Deindustrialisation and Rural Depopulation in the East Allen Valley 1871-1891

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Deindustrialisation and Rural Depopulation in the East Allen Valley

1871–1891

Dov Goldberg, GmusHons., PPRNCM (Royal Northern College of Music)

Submitted for the Open University M.A. in History A826

11th January 2022

15,086 words
Abstract

Despite general acceptance of the importance of industry to rural economies, the impact of deindustrialisation is absent from the contemporary historiography of rural depopulation. This dissertation will explore rural depopulation resulting from industrial decline set against a background of agricultural change. In doing so, it will also provide details of a geographical area largely absent from the historiography.

By focussing on a socio-economically distinct area, this study seeks to avoid the difficulties of categorisation and regional definition that national aggregative surveys have previously encountered. An overview of migration and demographics using methods derived from family history will fuel a qualitative assessment of personal agency. Census, birth, marriage and death data, together with information from rate books, probates and oral testimony, are used to create a demographic picture of an area in which mobility develops independently from the push motives that ostensibly necessitated movement. Classical economic and structuralist perspectives examine entrepreneurial failure, aristocratic retreat, increasing State intervention, push/pull motivations and modernisation to explore the possible evidence of Mobility Transition.

The depopulation of this rural hill farming region was not agriculturally driven but resulted from the decline of lead mining in the area. Nevertheless, prominent levels of out-migration within all economic sectors predate the closure of local mines. The reduction of the valley's population to a third of its size over thirty years had several causes, not least migration's effect on fertility. Agricultural responses to depression and industrial failure are essential catalysts to migration, so too are changes to mobility and personal agency, particularly within the female contingent.
## Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>1</td>
</tr>
<tr>
<td>Chapter 1 Demography</td>
<td>12</td>
</tr>
<tr>
<td>Chapter 2 Migration</td>
<td>28</td>
</tr>
<tr>
<td>Chapter 3 Structure and Agency</td>
<td>48</td>
</tr>
<tr>
<td>Conclusion</td>
<td>63</td>
</tr>
<tr>
<td>Appendices</td>
<td>68</td>
</tr>
<tr>
<td>1: Cohort of 1 in 10 Households Allendale Census Districts 1–11</td>
<td></td>
</tr>
<tr>
<td>2: Cohort Women with children under fourteen, 1881</td>
<td></td>
</tr>
<tr>
<td>3: Women of Allendale with children under five (Allenheads), 1901</td>
<td></td>
</tr>
<tr>
<td>4: Location of Allendale Cottages</td>
<td></td>
</tr>
<tr>
<td>Bibliography</td>
<td>77</td>
</tr>
</tbody>
</table>
### Illustrations

#### Maps

<table>
<thead>
<tr>
<th>Page</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Allendale Villages</td>
</tr>
<tr>
<td>7</td>
<td>Allendale and Surrounding Region</td>
</tr>
<tr>
<td>57</td>
<td>Letts Geological Map including Railways 1883</td>
</tr>
</tbody>
</table>

#### Plates

<table>
<thead>
<tr>
<th>Page</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Census 1851 England and Wales: Population Tables II, vol 1</td>
</tr>
<tr>
<td>34</td>
<td>Workhouse Beef, <em>Edinburgh Evening News</em>, 1878</td>
</tr>
<tr>
<td>34</td>
<td>Workhouse Beef, <em>Hexham Courant</em>, 1879</td>
</tr>
<tr>
<td>39–40</td>
<td>Stonehall Farm advertised, <em>Hexham Courant</em>, 1897</td>
</tr>
<tr>
<td>44</td>
<td>A contemporary view of migration away from the lead dales, <em>Hexham Courant</em>, 1879</td>
</tr>
<tr>
<td>44</td>
<td>Emigration Sailings Advertisement, <em>Hexham Courant</em>, 1877</td>
</tr>
<tr>
<td>45</td>
<td>Emigration Information, <em>Hexham Courant</em>, 1879</td>
</tr>
<tr>
<td>54–55</td>
<td>Distress in Weardale, <em>Northern Echo</em>, 1881</td>
</tr>
<tr>
<td>59</td>
<td>Sir Hamo Thornycroft, <em>The Mower</em>, 1888–90</td>
</tr>
<tr>
<td>59</td>
<td>Georges Clausen, <em>The End of a Winters Day</em>, 1885</td>
</tr>
</tbody>
</table>

#### Figures

<table>
<thead>
<tr>
<th>Page</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>Comparative Population Data Associated with DTM</td>
</tr>
<tr>
<td>15</td>
<td>Life Expectancy in Mining Regions</td>
</tr>
<tr>
<td>15</td>
<td>Mortality Rates expressed as percentages</td>
</tr>
<tr>
<td>16</td>
<td>Infant and Childhood Mortality Rates</td>
</tr>
<tr>
<td>18</td>
<td>Cohort instances of possible limitation displayed, 1871</td>
</tr>
<tr>
<td></td>
<td>Possible limitation displayed, 1901 (Allenheads only)</td>
</tr>
<tr>
<td>---</td>
<td>-----------------------------------------------------</td>
</tr>
<tr>
<td>7</td>
<td>Allenheads, Population, 1871</td>
</tr>
<tr>
<td>8</td>
<td>Allendale Town, Population, 1871</td>
</tr>
<tr>
<td>9</td>
<td>Catton Population, 1871</td>
</tr>
<tr>
<td>10</td>
<td>Allenheads Population, 1881</td>
</tr>
<tr>
<td>11</td>
<td>Allendale Town Population, 1881</td>
</tr>
<tr>
<td>12</td>
<td>Catton Population, 1881</td>
</tr>
<tr>
<td>13</td>
<td>Allenheads Population, 1891</td>
</tr>
<tr>
<td>14</td>
<td>Allendale Town Population, 1891</td>
</tr>
<tr>
<td>15</td>
<td>Catton Population, 1891</td>
</tr>
<tr>
<td>16</td>
<td>Male/Female Employment 1861‒1901</td>
</tr>
<tr>
<td>17</td>
<td>Allen Valleys Population 1801‒1901</td>
</tr>
<tr>
<td>18</td>
<td>List of Alien Male Heads, 1871, Allenheads</td>
</tr>
<tr>
<td>19</td>
<td>List of Alien Male Heads, 1871, Allendale Town</td>
</tr>
<tr>
<td>20</td>
<td>List of Alien Male Heads, 1871, Catton</td>
</tr>
<tr>
<td>21</td>
<td>Allenheads Work Strata, 1861‒1901</td>
</tr>
<tr>
<td>22</td>
<td>Allendale Town Work Strata, 1861‒1901</td>
</tr>
<tr>
<td>23</td>
<td>Catton Work Strata, 1861‒1901</td>
</tr>
<tr>
<td>24</td>
<td>Migration of Household Heads 1871–1891</td>
</tr>
<tr>
<td>25</td>
<td>Birthplaces of Workers in a Neighbouring Coal Region</td>
</tr>
</tbody>
</table>
I confirm that this dissertation is entirely my own, unaided work and that no part of it has previously appeared in submitted work for this or any other institution.

Acknowledgements

I would like to thank Dr Nick Cott for his help as tutor and supervisor throughout the preparation of this dissertation and all the staff and tutors who have worked so hard in making the course so rewarding during periods of lockdown.
Introduction

Throughout the long nineteenth century, the ratio between rural and urban dwellers continued to change in favour of towns. In 1801 65% of the population lived in rural locations; by 1851, the majority were urban dwellers, and by 1881, 65% lived in urban regions.\(^1\) As the disparity widened, concern grew over the changing nature of the realm, and by the end of the century, 'the cry of Rural Depopulation [was] on everyone's lips,' and prompted a plethora of published works.\(^2\) It was ever so, Goldsmith wrote in 1770:

\begin{quote}
Far, far away, thy children leave the land.
Ill fares the land, to hastening ills a prey,
Where wealth accumulates, and men decay:
Princes and lords may flourish, or may fade;
A breath can make them, as a breath has made;
But a bold peasantry, their country's pride,
When once destroyed, can never be supplied.\(^3\)
\end{quote}

Despite relating to enclosure in the agricultural south, the concerns remained relevant throughout and beyond the next century: that the loss of population by emigration was a profligate waste of the Nation's wealth and that the drift towards towns was producing a breed inferior to the rural working class that reflected the true identity of the Nation. The work of John Rickman, connected with the development of the national census, demonstrates State awareness of rural depopulation in the early part of the century.\(^4\) Yet, it was not until the 1880s that there grew a body of work examining the issue rigorously and analytically.

\(^3\)Oliver Goldsmith, *The Deserted Village*.
Reflection upon the nature of the country's demographics appeared concomitantly with growing concern over the Nation's international economic, military and artistic performance.\(^5\)

Dissatisfaction with the capitalist drive that impelled entrepreneurship, evident from Conservatives and Socialists alike, was contemporaneous with a *fin de siècle* longing for a mythical Merrie England where squire and yeoman lived in harmony.\(^6\) Roy Judge describes the concept as 'revisiting a past England that never was'.\(^7\) Contemporary writing on rural depopulation (W. Ogle, D. C. Pedder, Lord Eversley, P. M. Roxby, A. L. Bowley) and land reform (G. B. Longstaff, P. A. Graham, A. H. Johnson, J. Collings) were inextricably linked.\(^8\)

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All work from the premise that rural depopulation was a problem that required a solution. The promulgation of various smallholdings acts, derived from the earlier enclosure of wastelands, was regarded as an incentive to draw people away from towns into the countryside. Success was patchy and largely dependent upon urban proximity. During the 1880s, smallholding became popular, but as it became apparent that profit was near impossible, smallholdings were amalgamated into larger farms as they had at the outset of enclosure. Pedder, Johnson and Collings interpreted depopulation as an inevitable effect of capitalist land-ownership. Collings regarded land reform and investment, both in agriculture and rural industry, as a remedy for rural loss. Pedder emphasises the changed nature of landowners toward their tenant farmers, noting the disappearance of a sense of duty and the increase of absentee rentierism.

