-1882

This simpler net migration measure consistently repeats the pattern seen in Table 1. This suggests that we can make use of the net migration statistic to uncover the relative picture at lower levels of analysis. The net migration rates for the Cornish RDs in each decade from 1851 to 1891 were as shown in Table 3.

Table 3: Net migration: Registration Districts, 1851-1891 (% of mean population).

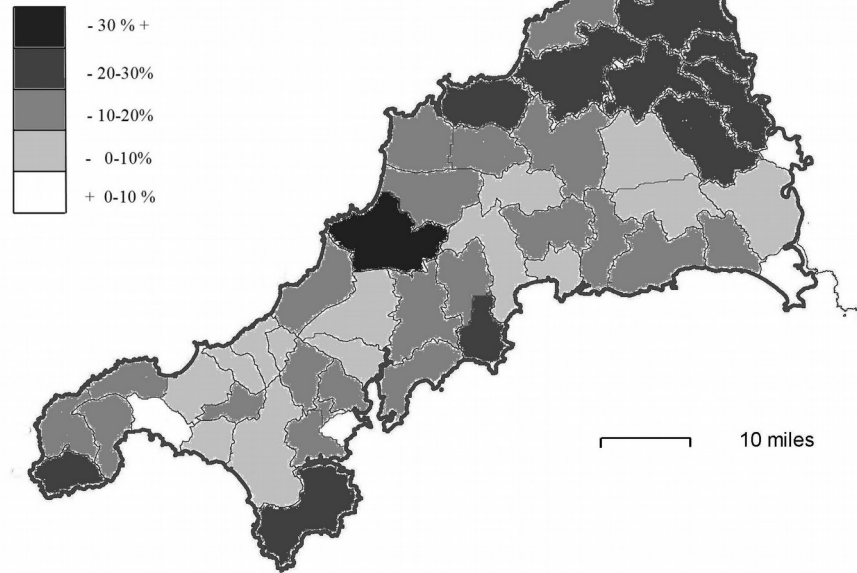
	<i>1851-61</i>	<i>1861-71</i>	<i>1871-81</i>	<i>1881-91</i>
Stratton	-16.3	-15.7	-18.4	-15.3
Camelford	-23.6	-7.8	-23.4	-18.1
Launceston	-21.2	-13.4	-19.6	-13.0
St Germans	-4.4	-9.3	-17.0	-1.0
Liskeard	-1.2	-15.1	-29.7	-18.8
Bodmin	-15.7	-9.7	-12.4	-12.8
St Columb	-18.6	-13.0	-15.6	-16.4
St Austell	-9.9	-19.1	-18.8	-9.2
Truro	-10.0	-13.8	-22.0	-14.2
Falmouth	-3.0	-1.9	-6.6	-11.6
Helston	-7.2	-19.6	-26.1	-15.3
Redruth	-6.7	-19.4	-24.3	-4.2
Penzance	-11.0	-13.6	-17.1	-14.7

Source: As for Table 2.

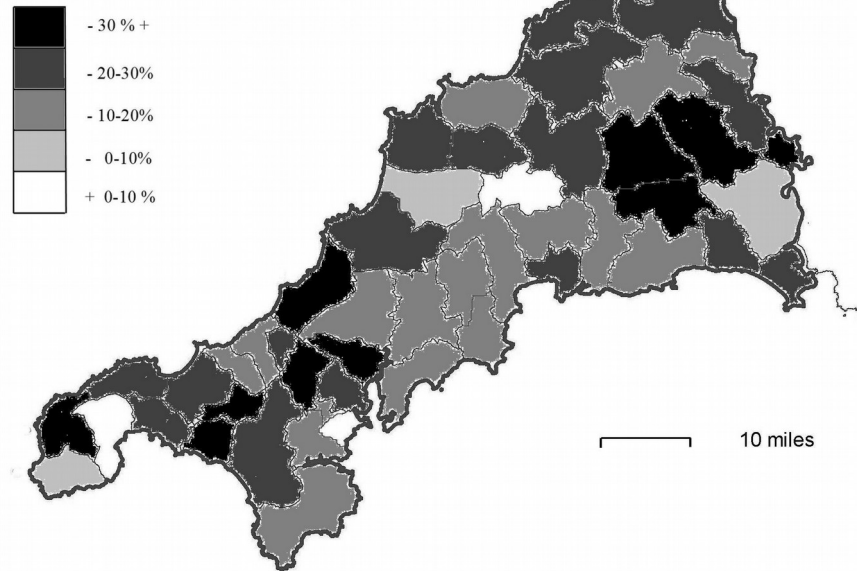
While every Cornish RD lost people through migration in every decade there was considerable variation, both across the RDs in any single decade and to an even greater extent in individual RDs over time.³¹ In the former case the greatest variation occurred in the 1850s. In that decade out-migration was highest in the rural and farming districts of east and mid Cornwall but low in Liskeard RD, where the mines near Liskeard and Callington were expanding rapidly, and in the maritime districts of St Germans and Falmouth. Net out-migration peaked generally in the 1870s, with the highest rates in that decade being experienced in the districts of Camelford, Liskeard, Truro, Helston and Redruth, districts where rural mining and quarrying industries were seriously hit by economic depression. These also tended to be the districts that experienced the greatest variation over time. Meanwhile the lowest variations were seen in Stratton, with a net out-migration rate that was consistently high, in Bodmin and St Columb RDs in mid-Cornwall and, perhaps more surprisingly, as it was a RD with a high proportion of its people engaged in the more volatile mining activities, in Penzance.

Hinde states that for small groups of parishes or for individual parishes ‘civil registration data or decadal rates of births and deaths are not normally available’.³² While the decennial supplements to the *Annual Reports* of the Registrar General do not include registration sub-districts (SDs) (which were comprised of parishes or groups of parishes) these statistics can be found – although less conveniently for the researcher - in the individual *Annual Reports* from the 1850s to the 1880s. These annual birth and death data were extracted for the 54 Cornish mainland SDs and their net migration rates calculated.³³ At this level there was an even greater variation across districts, with the largest differences occurring in the 1870s. Again, those SDs with the highest differences over time usually had occupational structures dominated by mining, such as Callington, Liskeard, Fowey (including the mining parishes of Tywardreath and St Blazey), St Agnes, Kea, Wendron, Breage, Crowan, Gwennap, Redruth, Phillack, Marazion and St Just in Penwith. Indeed, the very high overall net migration experienced in the 1870s in Breage and St Just in Penwith SDs, at around 44 per cent of the mean population, implies that gross out-migration of young men must have been well over 60 per cent in that decade, a major migration flow by any standards. Large differences over time were also seen in the urban districts of Launceston and Antony in east Cornwall, although the latter is the result of movements of military personnel in and out of barracks and of movements of naval vessels. The geographical pattern of out-migration at the SD level can be illustrated by two maps of the net migration rates in the 1850s and 1870s.

Map 2: Net migration 1851-60



Map 3: Net migration 1871-80

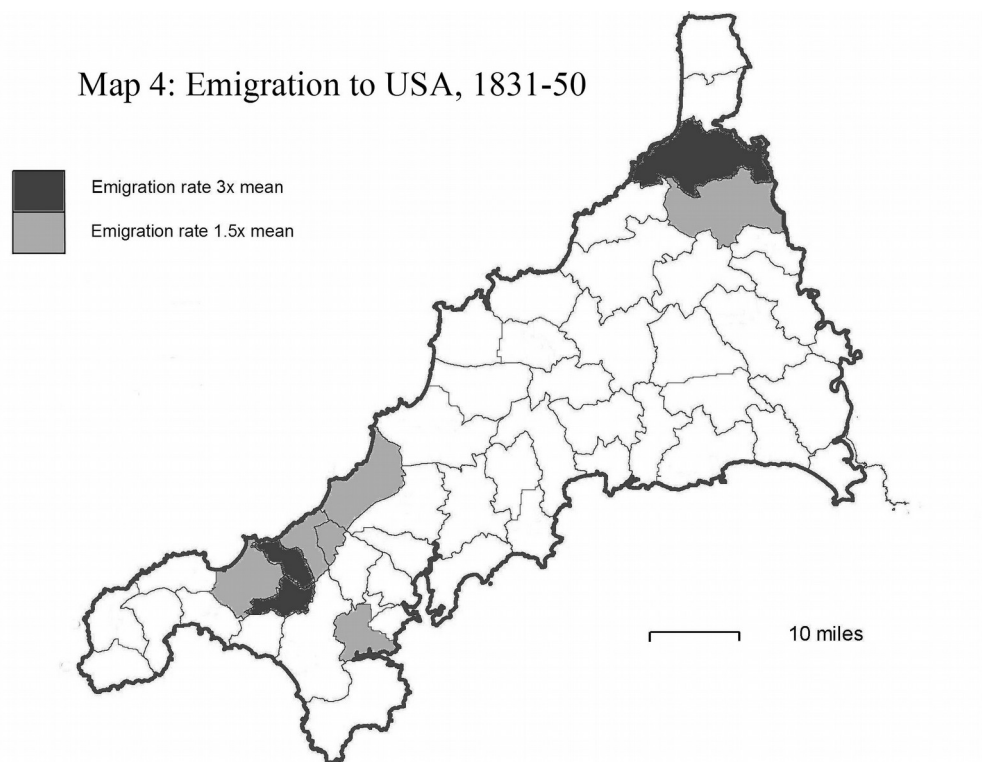


Comparing these maps clearly demonstrates how the districts with the highest out-migration were mainly found in east Cornwall in the 1850s – with a noticeable arc of

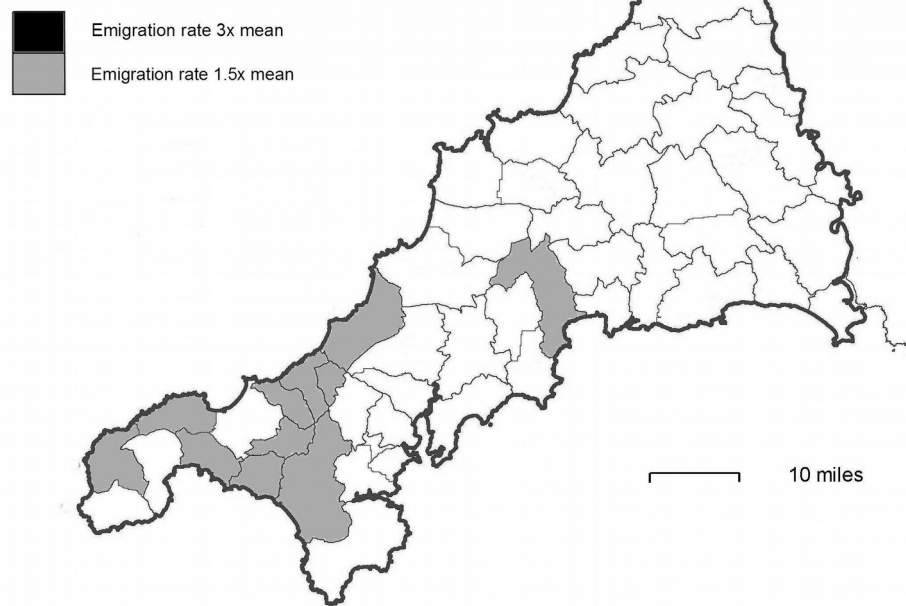
districts with high out-migration north and east of Bodmin Moor – but in rural mining districts in west Cornwall and to the south of Bodmin Moor in the 1870s.