Those concerned with land reform identified social concerns within rural areas. A fast-evolving nexus of industry and subsequent mobility led other contemporary writers to evaluate agricultural loss from a statistical and economic standpoint, attempting to quantify and categorise findings to develop an understanding of the Nation's urbanising metamorphosis. In doing so, they follow a line of empirical work from Farr and Ravenstein. Ravenstein's 'Laws of Migration' remain a basis for migration studies, and

Collings, Land Reform.
Collings.
Pedder.
Longstaff and Nicholson.
Welton's comprehensive survey formed a statistical basis for later economic historians, including Clapham (1939) and Cairncross (1938–1959). All found difficulty in defining their terms. Agreement not could be reached regarding how agricultural a region must be to qualify as rural. Longstaff referred to those ‘though in the country [but] not of it.’ Welton removed market towns from rural districts, whereas Bowley used population density to separate rural from urban. Many separated mining districts from rural areas for economic reasons. However, Nicholson (1906) states that ‘…it is necessary to point out that the occupations of the rural population are not entirely agricultural, nor directly dependant on agriculture[…] there is a good deal of mining, and there the residents derive their incomes from non-agricultural sources.’

Proto-industrial mining began within rural areas, but by the mid-nineteenth century, coal mining had become a large industry, adjacent to towns but retaining much of their early rural character. Welton and those who used his methodology and findings separated coal mining from rural and urban data but did not treat metalliferous mining or quarrying in the same manner. Instead, these key areas of industry were parcelled within rural residues and their economic and demographic data was misinterpreted as further evidence of agricultural depression. ‘The common practice of marshalling population statistics by counties […] is found on close examination to be misleading.’ Aspects of demographic movement became lost within county boundaries, in County Durham, from Weardale to the coalfields and Northumberland, from Allendale to Tyneside.

18 Welton, England’s Recent Progress, p.3.
Investigation into the apparent increase in urban population presupposed that a decline in the necessary agricultural workforce was the cause. However, following the initial wave of inflation from rural regions, the precipitous rise in urban populations resulted primarily from internal growth.\(^{19}\) Later chapters show that migratory responses to rural economic failure were many and varied, prompted by, and in response to, knowledge, kinship and aspiration. Ogle pointed out that very few rural localities were experiencing actual depopulation; the hill farming regions of the West and North offer another version of the rural exodus. Here, where rural industries impact the local economy, depopulation is not only actual, in some cases, such as Coalcleugh in the West Allen Valley, population loss is total. In many hill farming regions, depopulation occurred because of industrial collapse as well as agricultural decline; in the Allen Valleys, the population fell from around 6,000 in 1861 to 2,000 in 1911. Further chapters will investigate the details of the extravagant decrease in population in the East Allen Valley by quantitative demographic analysis, individual migrational histories and a structuralist overview.

Geographical understanding is necessary for determining historical causation, especially at a local level. For Hoskins, topography was the starting point for local history.\(^{20}\) Throughout this dissertation, Allendale will refer to the locality and Allendale Town to the central village of Allendale. Map 1: There are three distinct parts of Allendale. Allenheads and Sparty Lea lie at the top of the valley at an altitude of 1,325ft. This is the main mining area within the valley with a smelt mill at dirt pot. Allendale Town (800ft) is the region's commercial centre and market town. Catton (650ft) served the largest smelt works in the North of England and was composed of many smaller farms, whilst the village held several small shops.


Due north of Catton, several small coal mines, notably Cart's Bog and Stublick, served Langley smelt mill. Built by the London Lead Company (LLC), the smelt mill served both theirs and independent Alston Moor mining companies.

The Allendale mine workings were owned and operated by the landowning Beaumont family, who also leased Weardale mining rights from the Diocese of Durham.

Map 2 places the area within its wider region; to the south lie the rich lead mining valleys of Weardale and Teesdale. Alston moor to the west is also a lead mining area with mainly family and small company interests, many of which were already abandoned by 1871. To the east lies Allendale common, moorland over which, in the late eighteenth and early nineteenth
centuries, trains of ponies hauled lead via Dukesfield smelt mill to Blaydon where lead had been refined for centuries. 21

Map 2: Allendale and Surrounding Region

Hunstanworth, a lead mining area similar to Alston Moor, lies further east. From Lanchester to the east coast lies the Durham coalfield. The Tyne Valley runs from the coast at Tynemouth to Haydon Bridge. Blaydon was the furthest point upstream capable of harbouring vessels large enough to carry quantities of lead and home to the WBLC and LLC refineries. That part of Northumberland that lies north of the Tyne is regionally distinct from that south of the Tyne, with border hill grazing to the west and large-scale arable farms to the county's east. County Durham is defined by its coal mining and coastal towns,

21 Blae, the Saxon word for lead from which Blaydon gets its name.
Northumberland by the prosperous eastern arable farms and Tyneside industries, Cumberland by the rural lake district and proto-industrial coastal remnants. The Northern Pennine lead mining area lies across these three counties and is economically and topographically distinct. Inter-county demographic studies using large scale census data obscure patterns of movement as much as artificial distinctions between agricultural and industrial populations within rural areas. Local studies such as this are essential in rectifying misconceptions brought about by broad studies.

That farming occurs in the highest parts of the Dales Allenheads (1,325ft), Garrigill (1,135ft), and Nenthead (1,500ft) belies the fact that these villages were built for mining communities. Smallholdings became an essential and practical part of mining life and vice versa. Many of those who entered the lead industry came from farming families and later moved back into farming. Mr J. R. Armstrong describes that the availability of basic labouring within the lead industry was an essential aid to those whose focus was agricultural. He relates that 'his father was thirty before establishing himself on his own farm. His brothers were lead miners and farmers too, they also had small farms. It was not so difficult to get a farm in those days.' Mine owners ensured at least six acres of land to tenants. Even the miners who rented privately still made sure to have enough land to keep at least one cow. Frequently, land apportioned to tenants was intake land from the fell – duly improved by cattle grazing and the numerous horses required for mine work.

Workers formed partnerships and struck yearly bargains with the mining agent regarding payment per bing or fathom excavated. An additional weekly subsistence, instigated to enable

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24 Hunt, pp.145–149.
25 Allendale Rate Books. NRO 10538/2.
miners and shopkeepers to mitigate the debilitating interest on foodstuffs, had by this time become a wage. Partnerships were fluid but often family-based, deciding working hours and year-end pay. An average of six hours a day was usual before 1849 when a working day of eight hours was insisted upon by the Wentworth Beaumont Lead Company (WBLC) chief agent Thomas Sopwith. Lead miners remained independent agents, frequently with multiple sources of income.26

The following research corroborates several tenets of migrational theory that go back as far as Ravenstein's Laws; others prove less applicable when judged against specific individual's data. The methodology used in chapters one and two derives from Pooley's utilisation of family histories.27 Baines, similarly, has used micro-focused data relating to emigration.28 By selecting every tenth household, a total of one hundred families throughout the valley gives a statistically acceptable cohort. Using Ancestry.com, where census details combine with birth, marriage, death, voting, probate and other sources, family trees for all families have been constructed, providing evidence of migration patterns. This sample population serves as a basis for varied statistical interpretations regarding nuptiality, fertility, working occupations and migration routes.

Chapter 1 targets traditional facets of demography in terms of the demographic transition model (DTM). The changing balance between mortality and fertility play a part in depopulation, and migration affects both. Comparison of local, regional and national trends in mortality, nuptiality and fertility, explored with recourse to the cohort of Allendale households, shows that fertility within the valley declined due to migration. Complete age-

26 Thomas Sopwith, in Benjamin Ward Richardson, Thomas Sopwith, with excerpts from his Diary of Fifty-seven Years, (London; Longmans, 1891), pp.296–308.
27 Colin Pooley and Jean Turnbull, Migration and mobility in Britain since the 18th century (London: UCL Press, 1998).
specific population graphs show very distinct models of depopulation within the three villages. Most importantly, there appears a change in the readiness of inhabitants to migrate.

The classical economic model of push/pull motivations only partially explains Allendale-born residents' destination choices. Chapter 2 deals specifically with the targets of migration and, thereby, the causations of mobility. Ravenstein's laws of migration remain a remarkably accurate first attempt to codify the various aspects of population movement. There is also compelling evidence relating to Zelinsky's much-revised mobility transition theory. Specific technological innovations increased the ability and, therefore, the likelihood of mobility. Rail lines and road transport improvements, cheap regional and national newspapers, growing secularisation, and particularly female agency are readily acceptable facets of the modernisation associated with the Mobility Hypothesis and structuration theory. Chapter 3 examines the psychology of the landowning entrepreneur and the relationship between the Beaumont brothers, Walter and Wentworth. Their dealings touch upon varied topics such as non-conformism in politics and the anachronistic workings of upper-class dynastic families. The established church's failure to perform a role for the rural working-class in the North Pennines and similarly rural-industrial areas and its intransigent business practices come into question. Thomas Sopwith junior's involvement with the Linares mines in Spain gives fascinating insights into home and foreign investment structure and psychology within the industry.29 The WBLC's readiness to invest in foreign competitors while mining operations were under pressure at home raises issues of managerial failure. National and global developments in education, trade and finance all influence the social structure within Allendale and serve to initiate a change in mobility.

29 Robert W. Vernon, Thomas Sopwith Jnr. La Tortilla and his other mining venture at Linares, Spain (Keighley: NMRS, 2013), ch.3.
Several connected yet distinct layers of causation become evident when determining the nature of Allendale's extravagant rural depopulation. Firstly, there remained a continuing diminution of the required agricultural workforce necessary; agriculture constantly underwent intensification resulting from technological and technical advances and a globalising market. Secondly, the obvious push motivation from the faltering lead industry and complimentary pull incentive that urban, commercial and industrial opportunities had upon neighbouring rural areas. Thirdly, the discrete psychological aspect of an increased willingness toward mobility and a broadening of prospective horizons within a community, hitherto bound to its birthplace.
Chapter 1: Demography

'In investigating internal migrations, light is incidentally thrown on questions of comparative mortality, and on birth and marriage rates, all having a direct influence on the growth of population.'