WHERE DID THEY GO?

What were the destinations of migrants in the second half of the nineteenth century? And how far did this vary across Cornwall? We might begin to answer these questions by reviewing some preliminary analysis of the database of emigrants amassed by the Cornish Global Migration Programme (CGMP), based at Murdoch House, Redruth. This database contains records of over 36,000 Cornish emigrants. However, many of these lack critical data about parish of origin or are imprecise about the date of migration. Nevertheless, there are such details for almost 3,000 women and over 6,000 men who emigrated to the United States, the most popular destination for Cornish emigrants, from the 1830s to the 1900s.³⁴



Map 5: Emigration to USA, 1891-1910



As Map 4 shows, in the 1830s and 1840s two distinct districts within Cornwall supplied higher than average gross outflows to America, more than half of these emigrants going to Wisconsin. One was the farming district comprising Whitstone and North Petherwin in north Cornwall while the other was the mining area centred on Camborne and Crowan in the west. By the end of the century the rate of emigration from the north of Cornwall had fallen away and those districts with more than the average number of migrants leaving for the States (by this time around half were homing in on the state of Michigan) were clearly correlated with depopulating mining districts. But was there a more general relationship at SD level between the overall net migration rate and emigration? The correlation coefficient between net out-migration and overseas emigration to North America at the SD level is shown in Table 4.

Table 4: Pearsons product moment correlation coefficient: net out-migration and emigration to North America at SD level

1851-61	+0.190
1861-71	+0.520
1871-81	+0.533
1881-91	+0.108

Source: *Registrar-General's Annual Reports*, 1852-1892; published *Census Reports*, 1851-1891 and CGMP database.

There is indeed a weak correlation at the beginning and end of the period studied here but it is not significant at the 99 per cent confidence level. However, the relationship in the 1860s and 1870s is significant at that level, indicating that in those decades those SDs that lost most people through migration were also the districts from which people were more likely to leave for the USA. This might seem to suggest that the process of emigration, at least in the 1860s and 1870s, was produced by the same factors causing general out-migration, whether overseas or internally within the UK. Conversely, it implies that emigration and internal migration were conceptually more differentiated and perhaps complementary processes in the 1850s and 1880s.

In the final exercise discussed here the aggregate demographic data provided by the Census and the Registrar General's statistics, which produce native net migration for Cornwall and RD levels and net migration rates for SD level, and the Cornish Global Migration Programme's database, which allows us to establish the migration streams across the Atlantic at SD level, are supplemented by a third source, the census enumerators' books.

The use of CEB data has been confined in the past in local population studies in Britain to the study of in-migration, largely because of the time it would take to trace out-migrants.³⁵ However, the availability of computerised databases of the census books now allows for more rapid searches. Two possibilities open up. First, individuals can be traced across censuses even if they had moved from one end of the country to the other.³⁶ This is, however, still a lengthy process that demands a considerable input of time and an amount of lateral thinking in coping with the normal variation and drift in the details of name spellings, ages, and place of birth that any family historian soon realises were common practices amongst their forebears. The

second potential method is to use the CEB databases to search for aggregate numbers of people rather than specific individuals. This second method was used here. The objective of the research was to seek the location in 1891 of anyone born in Cornwall in the decade from 1851 to 1860. By 1891 this age cohort would have been aged 31-40. As we have already seen, the majority of net migration took place in the 15-34 age groups. Work collated by Mills indicates that the native born proportion of nineteenth century communities stabilised after age 34, suggesting that individuals were less likely to move after their mid-30s. Moreover, James Jackson, making use of much fuller migration data for Duisburg in Germany, also concludes that the typical male migrant in the 1800s may have moved as many as 15 times, the majority of these moves taking place when aged under 30.³⁷ Therefore, identifying the geographical location of the 31-40 year old age cohort in 1891 would hopefully capture the moves they had made in their 20s and early 30s, the ages when migration was most likely.

The age-specific death rates calculated for the RD level and the survival probabilities deduced from these were applied to the birth cohort. This provides a rough estimate of the number of those born in the 1850s that might be expected to have survived to 1891. Of course, as soon as someone migrated then they would have been subject to a different set of structural variables producing a different death rate. For the purposes of this exercise however, it had to be assumed that those who travelled to healthier districts were balanced out by those who travelled to less healthy districts. By finding all survivors resident in England and Wales in 1891 then, logically, the residual number (i.e. the number of expected survivors minus those actually identified in the census) will include all overseas emigrants. This residual might therefore provide a surrogate for the numbers emigrating overseas.

With this in mind, two databases were systematically searched for those born in Cornish parishes. First, the Cornwall Family History Society census database for 1891 was searched for those in this age cohort still resident in Cornwall. Second, the online database provided by ancestry.co.uk was searched by parish of birth. While the logic of this method is straightforward its efficacy is clearly dependent on the robustness of the data. There are three potential problems in this respect. First, some people in the nineteenth century forgot or otherwise changed their place of birth details from one census to another. From other work tracing individuals across censuses it has become

clear that there was a noticeable tendency for migrants to change their place of birth, either to the place they had moved, especially if they had married a native of that place and had lived there for a few decades, or from a village in Cornwall to a nearby town, for example from Mabe to nearby Falmouth. The former problem was minimised by the fact that most in this age cohort in 1891 had only relatively recently moved. However the latter problem will affect the data. This practice seemed most common for those who moved long distances and to cities. The result of this is to exaggerate the apparent number of long-distance migrants born in Cornish towns and diminish the number born in rural parishes. With this in mind, the method is therefore best reserved for at least SD scale where districts will often, although not always, combine a market town with some of its surrounding parishes. Its effect is minimised even further by restricting analysis to the RD scale and that is the scale focused on here.