Following Welton's lead, this chapter details the mortality and fertility of the East Allen Valley in terms of the Demographic Transition Model (DTM), including nuptiality, family limitation, age and economic structure relating to migration both in and out of the valley. Despite its stuttering profitability, the presence of the lead industry partially offset the emigration expected from this rural region. Although significant emigration occurred sporadically, the retention of workers, especially from the young, family forming age group, enhanced the population beyond the national average during the first half of the nineteenth century, in a region that lagged behind the rest of the country in terms of population growth.

After 1861, the loss due to internal migration of much of this age group affected fertility and mortality.

Figure 1 sets the population figures for the East and West Allen Valleys into a national context. The population figures for Allendale differ from the classical, and specifically, UK DTM. Nationally, the mortality rate remained higher than the classical model due to the specific nature of the country's industrialisation; long working hours in dangerous occupations, overcrowded conditions in unsuitable and unhealthy housing, poor diet, low wages and medical ignorance surrounding infectious diseases combined to keep the mortality rate high.

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32 Allendale statistics from Communities.Northumberland.gov.uk.
East Allen Valley and the Demographic Transition Model

Figure 1: Comparative population data associated with DTM

Wrigley and Schofield demonstrated that a move toward earlier nuptiality, from twenty-six to twenty-three years of age for women, initiated population growth from the mid-eighteenth century.

The enhanced population increase, especially between 1821 and 1831 in Allendale, is as noteworthy as its later depopulation. The presence of the lead industry is undoubtedly responsible for the uneven rise in numbers during the early part of the century, but its cessation postdates the start of depopulation. The absence of a definite economic trigger to Allendale's specific turn in mobility points to mobility transition as a possible source for

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33 Cambridge University, Populationspast.org.
migration. Zelinsky himself has revised his original statements regarding modernisation theory.  

The progress of a community toward advanced development status can be gauged by its control over energy, things, and knowledge, as exercised both individually and collectively, and by the attainment of personal mobility, that is, a widening range of options for locating and patterning one’s life.

More recent adaptations of modernisation theory rest on a social and actor-driven impetus; structuration theory attempts to integrate broad structural processes of state, religion, and modernisation with a heightened view of the importance of everyday social practice. An alternative rendition of Zelinsky's statement might be that personal mobility occurs, with individual and societal control over social structures as an aspect of modernisation. The notion that social and economic conditions combine to create an environment whereby the individual's agency is the prime motive for change rather than a combination of simple economic push/pull stimuli is a relevant model for this example of rural depopulation.

Mortality and Living Conditions

In the years before 1830 and after 1870, significant decreases in the crude death rate occurred. Improvements in food production and distribution improved the life chances of the adult population. Towards the end of the century, breakthroughs in treating viral and bacterial diseases significantly impacted childhood and (later) infant mortality, affecting the crude rate; however, in the years between these two eras of improvement, varying aspects of work-related poverty combined to keep the mortality rate at around 22.5 per thousand.

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Anderson points out that this national level varied widely between occupations and locations and between the sexes and classes.41

Wallace remarks of nearby Alston Moor, 'the cultivation of land on mountain-sides is a healthy occupation [...] It would appear that the climate of Alston Moor is favourable to health'.42 Woods (fig.2) sets out the relatively favourable nature of living conditions in the northeast mining region after estimating partial life expectancy for the period 1849 –1853 between ages 25 – 65.43

Figure 2: Life Expectancy in Mining Regions

<table>
<thead>
<tr>
<th></th>
<th>Miners</th>
<th>Non-miners</th>
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<tbody>
<tr>
<td>All 19 districts</td>
<td>23.60</td>
<td>26.58</td>
</tr>
<tr>
<td>Cornish districts</td>
<td>23.56</td>
<td>27.77</td>
</tr>
<tr>
<td>Staffordshire Districts</td>
<td>22.23</td>
<td>25.64</td>
</tr>
<tr>
<td>Durham and Northumberland districts</td>
<td>27.49</td>
<td>26.01</td>
</tr>
<tr>
<td>Merthyr Tydfil</td>
<td>20.40</td>
<td>21.91</td>
</tr>
</tbody>
</table>

The Morning Chronicle's *Labour and the Poor* column compares 1850 mortality rates at the regional level (fig.3), now defined as a percentage.44

Figure 3: Mortality Rates expressed as percentages

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
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<tbody>
<tr>
<td>Gateshead</td>
<td>2.523</td>
<td>2.351</td>
</tr>
<tr>
<td>Sunderland</td>
<td>2.703</td>
<td>2.287</td>
</tr>
<tr>
<td>Durham</td>
<td>2.206</td>
<td>2.122</td>
</tr>
<tr>
<td>Weardale, Teesdale &amp; Allendale</td>
<td>2.028</td>
<td>2.012</td>
</tr>
</tbody>
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Figure 4 demonstrates the varying rates of childhood mortality in four nearby environments.\textsuperscript{45}

Figure 4: Infant and Childhood Mortality Rates\textsuperscript{46}

For children and adults of the North Pennine lead mining communities, the rural living environment displays comparatively low mortality rates despite the deleterious nature of the lead industry. Living environment, or more precisely, the living conditions associated with male occupations, was a more significant factor in life expectancy than occupation.\textsuperscript{47} Women and children tended to suffer from lower nutrition and spend more time in overcrowded and damp housing, hence the high rates of phthisis amongst teenage girls.\textsuperscript{48} Nevertheless, during the latter half of the century, housing in mining districts improved and was generally of a higher standard than older rural buildings and significantly more salubrious than the rookeries of the urban labourer, as Orwin puts it, 'although rural housing was poor, it was worse in towns'.\textsuperscript{49}

\textsuperscript{45} Data derived from populationspast.org.
\textsuperscript{46} Populations Past.
Whilst classical nuclear families are uncommon, fragmented and altered versions abound. Children spill over to neighbours and relations. Nieces, nephews and boarders with vague connections are typical and live-in domestic service is as common as charring. The household headed by widow Ann Cresswell comprises her two brothers, two sons, two female visitors, her sister-in-law, and a nephew.\(^{50}\) High levels of unpredictable mortality and fertility led families to adapt with flexibility to accommodation availability. Housing availability did not adversely affect family size as it did composition. The mixed occupational nature and rural surroundings created a mortality rate lower than the national average and significantly lower than the urban labouring class on nearby Tyneside.

Fertility, Nuptiality and Limitation

The UK differs from the classic DTM in that the driving force for population growth was an increase in fertility in the late eighteenth century rather than any significant adjustment in the secular mortality rate.\(^{51}\) One reason postulated to explain the lowering of the age at first marriage is the adverse effect early enclosure had upon female agrarian work.\(^{52}\) Wrigley and Schofield established that the fall in female marital age led to a twenty per cent increase in fertility.\(^{53}\) The northeast was slow to exhibit this fertility turn; readiness to employ improved farming techniques allowed the employment of hind families to continue to the mid-century.\(^{54}\) By the latter half of the nineteenth century, mainly due to mining communities, the region exhibited higher fertility levels than the rest of the country.\(^{55}\)

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\(^{50}\) Ann Cresswell (1871) Census return for Allendale, district 7, Northumberland. PRO RG10/5148, folio 7, p.8 (2021).

\(^{51}\) Woods, *The population of Britain in the Nineteenth Century*.


Towards the end of the century, fertility begins to fall as age at marriage rises nationally. A further contributory factor is the limitation of family numbers by deliberately delaying, spacing or stopping pregnancies. A Malthusian point of view might link falling birth rates with a crowded out living market due to falling mortality rates; an alternative interpretation might highlight the changing impact of female agency as the primary force behind these changes. Not only are women engaging in broader fields of work, but they are also migrating further and earlier. Despite the economic impetus to limit fertility, Allendale does not exhibit any apparent signs of limitation. An explanation might be that the social-diffusion theory is inappropriate to a working-class rural area with no middle class to emulate.  

The most significant cause of fertility decline lies with nuptiality levels reverting to the pre-take-off levels of the seventeenth century, a slight but influential adjustment. Rather than a trend, low age at marriage either side of 1800 appears a temporary adjustment to changed conditions. To best examine the extent to which limitation played any part in the rural depopulation of Allendale, an inspection of the frequency of births provides some information. Figure 5 draws from those women appearing in the cohort of Allendale residents. These women appeared in 1871 with children below working age.

<table>
<thead>
<tr>
<th>No Limitation</th>
<th>Possible Spacing</th>
<th>Possible Infant Mortality</th>
<th>Stopping</th>
<th>Delaying</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>4</td>
<td>11</td>
<td>5</td>
<td>1 (Four years)</td>
</tr>
</tbody>
</table>


57 See appendix 1.
Figure 6 offers a comparison with a date late enough to expect evidence of limitation, this time selecting all families within enumeration district 1 (Allenheads) with a child under five years of age.

Figure 6: Possible limitation displayed, 1901 (Allenheads only)\textsuperscript{58}

<table>
<thead>
<tr>
<th>Families</th>
<th>Displays neither stopping nor spacing</th>
<th>Stopping</th>
<th>Spacing</th>
<th>Stopping and spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mary Dixon</td>
<td>Isabella Dickinson</td>
<td>Elizabeth Heslop</td>
<td>Hannah Byre</td>
<td>Elizabeth Robson</td>
</tr>
<tr>
<td>Ruth Philipson</td>
<td>Mary Sanderson</td>
<td></td>
<td>Mary Ritson</td>
<td>Ann Hutchinson</td>
</tr>
<tr>
<td>Clara Heslop</td>
<td>Mary Ann Vickers</td>
<td></td>
<td></td>
<td>Sarah Pearson</td>
</tr>
<tr>
<td>Mary Rowell</td>
<td>Elizabeth Hudspith</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jane Dixon</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mary Ann Parker</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mary H. Dixon</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elizabeth E. Nixon</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mary E. Bell</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Whilst there are anomalies in the spacing of marriages and births, the evidence for family limitation in the East Allen Valley is far from persuasive. Uneven spacing is most likely an indication of infant mortality. Neither cohort displays evidence of limitation that exogenous influences could not otherwise explain—female age at marriage averages 22 in 1871, with no evidence of delaying first births. By 1901 female age at first birth was 23.3. Where marriage is traceable, first births appear within a year either side of marriage, displaying no evidence of delaying.

The cohort ratio between births and deaths 1871–1881 is 7.5/6.4 per thousand. However, after excluding births that occurred after migration, the ratio is 4.7/6.4; only four cohort births occurred in the Allenheads districts. The ratio of deaths to births immediately impacts the

\textsuperscript{58} See appendix 2.
population figures; a significant proportion of births that would have occurred in Allendale now occur elsewhere.

Despite adjustments in fertility rates, the sudden turn in population trajectory in 1860s Allendale requires an explanation that the DTM cannot provide. Depopulation was not the natural consequence of falling fertility combined with an ageing population due to lower mortality rates. Nor is family limitation significant. About the mid-century, a change in migration occurred, which impacted the demographic structure of Allendale. What follows explores the nature of the out-migration post-1861 by scrutinising demographic age and economic structure.

Age and Occupational Structure by place

The following figures give a tally of the entire population of the East Allen Valley through three decennial periods. The sample size is adequate to draw implications from abnormalities in the shape of the results. The character of de-industrialisation and depopulation becomes apparent when distinguished by place.

Demographic Butterfly Figures 1871

Figure 7: Allenheads, Population, 1871
Figure 8: Allendale Town, Population, 1871

Figure 9: Catton Population, 1871
Demographic Butterfly Figures 1881

Figure 10: Allenheads Population, 1881
Figure 11: Allendale Town Population, 1881

Figure 12: Catton Population, 1881
Demographic Butterfly Figures 1891

Figure 13: Allenheads Population, 1891

Figure 14: Allendale town Population, 1891

Figure 15: Catton Population, 1891
In addition to the dwindling overall population, all figures save Allenheads 1871 demonstrate a narrowing at the earliest ages. In districts displaying falling births, migration of family-forming age must already be extant. Allenheads follows this trend from 1881. Both Catton and Allendale Town exhibit a lessening of both males and females at ages 25–35 whilst there is a marked lessening of females between 15–20. The implication is that migration did not start at the centre of the lead industry but further down the valley. Allenheads appears to react later, with only the female portion of child-rearing age moving away in 1871. The emaciated shape of the latter figures and the paucity of numbers aged 0–4 indicate a society reluctant or unable to raise families. The waist like shape indicates that family-rearing age groups had largely already left.

That industrial Allenheads is affected later by depopulation of the younger groups has implications regarding the role economics has to play in the decision-making process of would-be migrants. Agricultural depression is not a plausible explanation for earlier
depopulation in the less industrial portions; the interest in agriculture increased, at least for the period between 1871 and 1891.\textsuperscript{59}

Given that female work was limited to Commerce, handcrafts and agriculture, comparisons between male and female workforce is a good indicator of the extent of industries' role in local economics. The female workforce in agricultural Catton was similar to working men (fig.16). The steady decline in the male population, linked to the gradual reduction in output from Allen Smelt Mill, contrasts with the upturn in female employment after 1881, implying an increase in agricultural work – particularly dairy. The steep demise in the male workforce in Allendale Town is exacerbated by the movement south of working on the Blackett Level. After the departure of lead workers, the male/female working trajectory appears close and balanced and exhibits a distinct upturn by 1891. The upturn's timing was later than the agricultural turn in Catton; a more likely explanation indicates this as the start of Allendale's tourist era. Only in industrial Allenheads did the gap remain large with female employment virtually disappearing. It is possible that the presence of an industrial economy in Allenheads, however fragile, masked the turn toward mobility in both Catton and Allendale Town and that the temporary upturn in agriculture after mine closures masked an underlying tendency for agricultural decline and depopulation drift.

The low fertility within the Allenheads districts points to an industrial rather than agricultural impetus to migration. Perhaps surprisingly, it is not the removal of the male portion that immediately affects fertility but mobility amongst the young female portion.

Figure 16: Male/Female Employment 1861–1901

\textsuperscript{59} John Lee, \textit{Weardale Memories and Traditions} (Durham: Ramsden Williams, 1950).
The contraction of the economy that followed the migration of both sexes made marriage within the area even less attractive, fuelling more significant migration. Prior to mid-century, mortality rates are slightly lower than the national average, lower than the eastern regions of Durham coalfields, urban Tyneside and even rural Hexham. After a slow start, Fertility rates rose to above the national average. These differences are slight but significant. The boom decade 1821–1831 may have attracted migrants from the surrounding area, but no significant influxes from further than thirteen miles occurred. Mortality rates are static, whilst fertility remains unaffected by the family limitation evident in more urban and middle-class areas. After 1861 the loss of numbers must be attributed entirely to migration and its effect on fertility. Whilst both sons and daughters left with their parents if heads of household removed to other areas, sons of heads that remained tended to drift away to other areas later than the daughters who went into service, teaching or nursing further afield immediately after leaving school. The following chapter details movements in and out of the valley.
Chapter 2: Migration

In 1842, Commissioner Mitchell had noted:

Altogether the natives of the dale grow up with an attachment to their native land and their own people which nothing can overcome. Hence it is that, although by removing only 20 miles down into the coal country a young man might nearly double his income and have the prospect of adding many years to his life, he cannot move.61

Evidently, there existed an unwillingness to migrate out of the dale and an ability to mitigate times of unemployment or poor returns upon work. As a result, younger generations tended to stay, and the population grew. That is not to say that the population was sedentary. Wrigley and Schofield make it clear that the population in England has never been static, but that movement occurred within a confined area, within or to a neighbouring village.62 Movement between workplaces, work types, and homes was frequent but short-range, and those who moved away frequently returned.63

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Around the mid-century, a turn in social outlook occurred, replacing the reticence to movement away from the valley. An acceptance grew that relocation was not only an economic necessity but an aspirational and available choice. Local diarist George Dickinson writes:

about sixty persons – men, women and children – left East Allendale on Thursday 17th May, this year [1849], for the United States of America, being literally banished from the homes of their ancestors, to seek a subsistence on the banks of the Illinois.\(^{64}\)

If any single event can be said to mark a change in the sensibilities of those in Allendale, it must be this. Prior to the mid-century, there was little long-distance internal migration from Allendale, but State and philanthropic sponsorship of assisted passages meant that emigration was a possible choice and one readily accepted during the slump of the 1830s. The colonial gold rushes and the Great Strike of 1849 confirmed emigration as a positive choice at mid-century. By 1871 internal migration beyond the normal penumbra of movement had widened to around 35 miles. Long-distance internal moves were still rare compared to emigration. It was not just the boom towns of industrial Tyneside and the coalfields that attracted migrants; movement to areas also experiencing heavy depopulation (notably Weardale and Teesdale), resulting from kinship and knowledge links, overcame seemingly rational economic choices.\(^{65}\) The following, derived from censuses, sets out evidence for small scale mobility prior to mid-century and a heightened propensity to movement out of the dale, particularly between 1861 and 1891.

In-migration

\(^{64}\) George Dickinson, *Allendale and Whitfield: Historical notices of the Two Parishes*, (Newcastle: Andrew Reid, 1903).

Figure 17 shows the trajectory of the population within the Two Allen valleys. 1861 marks the start of thirty years of depopulation that followed steady growth from the mid-eighteenth century.

The first half of the century is notable for its demographic stability. A natural drift away from agriculture acts as a backdrop throughout the period as increased grazing impacts farm diversification and staffing levels even within families. The Allen Valleys and Weardale mines precluded the necessity for attracting workers from outside the vicinity in times of high productivity. The availability and profitability of mining were subject to the market price's vagaries and the good fortune of discovering productive seams of ore. Short-term unemployment was inevitable. Protected by the buffer of smallholder farming, family support, and outdoor relief, miners were generally able to weather short-term periods of unemployment at the mine. Miners frequently described themselves in dual terms upon census enumerations; 'lead miner and draper' or 'lead miner and farmer', for instance. These workers were resilient to the varying profitability of lead mining. Conversely, a body of workers was always available for the company to draw upon in good times.
Results from the first two districts (Allenheads) show a moderate level of movement into the dale from neighbouring locations. Of the 206 working males in the 1851 High Forest Grieveship, 22 (10.5 %) were born outside Allendale. The same method shows that, in the next district, just 1.3% were born outside the Allen Valleys. Figure 18 shows that these proportions remained similar in 1871; of the 537 inhabitants, 74 were born elsewhere.

Working widows have been excluded from the list of household heads because, with very few exceptions, they moved to the area for marriage rather than work, domestic and agricultural servants being mainly locally born.