The second and more insurmountable problem is presented by transcription error. Not only did nineteenth century enumerators (and heads of households) make mistakes in spelling placenames but this has been exacerbated by the process of digitising the CEBs. This latter does not seem to be a serious problem for the CFHS database where 'native' knowledge has been used to correct misspelt places of birth. But it is a major issue for the ancestry database. Misreadings of the original census page are common, for example Camborne appears frequently as Lamborne and the letters <a> and <o> are commonly transposed. Furthermore, what presumably involved a computerised scan as part of the process has resulted in many people whose place of birth was entered as 'Cornwall' followed by a parish appearing in the ancestry database as born in 'Cork'. A sample of Cornish places of birth revealed that about 25 per cent are misspelt in the ancestry database. However, many of these misspellings occur at the end of words and thus can be surmounted by computer wildcard searches and resort to the original page of the enumerators' book. In addition, local knowledge of placenames and dialect reduced indecipherable placenames to a much more manageable proportion of just over two per cent.

The third problem is that an unknown number of persons gave a place within a parish as their place of birth rather than a parish. Therefore searching for parishes alone misses these people. In consequence all the sub-parochial entries that appeared under

the place of birth column in the CFHS database were listed and these searched for separately in the ancestry database. Furthermore, to minimise the problem of misspellings each parish name was searched using spelling variants and a liberal use of wild cards. While these methods hopefully reduced those not found, the precise proportion in our age cohort who were actually present in the 1891 census but remain undiscovered remains unknown. A further group of people gave no parish of birth at all in the 1891 census but the entry would read just 'Cornwall' or variants of 'Cornwall, not known'. The numbers of these amounted to 8.9 per cent of the total Cornish born males and 9.2 per cent of the females. If the parish of birth of these people were known it would therefore reduce the residual by up to ten per cent.

With all these caveats in mind what does the exercise reveal? Where was the Cornish age cohort born in the 1850s living in 1891?

If we look first at the differences in the residual (the difference between the expected number of survivors and the actual numbers of the cohort located in 1891) for men we find that four of the RDs had a distinctly higher residual - Camelford, Liskeard, St Austell and Redruth (see Table 5). This implies that a larger proportion of men had emigrated from these districts than from the others. Conversely, these four districts spread across Cornwall also had the smallest proportions of their male cohorts still present in Cornwall. Three of these districts (the exception being Camelford) were also among those with the largest percentage of natives living in 1891 in the north of England. However, there were distinct differences in the actual places in which they were found. Men from Liskeard RD were more likely to have moved to Durham whereas natives of Redruth RD were most concentrated in Lancashire. And there two destinations dominated. The first was Burnley, whose attraction is well known from the qualitative literature; in the 1860s families from Camborne and Redruth were reported as being recruited for the cotton mills of Lancashire, while Cornish miners were being brought into Burnley as strike breakers in 1873.³⁸ This migration stream to Burnley was a well-established one and still strong twenty years later. The second destination – Rochdale - has not received such prominence hitherto. Presumably for similar reasons as Burnley, the possibility of employment for men in coal mining and women in the textile factories, people from Redruth were moving in considerable numbers to Rochdale during the 1870s and 1880s. In contrast, movement to the north

of England from St Austell RD was more dispersed across Lancashire, Cumberland, Yorkshire and Durham.

Table 5: Location of 1850s Cornish birth cohort by RD in 1891

	<i>Number of expected survivors</i>	<i>Cornwall (% of survivors)</i>	<i>Devon (% of survivors)</i>	<i>Other southern England (% of survivors)</i>	<i>Northern England (% of survivors)</i>	<i>Wales (% of survivors)</i>	<i>Percentag e of survivors not found</i>
Men							
Stratton	740	43.4	17.0	6.6	1.3	2.6	27.6
Camelford	863	38.1	4.1	5.8	1.9	0.6	48.8
Launceston	1581	41.2	10.9	9.6	4.4	0.9	32.6
St Germans	1526	38.7	15.7	11.1	3.1	1.0	23.8
Liskeard	4088	30.4	7.5	6.6	8.3	0.8	44.9
Bodmin	1830	48.1	7.0	11.9	2.9	2.0	25.7
St Columb	1634	49.6	4.5	10.7	2.1	1.4	29.9
St Austell	3255	38.2	4.1	6.0	4.1	1.2	43.7
Truro	3457	41.2	4.2	10.3	4.4	2.1	36.4
Falmouth	1577	44.1	6.0	16.2	6.2	2.7	21.8
Helston	2506	50.5	2.0	4.9	3.2	1.3	37.6
Redruth	1669	39.5	2.0	5.5	5.9	2.2	44.4
Penzance	2080	48.5	2.0	7.0	5.0	2.5	33.5
Women							
Stratton	798	46.0	17.7	10.1	1.1	1.3	23.8
Camelford	730	52.7	10.7	9.1	3.2	0.5	23.6
Launceston	1640	41.8	15.6	11.4	2.9	1.3	27.1
St Germans	1575	40.0	20.7	12.6	3.6	0.5	22.5
Liskeard	4211	40.6	13.7	8.3	7.5	0.9	29.0
Bodmin	1745	57.3	11.5	15.4	3.8	1.4	10.5
St Columb	1641	60.9	6.2	13.5	1.8	0.7	16.9
St Austell	3172	52.6	7.9	12.0	5.0	1.2	21.2
Truro	3462	62.6	6.2	14.1	5.1	2.2	9.6
Falmouth	1655	57.4	7.8	18.9	6.3	2.2	7.5
Helston	2594	68.5	3.7	7.9	3.1	0.9	16.0
Redruth	4384	61.4	4.5	8.8	7.5	2.1	15.8
Penzance	4181	67.0	3.9	11.9	6.1	2.4	8.7