Figure 18: List of Alien Male Heads, 1871, Allenheads

<table>
<thead>
<tr>
<th>Name</th>
<th>Trade</th>
<th>Place of Birth</th>
<th>Distance from Place of Birth in miles</th>
<th>Retired</th>
<th>Type of work</th>
</tr>
</thead>
<tbody>
<tr>
<td>William Hunter</td>
<td>Ironstone Labourer</td>
<td>Scotland</td>
<td>&gt;50</td>
<td></td>
<td>Ironstone</td>
</tr>
<tr>
<td>John Bell</td>
<td>Ironstone Labourer</td>
<td>Hexham</td>
<td>5–13</td>
<td>x</td>
<td>Ironstone</td>
</tr>
<tr>
<td>George Marr</td>
<td>Tailor's Apprentice Newcastle upon Tyne</td>
<td>35</td>
<td>Commerce</td>
<td></td>
<td></td>
</tr>
<tr>
<td>George Bills</td>
<td>Retired Tailor</td>
<td>Haltwhistle</td>
<td>5–13</td>
<td>x</td>
<td>Commerce</td>
</tr>
<tr>
<td>John Walton</td>
<td>Retired Grocer</td>
<td>Wearhead</td>
<td>5–13</td>
<td>x</td>
<td>Commerce</td>
</tr>
<tr>
<td>George Gardner</td>
<td>Draper</td>
<td>Wolsingham</td>
<td>5–13</td>
<td></td>
<td>Commerce</td>
</tr>
<tr>
<td>John Stokoe</td>
<td>Blacksmith</td>
<td>Hexham</td>
<td>5–13</td>
<td></td>
<td>All sectors</td>
</tr>
<tr>
<td>Robert Dodd</td>
<td>Annuitant</td>
<td>Allerwash</td>
<td>5–13</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>James Bates</td>
<td>Teacher</td>
<td>Burnley (Lancs.)</td>
<td>&gt;50</td>
<td></td>
<td>(Lead)</td>
</tr>
<tr>
<td>Thomas Williams</td>
<td>Lead Dressing Agent Hesketh New Market (Brampton)</td>
<td>48</td>
<td>Lead</td>
<td></td>
<td></td>
</tr>
<tr>
<td>William Forster</td>
<td>Sawyer</td>
<td>Hexham</td>
<td>5–13</td>
<td></td>
<td>Lead</td>
</tr>
<tr>
<td>John Forster</td>
<td>Sawyer</td>
<td>Hexham</td>
<td>5–13</td>
<td></td>
<td>Lead</td>
</tr>
<tr>
<td>John Kenney</td>
<td>Engine-wright</td>
<td>Morpeth</td>
<td>40</td>
<td></td>
<td>Lead</td>
</tr>
<tr>
<td>Benjamin Irwin</td>
<td>Retired Millwright</td>
<td>Beamish</td>
<td>35</td>
<td>x</td>
<td>Lead</td>
</tr>
<tr>
<td>John Dixon</td>
<td>Lead Dresser</td>
<td>Alston</td>
<td>5–13</td>
<td></td>
<td>Lead</td>
</tr>
<tr>
<td>Thomas Kidd</td>
<td>Cashier</td>
<td>Lanchester</td>
<td>25</td>
<td></td>
<td>Lead</td>
</tr>
</tbody>
</table>

---

Figures 18, 19 and 20 describe a relatively closed community with circulatory mobility within a penumbra of less dense movement within 13 miles. These figures corroborate Hunt and Burt's assertion that in the North Pennines, 'long-distance migration was rarely required' and that natural growth was adequate to supply the growing needs of mining in the North Pennines.67

Figure 19: List of Alien Male Heads, 1871, Allendale Town68

<table>
<thead>
<tr>
<th>Name</th>
<th>Trade</th>
<th>Place of Birth</th>
<th>Distance from Place of Birth</th>
<th>Retired</th>
<th>Type of Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>John Dixon</td>
<td>Smelter</td>
<td>Hexham</td>
<td>5–13</td>
<td>Lead</td>
<td></td>
</tr>
<tr>
<td>Matthew Forest</td>
<td>Smelter</td>
<td>Hexham</td>
<td>5–13</td>
<td>Lead</td>
<td></td>
</tr>
<tr>
<td>William Graham</td>
<td>Farmer's son</td>
<td>St. John [Lee]</td>
<td>5–13</td>
<td></td>
<td>Agriculture</td>
</tr>
<tr>
<td>Robert Lee</td>
<td>Farmer of 348 acres</td>
<td>Haydon</td>
<td>5–13</td>
<td></td>
<td>Agriculture</td>
</tr>
<tr>
<td>Thomas Teasdale</td>
<td>Farm Servant</td>
<td>Haltwhistle</td>
<td>5–13</td>
<td></td>
<td>Agriculture</td>
</tr>
<tr>
<td>Thomas Martin</td>
<td>Retired Farmer</td>
<td>Hexhamshire</td>
<td>5–13</td>
<td>x</td>
<td>Agriculture</td>
</tr>
</tbody>
</table>

---

68 Census return for District 7, Northumberland, Allendale, (1871), Public Record Office: PRO RG10/5148, folios 1–18.
<table>
<thead>
<tr>
<th>Name</th>
<th>Trade</th>
<th>Place of Birth</th>
<th>Distance from Place of Birth</th>
<th>Retired</th>
<th>Type of Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thomas Lee</td>
<td>Smelter</td>
<td>Alston</td>
<td>5–13</td>
<td></td>
<td>Lead</td>
</tr>
<tr>
<td>Joseph Coulson</td>
<td>Farmer of 38 acres</td>
<td>Haltwhistle</td>
<td>5–13</td>
<td></td>
<td>Agriculture</td>
</tr>
<tr>
<td>Thomas Coulson</td>
<td>Stone Mason</td>
<td>Haltwhistle</td>
<td>5–13</td>
<td></td>
<td>Building</td>
</tr>
<tr>
<td>Thomas Hedley</td>
<td>Stone Mason and Farmer of 21 acres</td>
<td>Bywell</td>
<td>18</td>
<td></td>
<td>Agriculture/Building</td>
</tr>
<tr>
<td>William Errington</td>
<td>Farmer of 16 acres</td>
<td>Haltwhistle</td>
<td>5–13</td>
<td></td>
<td>Agriculture</td>
</tr>
<tr>
<td>Jacob Errington</td>
<td>Smelter</td>
<td>Newcastle upon Tyne</td>
<td>5–13</td>
<td></td>
<td>Lead</td>
</tr>
</tbody>
</table>

Figure 20: List of Alien Male Heads, 1871 Catton

Out-migration

Hunt describes a change in outlook within the lead industry after 1861 as 'a wind of change'. Agriculture and commercial interests suffered simultaneous setbacks. Whilst farming for profit centred on grazing, most farms were small, highly diversified and supplied local needs. Margins for profitability were narrow, and the opening-up of international markets and long-term free trade policies made small-scale farming problematic. The livestock sector was better placed than arable to counter cheap grain imports, but with the advent of refrigeration and faster shipping to and from the Americas, many livestock farmers relocated closer to urban areas, concentrating on dairy production. The Morning Chronicle's special correspondent gives an early example of a seven-acre dairy farm making a profit despite an 'exorbitant rent of £3 per acre' because of its proximity to several towns. By 1878, pressure to support local farming was evident in the face of immense pressures from meat production in the Americas and dairy exports from northern Europe. Weardale farmer Francis Vickers' response to his cousin George (who married Allendale born Mary Ann Bell), now farming in Canada, encapsulates the situation in which Pennine farmers found themselves.

If you want to show us sympathy, you will be kind enough to keep your beef and sheep at home and not send them to England to undersell us farmers. No doubt but it will be a benefit to the working class, but we farmers will either have to come to America or have our rents down.

Institutions made efforts to support local farming. A short statement in the Edinburgh Evening News illustrates the point:

Plate 2: Edinburgh Evening News 1878

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70 Hunt, p.196.
73 Workhouse Meat, Edinburgh Evening News, May 1, 1878, p.4.
By the following year, tenders were offered to local farmers.

Plate 3: Hexham Courant 1879.74

The arrival of a train link to Hexham and Tyneside precluded the need for migration away from Allendale.75 Instead, it stimulated the establishment of Catton Dairy adjacent to the sidings, enabling efficient dispatch of produce to markets. Agricultural migration was not an exodus but an economic opportunity enabling households to relocate and enlarge their businesses. The drift of second sons and daughters away from farming continued unabated as it did nationally; some farmers left, many retired or downsized. As profitability decreased, land prices fell, but rents remained relatively high.76 Allendale's valuation and rent books, 1871–1891, show that rents remained static and that deferments were rare.77 Profit was hard-won, but the agricultural sector remained bullish. Small farmers who had capital took up the vacant plots whilst smaller farms offered a temporary occupation for unemployed lead workers who had experience running their mine smallholdings. Agriculture was the principal

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76 Valuation Book, Parish of Allendale, 30th June 1863, NRO 00672/G/1/5/1.
77 Valuation Book, Parish of Allendale and Poor Rate Book, Parish of Allendale 7th April – 13th October 1876.
adjunct to mining (and vice-versa), but other commercial enterprises also contributed to a family income. The three spheres of occupation – mining, agriculture and commerce - were never separate, and there are many examples of sons of even the largest farms or commercial businesses working as miners or washers.\textsuperscript{78} Robert Milburn is one of many lead workers who turned farmer between 1871 and 1881. However, his son John moved to Leadgate to mine coal, and his daughter Diana moved to Allendale Town from Sparty Lea as a domestic servant.\textsuperscript{79} The many shoemakers, tailors and shopkeepers found that broadening consumer markets and a decreasing home market necessitated skilled workers to migrate. The Tailor, James Cresswell, moves to Elswick between 1871 and 1881; Matthew Varty, a clerk at the Allenheads mine 1871, also moves to Elswick to become a builder's clerk.\textsuperscript{80}

Organising census data by occupation makes it possible to see that not only was industrial failure a direct push-factor responsible for migration, but it also had knock-on effects to agriculture, jobbing labouring and most significantly, domestic service. The work strata for the central district of Allenheads (fig.21) shows that the number of workers within the lead industry was already in decline by 1861. Following the closure of the smelt mill at Dirt Pot (1870) and Sipton mine (1876), a steep decrease during the next ten years is evident, after which a slight increase as Witherite and Barytes mining is briefly profitable.\textsuperscript{81} Finally, a steady decline carried on throughout the next century.

\textsuperscript{79} Robert Milburn, (1881) Census return for Allendale, district 4, Northumberland. PRO RG11/5105, folio 37, p.6.
Diana Milburn, (1881) Census return for Allendale, district 3, Northumberland. PRO RG11/5105, folio 27, p.5.
\textsuperscript{80} James Cresswell, (1871) Census return for Allendale, district 7, Northumberland. PRO RG10/5148, folio 7, p.8.
Domestic service declines at a steeper rate than mining, which implies that young women were no longer entering the region and that those daughters of Allenheads miners were leaving with their families or choosing to move independently. Most female movement was still within the penumbra of 13 miles. Exceptional moves include Margaret Bell, who leaves her illegitimate child with her mother to work as a maid for Sir William Cunliffe Brooks, a neighbour of both T. Sopwith and W. Beaumont's London residences. Young single women tended to migrate for marriage or domestic service; however, there is evidence of broadening opportunities. Mary Waggett and her daughter Sarah move to Elswick upon the death of her husband. Mary works as lodge-keeper at Elswick Hall, and Sarah finds work as a shop-girl. The three census returns between 1871 and 1891 illustrate miners' relationship with their occupation. In 1871 no miners described themselves in dual terms. In 1881 only two did so, and by 1891 twenty workers within the industry described themselves as 'miner and farmer'. Significantly their sons described themselves as farmer's sons, with no mention of mining. In 1871 there were two farmers with acreages of 40 and 80. In 1881 seven farmers with an

82 Mary Waggett (1871) Census return for Elswick, district 40a, Northumberland. PRO RG11/555, folio 155, p.10.
83 (1871) Census return for District 2, Allendale, Northumberland, PRO RG10/5147, folios 18–29.
average of 28 acres, and by 1891, sixteen farmers. To the older generation, mining still defined them. To the younger generation, born during the industry's decline, this definition had little or no meaning. Thomas Bland b.1833 is listed as a lead ore miner in 1861 but has changed trades to tailor in the next census, as does John Brown, now an ironstone miner. However, the general pattern is not one of relocation by whole families. As mining heads of families retired or died, the children migrated. Miner John Thirwell died aged 39 in 1880, his son and nephew John and Robert became, respectively, a bonded farm servant at Humshaugh and an Ironworker at Shotley.

Figure 22:

Allendale Town (fig. 22) shows a uniform decline in numbers, although a slight increase in the importance of building work is evident during Board School building 1876–1879. The post-1891 upturn is entirely due to increased numbers of domestic servants as Allendale Town sought to redefine itself as a leisure and retirement town, an era of gentrification that

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led the Carts Bog pub to be briefly known as the Green Tree Inn. Catton (fig.23) displays a universal diminution in population and, by 1896, when the smelt mill finally shut, a complete cessation of lead mining, save for a few who are retired. Miner Thomas Johnson Lost his wife in childbirth and is by 1881 a labourer in Percy Main; William Craig finds work at the smelt mill until his death in 1883, young smelter William Johnson and his brother Thomas move to Kyo to mine coal, their elderly father works as a labourer in the same pit. As is shown in figure 24, household heads tended to remain, but migrating children took dependant relatives.

Figure 23:

![Graph showing the growth in the number of farms listed in district 11 north and west of Catton](image)

The growth in the number of farms listed in district 11 north and west of Catton is indicative of the reversion to agriculture following industrial failure. Eleven farms in 1871 grew to fourteen in 1881 and twenty-two in 1891. The freeing up of land from lead, coal, lime and ironstone mining and the continuing cultivation of wasteland provided land and new farmhouses built upon them. Bishopfield farm was, for a time, run by Henry Mulcaster, a

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86 Ordnance Survey (1920), Allendale and Catton.
retired merchant and militia captain. The popularity of smallholding temporarily drew a small
counter stream of migrants into Allendale. It is likely that Henry Mulcaster, a resident of
Blaydon, was already familiar with the area.\textsuperscript{88} An example of an existing farm with a rebuilt
farmhouse for sale appears advertised in the Hexham Courant:

Plate 4: Stonehall and Coldcoats Farms advertised in Hexham Courant.\textsuperscript{89}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{Stonehall_and_Coldcoats_Farms_advertised_in_Hexham_Courant.png}
\caption{Stonehall and Coldcoats Farms advertised in Hexham Courant.}
\end{figure}

\textsuperscript{88} Henry J. P. Mulcaster (1891) Census return for Allendale, district 11, Northumberland. PRO RG12/4248, folio 77, p.1.
\textsuperscript{89} To Let, \textit{Hexham Courant}, 1897, Saturday 13\textsuperscript{th} February 1897.
For Sale, \textit{Hexham Courant}, 1897, Saturday 12\textsuperscript{th} April 1897.
Figure 24 is a compilation of cohort migrational movements. Although migration is significant, twice as many choose to remain with a change in occupation away from the lead industry.

Figure 24: Migration of Household Heads 1871–1891
Lead miners historically regarded their occupation as part of a portfolio, and many specific mining skills are not transferable; it does not, therefore, follow that a miner will migrate to continue to be a miner.\textsuperscript{90} The Durham coalfield's economy was healthy and afforded occupational opportunities in the same way as Tyneside.

Figure 25 examines the birthplaces of miners in a neighbouring coal-mining region.

Ebchester lies on the lead road that carried loads from Derwent and Weardale.\textsuperscript{91}

Figure 25: Birthplaces of Workers in a Neighbouring Coal Region\textsuperscript{92}

\textsuperscript{91} Dukesfield carrier project.
\textsuperscript{92} Despite its disappearance, the location of Allendale Cottage can still be found via google maps. See appendix 4.
Allendale Cottages was a small pit village that was extant until the mid-1950s but has subsequently disappeared. The name would suggest location upon a knowledge stream—a migration route that existed due to historic knowledge and pull incentives linked to work availability and housing. One would expect high levels of migrant workers from Allendale if the move from lead mining to coal mining were a natural one. However, this is not the case. Whilst this data bears out the received understanding of the cosmopolitan nature of northeast

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mining. It also demonstrates that 70% of the workforce were born within 20 miles of the pit. Significantly many of the incomer miners came from the urban areas of Newcastle, Tyneside and Hexham. During the 1870s, the search for work opportunities generally meant targeting urban areas, but by the next decade, it was evident that urban areas no longer required a vast influx of rural migrants to fuel growth. It was rather the case that many urban areas had not required any rural influx for some time and that towns and cities could no longer support such numbers in terms of housing or work.94

Emigration

Plate 5 demonstrates that emigration continued to be an important element of out-migration. The emigration of whole families in plate 5 is a much more visible form than the continual drift away made by the young. The internal migration of single young men and women had the majority influence upon population totals.

94 Woods.
Plate 5: A contemporary view of migration away from the lead dales

Hexham Courant - Saturday 27 September 1879

Plate 6: Emigration Sailings Advertisement taken from the Hexham Courant 1877. Newspaper image © The British Library Board. All rights reserved. With thanks to The British Newspaper Archive (www.britishnewspaperarchive.co.uk)

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95 Hazel Dean, Allendale notes, *Courant Hexham*, Saturday 27th September 1879, p.4. Newspaper image © The British Library Board. All rights reserved. With thanks to The British Newspaper Archive (www.britishnewspaperarchive.co.uk)
Plate 6 is one of many advertisements published in rural newspapers advertising emigration crossings and emigrations to Australia and the Americas from Allendale. Mary Jane Charlton took advantage of free passage for female domestic servants, leaving for Canada in 1887 as a single woman.\textsuperscript{96} William Thompson, an unskilled labourer, and his family migrated to Australia in 1879 on an assisted passage scheme travelling steerage class aboard HMS Somersetshire.\textsuperscript{97} Plate 7 demonstrates that the education of prospective migrants was actively pursued via local newspapers, reaching even remote areas. Urban residency was not a prerequisite of knowledge regarding emigration.

Given that internally, nearly all long-range migration was city-to-city, Baines suggests that emigration was simply a longer-range version of the same streams.\textsuperscript{98} By the end of the nineteenth century, cities in the Americas afforded better economic advantages than any in the UK, including London, and benefited from the same lingua franca and historic knowledge

\begin{footnotesize}
\textsuperscript{96} Mary J. Charlton, (1881) Census return for Allendale, district 8, Northumberland. PRO RG11/5105, folio 80, p.9.
\textsuperscript{97} William Thompson, (1871) Census return for Allendale, district 7, Northumberland. PRO RG10/5148, folio 5, p.3.
\end{footnotesize}
streams of previous migrants. Most long-range migrants regarded their moves as temporary money-making exercises. William and Phyllis Howey migrate between 1871 and 1881, returning to live in the select retirement town of Harrogate by 1891. 99 Thomas and Jane Martin migrate to Canada, appearing on the 1891 Canadian Census. 100 They took their five sons but left three daughters at home, implying an expectation of a quick return. Two daughters later joined the family and settled in Canada. It seems that the decision to emigrate was not a great deal more profound than long-distance internal migration. The long-established assisted passage schemes meant that kinship and knowledge links were stronger in places of settlement in Australia, America and Canada than they were for any long-range internal migration targets.

Figure 16 and subsequent individual histories display evidence of something other than agricultural depression or industrial failure. Migration was already well established before mine closures necessitated movement from industrial Allenheads. In Catton, Allen Smelt Mill remained at least partially operational, and smelters remained resident (1871 and 1881 censuses), which implies that the explanation for the decline cannot wholly be the result of industrial failure. The depopulation trajectory of Catton resembles a uniform diminution consistent with agricultural decline. In Allenheads, the various remnants of the lead industry delayed migration. It is Allendale Town that demonstrates the earliest and most extreme depopulation. Here, migration was affected by both agricultural and industrial impulses but fuelled primarily by personal choices. Choices are, of course, informed by experience, knowledge, impellers (push motivations), attractions (pull motivations), both social and economic. Nevertheless, overarching exogenous influences such as government policy,

international finance, managerial decisions and national ethos also impact the decisions of historical actors. Within these parameters, the following chapter will assess influences upon migration choice.
Prior to the late eighteenth century, expectation was that the world one grew up in would remain the same throughout life. The reverse is the case by the mid-nineteenth century, even in remote rural areas. Overarching actions of state and authority, directly and indirectly, impacted ordinary lives. Recent writing concerning migration, emphasising social and psychological aspects, has concentrated upon global twentieth-century examples. In Allendale, the rapid change in society brought about by industrialisation, de-industrialisation and agricultural decline raises questions regarding the relationship between authority structures and individual agency. Giddens’ structuration theory brings together previously distinct sociological areas of structure and agency, stressing that structures are built from and in response to agency and that individual agency is a response to structures placed upon, and built by, society. The following explores how exogenous aspects of structural modernisation affected society and how the agency of individuals reacted.