Source: Census enumerators' books, 1891: The National Archives RG12 (accessed via Cornwall Family History Society transcription and www.ancestry.co.uk)

The problems of Cornish mining in the 1870s and 1880s clearly explain this pattern with those RDs with higher numbers of migrants to the north of England also being the districts with a larger proportion engaged in mining. The opposite is also the case.

Men from districts with an insignificant or non-existent mining sector were more likely to end up in the south of England. St Germans, Bodmin and Falmouth – agricultural or maritime districts – supplied the highest proportions of migrants to the south of England. These were also the RDs with the lowest male residuals, implying lower overseas emigration rates. To an extent therefore the density of migration flows to the north of England at this period may act as a surrogate for the relative frequency of overseas emigration at RD and SD level. Yet men from Falmouth RD were also amongst the most likely to move to the north of England. Here again the overall pattern of regional destinations hides a distinct migration stream as Falmouth men were more likely to move to Liverpool, the third focus for Cornish migrants in Lancashire, alongside Burnley and Rochdale.

There is more than a hint that cities such as Liverpool attracted proportionally greater numbers of migrants from urban places within Cornwall. The biggest city in Victorian Britain by far was London and Falmouth was one of the RDs with the highest number of men found in London in 1891, the others being Bodmin and Truro. The other RD supplying a relatively high number of migrants to London – St Germans - was less urban, but its proximity to Plymouth and convenient rail links to the metropolis by the 1880s may have increased movement to the capital. At SD level all those districts from which more than ten per cent of the identified cohort were found living in London were urban – Launceston, Truro, Falmouth and Helston for men and Launceston, Truro, Falmouth and Bodmin for women.

For women generally, the untraced residual was much lower (only in some agricultural districts in east Cornwall was this figure close to that of men). This reinforces the conclusions drawn from native net migration data that women were about half as likely to emigrate as were men. Those RDs with a large difference between male and female residuals (Camelford, Truro, Redruth and Penzance) may also have been the districts with larger sex-specific migration flows overseas. Yet the residual figures for women present an unexpected pattern. This time there is no relationship between a high residual and the presence of mining. Instead, the residual was generally significantly higher in east than in west Cornwall.³⁹ Why over 20 per cent of the women were untraced in this age cohort in 1891 in east Cornwall and yet fewer than ten per cent in the west is difficult to explain. It is unlikely this is a result

of higher rates of overseas emigration from east Cornwall, unless the pattern of origin of emigrants from Cornwall varied dramatically between the sexes, something that the CGMP database does not suggest. Such a variation would also be at odds with the general pattern of movement to England, which for women was similar to that for men; women from Falmouth, Bodmin and Truro RDs were more likely to move to southern England and women from Redruth, Liskeard and Falmouth to the north. Perhaps it suggests that greater numbers of women born in east Cornwall changed their place of birth or were otherwise unidentifiable from the census records in 1891.

FROM PATTERNS TO PROCESSES

What has the quantitative evidence told us? Calculations of both net native migration and the less sophisticated net migration rates reveal an out-migration at its height in the period from 1861 to 1891. The economically depressed 1870s stand out not only as the decade with highest net out-migration but for other reasons. This was the only decade before the 1890s when net migration to counties in England and Wales exceeded the net native overseas migration of Cornish-born people and it was during this decade that the usual preponderance of young people in the migration stream was weakest..

Within Cornwall, net out-migration was highest in the 1850s from the more marginal agricultural sub-districts as well as districts with specific economic problems, such as Newlyn East SD, where output from one of Cornwall's most productive lead mines in the 1830s and 1840s - East Wheal Rose – fell by three quarters during the decade.⁴⁰ Unpredictable variations in the productivity of mining help to explain some of those SDs that were experiencing net in-migration or very low out-migration at mid-century, such as Marazion, Breage and Camborne in the west or Callington and Liskeard in the newer mining districts of the east. By the 1870s and 1880s the generalised difficulties of mining meant that many of these same districts were by now seeing the largest losses from net out-migration, whereas net migration from agricultural sub-districts such as Kilhampton or Altarnun in north Cornwall remained more consistent.

Table 6: Pearsons product moment correlation coefficient: net migration and occupational structure, Cornish SDs, 1851-91

	<i>% of men employed in mining and net migration</i>	<i>% of men employed in agriculture and net migration</i>
1851-91	+0.255	+0.233
1851-61	-0.344	+0.552
1861-71	+0.431	-0.030
1871-81	+0.590	-0.128
1881-91	-0.089	+0.434

Source: As for Table 2 and Census enumerators' books, 1891: The National Archives RG12 (accessed via Cornwall Family History Society transcription).

This can be stated with more certainty by measuring the correlation between the occupational structure and the net out-migration rates at SD level as in Table 6. Over the whole of the period 1851-91 there was a positive correlation of out-migration with both mining and agricultural sectors. This means that those SDs with higher numbers either of miners or of farmers/agricultural labourers in their occupational structures were both likely to experience higher net out-migration. However, when this broad correlation is broken down into decades, it can be seen that it disguises a more complex picture.