Aspects of Authority

For centuries the twin pillars of paternalism – parish and landholder – were liable for welfare. By the end of the century, the state and independent philanthropic organisations held responsibility, freeing individuals to make choices based on gain rather than loss. The removal of local responsibilities from landowners to local authorities, the freelance nature of

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Peter Laslett, The World We Have Lost (London: Methuen, 1965).
102 Steven Vertovec, Anthropology of Migration and Multiculturalism: New Directions (Abingdon: Routledge, 2011).
work and the heritage of non-conformist worship dating back to 1688 fostered a culture of
independence and free-thinking in Allendale. The success of non-conformism and its
sanguine acceptance by the established church in Allendale reflects conformist disinterest in
the working population. The established church was absent to the extent that marriages
and even burials were neglected at the beginning of the century. The Beaumonts, patrons
of the Allendale parish, were key supporters of the Allendale Methodist Circuit. They and
Thomas Sopwith saw the positive influence Methodism could have upon the working
population in encouraging sobriety and hard work. As Tawney suggests, 'Methodism was
the tool by which employees extended puritan or pseudo-puritan values [...] denouncing sloth
and improvidence in the labourer,' and 'its convenient belief that if success was a sign of
election, then poverty was itself a sign of moral turpitude'. Methodism was undoubtedly a
tool used by liberal capitalist entrepreneurs to enable a hard-working and sober workforce;
overcome intimations of Morris's 'useful work versus useless toil'. Thompson's view was
that the visceral passion found in Wesleyan Methodism drew from personal life, leaving it
barren. The undeniable success of Methodism in the lead dales lies not only with it filling
a void left by pluralist incumbents but by its definition in class terms. Eric Richardson
states that although there were no fundamental doctrinal differences between Wesleyan and
Primitive Methodism, affiliation was distinct in terms of class. The building of St. Paul's

105 Wooley Burnfoot meeting House, built 1688, Quaker Heritage.org.
107 Thomas Bell, Collection of Estate and Enclosure records in Hunt, C. J., The Lead Miners of the Northern
109 C. J. Hunt, The Lead Miners of the Northern Pennines (Manchester: Manchester University Press, 1970),
p.222.
113 Rob Lee, ‘Rebuilding the Diocese in the Industrial Age: The church of England and the Durham Coalfield’
in 'The New Northumbrians' in Northumbria History and Identity 547–2000 ed Robert Colls (Stroud: The
114 Eric Richardson, Pennine Lead-Miner: Personal Recollections of Life in the North Pennine Orefield
Church (C of E) in Catton in 1905 reflects the changed demographic of the area as much as it
does the push of the established church to regain a foothold in non-conformist areas. The
primitive Methodist miners and Wesleyan smelters had gone, replaced by more genteel
annuitants from Tyneside and Wearside. The gradual secularism associated with urban areas
is no less evident rurally; nevertheless, Methodism within the dales remained both valued and
influential but without a paternalist hold upon society. The preponderance of Lay preaching
gave the religion a portability that did not restrain migration and an evangelical zeal that
positively promoted proselytisation.

The dual role of Wentworth Beaumont as the elite landholder-cum-benefactor for the area
and as the owner of the WBLC demonstrates aspects associated with perceived
entrepreneurial failure and the relapse into rentierism by the aristocracy.115 The decision to
withdraw from mining enterprises occurred later than other areas of the country and
ostensibly resulted from the intransigent behaviour of the Durham Diocese, landholders of
WBLC mining interests in Weardale. Indeed, Wentworth Beaumont continued mining in
Allendale for twenty years after the 1876 cessation of operations in Weardale.116 Whether
this was entirely altruistic is debatable; the Allenheads mines were still profitable but not so
much that they merited further investment.117 The nationwide view within the industry was
that further deposits existed but at such a depth that improvements in existing techniques
would prove insufficient.118 Costing £120,000 1855–1896, Fairburn evaluates the Blackett
Level as a financial failure, although its value in effectively draining existing mines is hard to

Neither had the Allendale branch line (which ran out of money and enthusiasm before its final destination) provided the lead industry's expected returns. The line sold in 1876; investors received 60% of their outlay after receiving dividend payments on just three occasions. A return, Bell suggests, that was better than many investors had experienced during the railway boom. Wentworth Beaumont was known to be one of the richest men in the country (his estate at probate was over £3 million in 1907), and as such, capital for investment was readily available without recourse to banks.

During the first half of the century, the Quaker LLC initiated welfare programmes in the northern Pennine lead field. Its formation was an effort to improve living conditions for the miners already working for disparate businesses associated with the LCC. Thomas Beaumont was not slow in following the LCC example, and Wentworth Beaumont continued his father's efforts. By the 1860s, the depletion of the accessible orefield was clear to all, especially the miners themselves. Thomas Sopwith's expert efforts had kept mining productive, but now the most distinguished mine agent of the company had retired. The decision to withdraw from all enterprises in Weardale whilst citing the Church landholders as the reason was expedient and well-timed. The decision to gradually phase out operations in Allendale, lessening the impact open the population by allowing a steady flow out of the area, whether by luck or judgement, also seems astute. Wentworth Beaumont's foreign mining operations give further insight into the entrepreneurial outlook of the financial investor.

Thomas Sopwith Jnr is a prime example of a middle-class entrepreneur whose education was acquired through industry rather than university. Having been articled to William Fairburn, p.22.

Dr Tom Bell, *Railways of the North Pennines* (Stroud: The History Press, 2015).

Bell.

Probate of Wentworth Beaumont, Powys family tree.

Armstrong's Elswick works at the age of sixteen, Thomas returned to Allenheads in 1859 under the employ of his father and the WBLC. Three years later, he was commissioned to search for new opportunities in the foreign lead industry '…to the service of Mr Beaumont and who entirely defrays the expenses of his tour'. The result was the formation of the Spanish Lead Company in 1864. Wentworth Beaumont held half of the 6,000 shares issued and Thomas Sopwith Snr 1,000. Further investment in the form of an underwritten loan from Baring's Bank added £17,000, borrowed according to Sopwith Snr, at exorbitantly high rates. The riposte to the criticism that British banks concentrated on short term profit from foreign investments rather than making themselves available for home ventures has been that no such investment was required; companies relied on family wealth at cheaper interest rates throughout the Industrial Revolution. It is implausible that this loan would have been offered to an entrepreneur within the home market. It is also salient that the governor of the bank of England, Kirkman Daniel Hodgson, had 224 shares in the company. The mines, described by Sopwith Snr as the most productive in the world, suffered through what appears as managerial failure. The lack of a smelt mill meant that ore was transported to Rookhope for smelting and then sold on the Spanish market, where prices were lower than the home market. The British Lead industry continued to produce as much lead as possible to counter imports, thus deflating the market price further. Only a few years later, Wentworth Beaumont was keen to sell the company but was persuaded of the option to use £4,000 of the mine's profits to build a smelt mill adjacent to the mine. However, by the late 1870s, it was thought that 'all chance of profit is precluded by the present low price of lead'. The company was wound up in 1878 and restructured with Sopwith Jnr as Director a year later.

124 Thomas Sopwith, Diary 15th July 1862 in Robert W. Vernon, ‘Thomas Sopwith Jnr. La Tortilla and his Other Mining Venture at Linares, Spain’ British Mining, 47, (2013).
125 Sopwith Diary, 7th February 1868.
127 Sopwith Diary, 1st June 1878.
The company continued production without the Beaumont family until 1903. The mutual respect that Wentworth and Sopwith Snr held bound the company, but with Sopwith's death in 1879 and serious problems looming in his Weardale mines, the enthusiasm for foreign mining ventures waned.

When, in 1865, the second issue of 2,000 shares became available, Wentworth Beaumont's brothers accepted 481 shares: Somerset 225, Dudley 200 and Capt. F. Beaumont 56. A notable absentee was Walter Beaumont, Wentworth's younger brother. A colourful and elusive character, Lee describes him as well educated, yet he does not appear as an alumnus of either Oxford or Cambridge. Lee links Walter's campaigning on behalf of the lead miners with an evangelical non-conformist zeal. "There was no doubt that he suffered from a form of religious mania as was suggested by the High Court judge." Hempton describes how evangelical zeal was typical of much radical rhetoric, permeating nearly all discussion of social reform. Whilst grateful for his concern, some felt his efforts misplaced. The inscription upon a now lost plaque erected at St. John's Chapel Town Hall gives an impression of the religious fervour involved, on Walter's part, during the dispute.

Erected by the Weardale Leadminers in commemoration of their struggle for existence in their native dale in the years 1881–1883 and for parochial and political freedom, and especially to record their feelings of deepest gratitude, their recognition of the efforts made on their behalf to revive, foster and preserve the chief industry – lead mining – from becoming a thing of the past by their fearless and notable friend, Walter Beaumont, esq., who through the guidance of Divine Providence, was instrumental in bringing it to a successful issue.

The truth shall make you free.

A more even-handed evaluation appears in a letter published in the Northern Echo (plate 8).

Exchanges were conducted via newspapers, like the 1849 strike, reflecting executive

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128 Lee.
129 Lee, p.226.
130 Lee, p.226.
131 Hempton.
management's absence. In the face of unyielding land rate demands from the church,
plummeting productivity, and an unhappy and, on occasion, desperate workforce, Wentworth
Beaumont decided to cease the company's operations in Weardale. However, he actively
sought to use new company law and run a smaller operation via a public limited company.\textsuperscript{132}
Wentworth's managerial decisions do not suggest entrepreneurial failure, but an atavistic
attitude prevalent within the landed elite to cut one's business losses and seek the seclusion of
the estate.