Two patterns co-exist. At mid-century those SDs dominated by mining were actually less likely to lose people through net out-migration than were SDs with relatively few miners. In contrast there was a strong and more significant correlation between SDs dominated by farming and net out-migration. This is evidence not for the absence of out-migration from mining districts in the 1850s but for the strength of natural population growth in those districts, which offset the levels of gross migration, and the strong net out-migration flows from agricultural districts in this decade. However, in the 1860s and 70s this correlation reversed and a strong relationship appears between the mining industry and net out-migration, while that between farming and net out-migration disappears. In the 1880s the relationship between mining and out-migration is not so clear. (The weak positive correlation is not a significant one.) Yet the positive relationship between farming SDs and net out-migration re-appears and is almost as strong as at mid-century.

To some extent the pattern of overseas emigration, at least to North America, reflected these changes. In the 1830s and 1840s some of the marginal agricultural districts of north Cornwall were, relatively, amongst the most important exporters of people to North America, along with mining districts in the west, which had well-established networks reaching across the Atlantic. However, by the final decades of the century those districts with the highest relative number of emigrants to North America were all rural mining districts and the migration chains linking parts of north Cornwall to North America had snapped. It appears that emigration flows became more structured over the century as a result of the vicissitudes of the mining industry. In this sense the criticism that Cornwall's emigration history has been too 'minocentric' might be overplayed.⁴¹ On the contrary, the geography of the declining Cornish mining industry became a more important variable explaining the pattern of overseas migration as the nineteenth century proceeded (although not internal migration after the 1870s). Of course, the emigration flows from those districts could well have included large numbers, even a majority, of non-miners.

Finally, the destination of men in the age cohort born in the 1850s (and aged in their 20s and 30s in the 1880s) also displays a pattern clearly linked to the occupational structures of Cornish RDs. Migration streams to the north of England were predominantly from mining districts; those to the south were more likely to be from non-mining districts. The proportion of the age cohort that was not found in the 1891 census enumeration books implies high rates of overseas migration, at least for men. For women, while the regional pattern within England parallels that of the men the higher residual number is not easily explained. It suggests the need to refine this method further and test it on other age cohorts and other censuses.⁴²

Work on tracing individuals longitudinally across censuses may also shed light on the numerical differences between men and women. Indeed, research based on life histories is required to complement the aggregate approach adopted here. It is significant that this aggregate, quantitative investigation has resulted in a stress on economic conditions and the occupational structure as a prime explanatory variable in migration from Cornwall at a district level. This echoes the conclusions of those who have employed similar data to study migration at RD, county or national levels.⁴³ But it may overestimate the more easily measurable economic factors and underestimate

the less quantifiable information flows that structured migration and help to explain why districts with similar economic structures had different rates of migration. For example, Kilkhampton and Whitstone SDs in north Cornwall had very similar proportions of men employed in farming. But the flow of emigrants from Whitstone to the USA in the 1850s was considerable while that from Kilkhampton was negligible, despite a higher total net out-migration from the latter district.

Local variations in migration such as these can only be explained by life history research, both qualitatively and quantitatively, through making interconnections between movement and particular life events. The preliminary results of research on individuals' movement from contrasting communities in mid-Cornwall bears out Baines' conclusion that the most appropriate emigration unit may be the locality or community rather than the county or the intermediate levels such as the registration districts and sub-districts analysed here. However, this research also strongly hints that the migration unit may more usefully be viewed as family and neighbourhood networks rather than locality or parish.⁴⁴

CONCLUSIONS

This survey of some of the quantitative evidence available to us confirms the broad parameters of the migration patterns on which we might reconstruct the processes of the Cornish migration system of the mid to late nineteenth century. At mid-century that system involved three types of migration familiar from the general pattern of migration in Europe. First, the circulating, short-distance moves common to all regions occurred in Cornwall. These were triggered by local occupational opportunities, marriage and changing household income and expenditure. Second, such moves co-existed with rural to small town and small town to city movement up the settlement hierarchy. These involved a balance of career moves, either individually or in family groups, responding to the greater market opportunities of larger settlements, and more desperate tramping in search of work. Finally, long-distance migration occurred, including to destinations overseas. This depended on levels of savings amassed in periods of relatively high earnings, plus the activities of emigration agents and the existence of assistance schemes that both diverted existing migration streams and created new ones. Long distance migration was sex-specific,

involving more men than women, although a considerable though at present unknown proportion took place within family groups.

This system was disrupted in the later 1860s and the 1870s by the economic crisis induced by the sudden contraction of mining. The problems of mining injected additional push factors into the migration system, leading to a temporary surge in the movement of those in middle age and of family groups. Much of this was long-distance movement but it was more likely to be directed towards other more buoyant UK industrial regions rather than overseas because of the lack of financial reserves. Some of the extra push migration of the 1860s and 1870s was directed to large towns and cities but this was restricted by the preference on the part of miners for geographical over occupational mobility.⁴⁵ Those who might in earlier times have emigrated often used the industrial regions of Britain as stepping-stones to mining frontiers overseas once sufficient funds were amassed.

By the 1890s the importance of overseas migration was waning, partly because of the reduction in the demographic base remaining in those mining communities that had disproportionately fed this movement but also because of the greater attraction of internal migration. There is also a strong suggestion that net migration overseas fell back considerably in this decade partly as a result of a change in the composition of overseas migration flows. This was now more likely to be dominated by young single men as family migration fell away. Short stays overseas and higher rates of return migration became more common, related to the rise of the South African gold mining districts as a destination option.⁴⁶ International, transcontinental migration had by the end of the century come to resemble more closely the earlier common European pattern of seasonal labour migration, with a high rate of return and more sex-specific flows. It also fulfilled a similar function as did emigration for peasant communities in Europe, enabling families to maintain their cottages and smallholdings at home and sustaining this way of life up to the end of the century.⁴⁷

This was a system within which people decided to migrate or stay, that decision being taken in response not just to rational (or irrational) assumptions about prospective earnings elsewhere and current prospects at home but to cultural sub-systems such as chapel and community attitudes towards migration, to state policies and to marketing

activities both in Britain and elsewhere.⁴⁸ But the final decision whether to go or to stay and where to go was often structured by existing family and kin networks and to the information supplied by return migrants and letters from overseas as well as the resources provided by remittances. It was a system which was fluid and changing, where economic changes encouraged new and expanded old migration streams but where pre-existing migration chains and established networks led to recognisable continuity in the pattern of movement across generations.

- ¹ Dudley Baines, 'European emigration, 1851-1930: Looking at the emigration decision again', *Economic History Review* 47.3, 1994, p.540.
- ² Charles Tilly, 'Transplanted networks' in Virginia Yans-McLaughlin (ed.), *Immigration Reconsidered: History, Sociology and Politics*, Oxford, 1990, p.84.
- ³ Baines, 1994.
- ⁴ Caroline Brettell, 'Migration' in David Kertzer and Marzio Barbagli (eds), *Family Life in the Long Nineteenth Century 1789-1913*, Yale, 2002, p.244.
- ⁵ For the former see Eric Richards, *Britannia's Children: Emigration from England, Scotland, Wales and Ireland since 1600*, London, 2004; Carl Bridge and Kent Fedorowich (eds), *The British World: Diaspora, Culture and Identity*, London, 2003. For the latter see Colin Pooley and Jean Turnbull, *Migration and Mobility in Britain since the Eighteenth Century*, London, 1998; Dennis Mills and Kevin Schürer (eds), *Local Communities in the Victorian Census Enumerators' Books*, Oxford, 1996.
- ⁶ Dudley Baines, *Migration in a Mature Economy: Emigration and Internal Migration in England and Wales, 1861-1900*, Cambridge, 1985, pp.213-49.
- ⁷ Baines, 1994, p.540.
- ⁸ Among the classic works on Cornish emigration are A.L.Rowse, *The Cornish in America*, London, 1969; John Rowe, *The Hard Rock Men: Cornish Immigrants and the North American Mining Frontier*, Liverpool, 1974 and Philip Payton, *The Cornish Miner in Australia: Cousin Jack Down Under*, Redruth, 1984.
- ⁹ Philip Payton, *The Cornish Overseas*, Fowey, 1999 (second edition 2005) and "'Reforming thirties" and "hungry forties": the genesis of Cornwall's emigration trade' in Philip Payton (ed.), *Cornish Studies: Four*, Exeter, 1996, pp.107-27.
- ¹⁰ Sharron Schwartz, 'Cornish migration studies: an epistemological and paradigmatic critique' in Philip Payton (ed.), *Cornish Studies: Ten*, Exeter, 2002, pp.136-65; Ronald Perry and Sharron Schwartz, 'James Hicks, architect of regeneration in Victorian Redruth', *Journal of the Royal Institution of Cornwall*, 2001, pp.64-77. For a solidly based quantitative assessment of the role of remittances see Gary Magee and Andrew Thompson, "'Lines of credit, debts of obligation": migrant remittances to Britain, c.1875-1913', *Economic History Review* 59.3, 2006, pp.539-77 and 'The global and the local: explaining migrant remittance flows in the English-speaking world, 1880-1914', *Journal of Economic History* 66.1, 2006, pp.177-202.
- ¹¹ For the latter see Bernard Deacon, 'A forgotten migration stream: the Cornish movement to England and Wales in the nineteenth century' in Philip Payton (ed.), *Cornish Studies: Six*, Exeter, 1998, pp.96-117.
- ¹² For the latest examples of this see Bernard Deacon and Sharron Schwartz, 'Cornish identities and migration: a multi-scalar approach', *Global Networks* 7.3, 2007, forthcoming; Philip Payton, *Making Moonta; the Invention of 'Australia's Little Cornwall'*, Exeter, 2007.
- ¹³ This builds on my earlier call to move from analysing Cornwall to analysing 'Cornwalls'. See Bernard Deacon, 'In search of the missing "turn": the spatial dimension and Cornish Studies' in Philip Payton (ed.), *Cornish Studies: Eight*, Exeter, 2000, pp.213-30.
- ¹⁴ On the distinction between pattern and process in migration studies see W.T.R.Pryce, 'A migration typology and some topics for the research agenda', *Family & Community History* 3.1, 2000, pp.65-80.
- ¹⁵ The following section is based on the discussion in Brettell, 2002, pp.229-47.
- ¹⁶ Peter Clark, 'The migrant in Kentish towns, 1580-1640' in Peter Clark and Paul Slack (eds), *Crisis and Order in English Towns 1500-1700: Essays in Urban History*, London, 1972, pp.117-63.
- ¹⁷ Fishing after the 1810s could be viewed as another example of seasonal migration – see John Rule, 'The south western deep sea fisheries and their markets in the nineteenth century', *Southern History* 22, 2000, pp.168-88.
- ¹⁸ *West Briton*, 26 March 1824 and 1 April 1825.
- ¹⁹ Brettell, 2002, p.246.
- ²⁰ Baines, 1985, p.159.
- ²¹ The table appeared in Deacon, 1998, p.100. As net native migration of Cornish-born to counties in England and Wales is the same as net native migration from Cornwall to those counties, the difference in the figures for native net migration from Cornwall and net native emigration of Cornish born must be equal to the number emigrating direct from Cornwall. (It is not possible to break down the emigration figure for the 1850s because of lack of data on the location of Cornish-born in England and Wales in 1851). Confusion between net native migration from Cornwall and net migration of Cornish-born from England and Wales also underlies the apparent anomaly between Baines' results and my calculations of net native migration reported in Bernard Deacon, 'Reconstructing a regional migration system: net migration in Cornwall', *Local Population Studies* 78, 2007, pp.28-46.
- ²² Unfortunately, while calling for more quantitative evidence of migration flows, Schwartz (2002, p.136) confuses absolute and relative migration rates. She states that the Cornish male was 'by far the largest group of native emigrants to leave the shores of England and Wales', this being 'all the more remarkable given that Cornwall's population never exceeded half a million'. Cornish men were not the largest group to emigrate and for the reason she cites – their relatively small numbers.
- ²³ Andrew Hinde, 'The use of nineteenth-century census data to investigate local migration', *Local Population Studies* 73, 2004, pp.8-28.
- ²⁴ *Registrar General's supplement to twenty-fifth annual report*, BPP 1865 XIII, 216-25; *Registrar General's thirty-fifth annual report: supplement*, BPP 1875 XVIII, 220-29; *Registrar General's supplement to fifty-fifth annual report*,

Part I, BPP 1895 XXIII, 386-99; *Registrar General's Annual Reports*, BPP, 1873-1882. These were obtained from the online database of Parliamentary Papers at <http://parlipapers.chadwyck.co.uk/home>. The Decennial Supplements are also available from the UK Data Archive at the University of Essex (<http://data-archive.ac.uk>).

²⁵ The Cornwall Family History Society has transcribed the CEBs for Cornwall into relational microsoft access databases. These provide an invaluable resource for anyone working on the demographic history of nineteenth century Cornwall.

²⁶ Baines, 1985, p.159; Payton, 1999, p.42; Schwartz, 2002, p.137.

²⁷ Baines, 1985, p.122-23.

²⁸ These calculations assume that the age distribution of overseas emigrants and migrants to England and Wales were the same. This is probably unlikely.

²⁹ For an expanded discussion of age-specific net native migration at RD level see Deacon, 2007. For the full dataset of native net migration at RD level by age and sex see www.projects.ex.ac.uk/cornishcom/workingpapers.htm

³⁰ For an explanation of the method see Andrew Hinde, 'The components of population change', *Local Population Studies* 76, 2006, pp.90-95.

³¹ This can be measured by the standard deviation of the net migration rates, varying from a high of 7.1% in the 18590s to a low of 5.1% in the 1860s and from 11.8% in Liskeard RD over this period to just 1.4% in Stratton.

³² Hinde, 2006.

³³ For the full dataset see www.projects.ex.ac.uk/cornishcom/workingpapers.htm

³⁴ A full dataset of destinations and origins of these migrants is available at www.projects.ex.ac.uk/cornishcom/workingpapers.htm

³⁵ Mills and Schürer, 1996, pp.217-77.

³⁶ Kevin Schürer, 'Victorian Panel Study', *Local Population Studies* 73, 2004, pp.73-77.

³⁷ Dennis Mills and Kevin Schürer, 'Migration and population turnover' in Mills and Schürer, 1996, p.225; James Jackson, 'Migration in Duisburg, 1867-1890: occupational and familial contexts', *Journal of Urban History* 8, 1982, pp.250-51.

³⁸ *West Briton*, 25 January 1867, 25 September 1873.

³⁹ This difference is far too high to be explained by any difference in age-specific death rates across the districts.

⁴⁰ Roger Burt, Peter Waite and Ray Burnley, *Cornish Mines: Metalliferous and Associated Minerals 1845-1913*, Exeter, 1987, p.419.

⁴¹ Schwartz, 2002, p.138 and 156-58.

⁴² Although the absence of fertility and mortality data at the RD level before the 1850s makes this difficult.

⁴³ George Boyer and Timothy Hatton, 'Migration and labour market integration in late nineteenth-century England and Wales', *Economic History Review* 50.4, 1997, pp.697-734; Dov Friedlander, 'Occupational structure, wages, and migration in late nineteenth-century England and Wales', *Economic Development and Cultural Change* 40.2, 1992, pp.295-318. This is also noted by Paul Hudson, 'English emigration to New Zealand, 1839-1850: information diffusion and marketing a new world', *Economic History Review*, 54.4, 2001, p.680.

⁴⁴ Bernard Deacon, 'Communities, families and migration: some evidence from Cornwall', *Family & Community History* 10.1, 2007, pp.49-60.

⁴⁵ Roger Burt and Sandra Kippen, 'Rational choice and a lifetime in metal mining: employment decisions by nineteenth-century Cornish miners', *International Review of Social History* 46.1, 2001, pp.45-75.

⁴⁶ Payton, 1999, pp.344-69.

⁴⁷ Damaris Rose, 'Home ownership, subsistence and historical change: the mining district of West Cornwall in the late nineteenth century' in Nigel Thrift and Peter Williams (eds), *Class and Space: The Making of an Urban Society*, London, 1987, pp.108-53.

⁴⁸ For the advantages in adopting a systems approach to the study of past migrations see James H. Jackson and Leslie Page Moch, 'Migration and the social history of Modern Europe', *Historical Methods* 22.1, 1989, pp.27-36 and James Fawcett, 'Networks, linkages and migration systems', *International Migration Review*, 23.3, 1989, pp.671-80.