Plate 8: Distress in Weardale, \textit{Northern Echo}, Friday 25th November 1881\textsuperscript{133}

\begin{center}
\includegraphics[width=\textwidth]{correspondence.png}
\end{center}

\begin{center}
\textbf{CORRESPONDENCE.}

\textbf{DISTRESS IN WEARDALE.}

\textit{TO THE EDITORS OF THE "NORTHERN ECHO."}

\textbf{GENTLEMEN,—Considerable attention is being attracted by Mr Walter Beaumont and his}
\textbf{something strange method of advocating the interests of the Weardale leadminers. I cannot always}
\textbf{see eye to eye with that gentleman as to modes; but something must be done. The distress in}
\textbf{Weardale is very great—so great that though a}
\textbf{stranger might go through and not perceive any}
\textbf{visible signs of it, yet those who know the home}
\textbf{life of the people understand many are the homes}
\textbf{without ordinary necessaries of life. Though it}
\textbf{cannot be said to exist here as it does up the dale,}
\textbf{yet the very distress that exists in the higher}
\textbf{reaches of the dale affects to a very large extent}
\textbf{the people of Stanhope. The younger portion of}
\textbf{the men flock down to the quarries here; hence a}
\textbf{surplus of labour and its inevitable accompani-
\textbf{ment—low wages. One thing that strikes me in}
\textbf{Mr Walter Beaumont's circular is that "if his}
\textbf{brother would come and inspect affairs himself, he}
\textbf{would have and abide by his judgment;" and}
\end{center}

\textsuperscript{132}\textit{Lee, p.63.}
\textsuperscript{133}\textit{A Reader, 'Distress in Weardale', \textit{Northern Echo}, 25th November 1881, p.4.}
With the withdrawal of the wealthiest class, the way was left open for more modest ventures into mining; there was no shortage of entrepreneurial spirit in this regard. The Weardale Lead Company, for example, took over WBLC leases in Weardale and Allendale, continuing work until 1940. 134 Nevertheless, the most successful company was the Belgian Vielle Montagne Company. Where small British companies sought to make short term gains from exploiting old spoil heaps for ancillary minerals, it was left to a foreign organisation to look to the longer term and invest in improved technology, such as compressed air water extraction. 135 Financial backing would have proved helpful with speculation passing to the middle classes. However, affordable capital for investment in infrastructure and technological improvements remained absent, so industrial enterprise's short-termism remained. For the migrants of Allendale, the entrepreneurial spirit remained strong, forced to follow new paths, the dearth of lead miners leaving for employ in coal mines implies a keenness to explore more expansive opportunities. The withdrawal of paternalist welfare by definition imbues the recipient with greater agency, the outcome of which was a search for outside opportunities.

135 Raistrick and Jennings, p.329.
Aspects of Modernisation

By 1850 a significant amount of investment had been made by both the LLC and WBLC towards transport infrastructure. Infrastructure modernisation, such as McAdam's improvements in road surface in the 1830s and the joint road-building programmes of the LLC and WBLC, ostensibly made to reduce the cost of transportation, had the effect of creating a wider nexus of knowledge and reachable migration targets.\(^\text{136}\) Sopwith notes his concern that conversations with navvies on the train from Hexham to Allendale spread dissatisfaction among the miners regarding wages.\(^\text{137}\) New and more accessible routes had the effect of widening the penumbra of local mobility. Railway fever was particularly fervent in the North East.\(^\text{138}\) In 1845, local Railway companies discussed overly ambitious plans to extend the Stanhope line to Allenheads and Haltwhistle via Alston.\(^\text{139}\) Discussions and proposals rumbled on until Wentworth Beaumont publicly pledged £20,000 closely followed by Greenwich Hospital (landholders of the Langley Estate) with £10,000. The further funds necessary followed suit, and in 1866, the Act passed, and work began.\(^\text{140}\)

Map 3 shows the geology of the North Pennine lead mining region and extant railways in 1883. The lead region lies within the blue Alston formation (limestone with sandstone), whilst the grey area defines the coal-bearing sandstone of County Durham and red, the basalt of Whin Sill.


\(^{137}\) Sopwith Diary, 23\textsuperscript{rd} June 1866.


\(^{139}\) Bell, pp.76–84.

\(^{140}\) Bell, pp.165–181.
The low-lying coalfield was well served by rail links to cities and ports; however, the railway never quite managed to penetrate the heart of the lead region. For a time, the Allendale branch line enabled considerable transport savings for the company, and its existence extended the usefulness of Allen Smelt Mill (to which it was attached) beyond the lifetime of local mines.\textsuperscript{142} The station also opened Hexham and points beyond to the agricultural sector. Latterly, as a counter-urban migration stream, the railway attracted in-migration initially for prospective smallholders, tourists and retirees.\textsuperscript{143}

As lifetimes became extended and wage levels increased, retirement, a concept utterly foreign to the miner of the mid-century, began to become commonplace. James Bates, who moved from Burnley to become a teacher at Allenheads school, retires to Kendal. Farmer Matthew Ridley retires with his middle daughter Sarah as housekeeper to Brough.\textsuperscript{144} Isaac Hall, a wealthy farmer of 171 acres, remarried and retired to Carlisle with his new family. The increasing counter-stream away from urban areas, explained in economic terms as a search

\textsuperscript{141} Henry Bristow, \textit{Letts’s Geological Map of England and Wales (with Leading Railways)} (London: Letts, 1883).
\textsuperscript{142} Fairburn, p.37.
\textsuperscript{143} Raistrick and Jennings, p.327.
\textsuperscript{144} Matthew Ridley (1881) Census return for Hillbeck, district 4, Westmorland. PRO RG11/5200. Folio 42, p.11.
for better housing conditions also displays a reaction against aspects of industrialisation that became apparent toward the end of the nineteenth century. The Merrie England myth, latent in the English psyche, becomes apparent as a reaction to abrupt cultural changes, a counter to Blake's 'dark satanic mills' and Dickensian slums, synonymous with industrial capitalism.\(^{145}\)

The search for a little corner of old England to call one's own is most apparent in the suburbanisation of urban areas but to those annuitants living on their own means, a move to a rural area, now with a housing surplus, was possible.

Cultural reaction to industrialism in the written arts mirrored fine art and presaged the folk song collectors of the early twentieth century. Sir Hamo Thornycroft's *The Mower* 1888–1890 is reputedly the first sculpture of an agricultural labourer. As an idealistic interpretation of the ideal British man, it contrasts with the reportedly poor urban specimens that comprised an army becoming used to embarrassing defeats.\(^ {146}\) Sir George Clausen, Edward Stott and others imbued their rural work with realistic subjects in working environments, synthesising naturalism with an equally sentimental nod to Merrie England. The English folk song revival of the 1890s did similarly.\(^ {147}\)

\(^{145}\) Wiener.

\(^{146}\) Hobsbawm, p.142.

Writers such as Ruskin, Arnold, Masefield, Morris, Carlyle, and others expressed their dissatisfaction with changes in society. Early socialist thought influenced Morris's writing whilst the concerns of Conservative writers such as Ruskin and Arnold were that the tradition of duty and service between Squire and Yeoman had become severed, and with it, the natural link with the soil. Developments amongst the cultural elite have little or no direct influence upon the populace; however, by the end of the century, these concerns left Liberal Capitalism vulnerable. Liberalism found itself under attack from not only popular socialism but 'Tory Socialism'; derived from early Disraelian politics, whereby the best interests of most of the population lay in either in a reversion to manorial duty or a revision of liberal/puritan work-ethic. The political left was developing, making Liberalism appear toothless and aged. The

1903 by-election result for Barnard Castle (which includes Upper Weardale), notable as an early Labour gain, displays the move away from liberalism. Hubert Beaumont replaced the recently deceased Sir J. W. Pease as Liberal candidate. Hubert was not a strong candidate, having already failed to win two southern seats. His connection with Wentworth Beaumont would have done him no favours in Weardale, and a sizeable majority was lost to both opposing candidates, who held the support of local newspapers. No such backlash is evident in Allendale, however. Wentworth Beaumont increased his majority in 1906 with a 10% swing.151

Britain's laissez-faire governance enabled the export of capital, workforce, and technology to the new world for limited short-term gains, thus enhancing the Americas' long-term commercial hegemony in agriculture and industry. The United States' growth was unsurprising given the natural resources an entire continent provides; the addition of finance, technology and workforce made it inevitable. It is also salient that the railway was far more effective in opening the vast tracts of prairie than Britain's damp and hilly hinterlands. Germany's industrial advance resulted from a superior education system at Britain's expense.152 Unification and its associated nationalism also served to improve bureaucratic and legislative processes.153 The success of the German education system in delivery to the masses and educational content, when compared to England, 'is at the heart of the "cultural critique" of British economic decline'.154 Oxbridge and its supporting public schools have been justly criticised for a one-dimensional approach, producing prospective leaders in finance and civil service but without any practical knowledge, whereas the technical

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152 Wiener.
153 Hobsbawm.
gymnasia of Germany produced finished scientists and engineers. However, it is also true that throughout Britain's industrial revolution, innovation came not from the university graduate but the skilled worker, making piecemeal improvements to processes and machinery. Two examples within the Pennine lead industry are Westgarth-Forster and Hugh Pattinson. These individuals, who learnt through an apprenticeship, did not go without formal education. The LLC sent several of their smelters to study with professors at Durham University. However, Sir William Armstrong saw the factory as the correct place for industrial training, not the college. The English education system prior to the late 1870s and finance sector were not simply unhelpful to industry and industrial societies; they were irrelevant. For the many, improvements in board school education, and the provision of adult learning initiated by Sopwith, served to create a population able to adjust to new occupations requiring higher literacy levels. For the working classes, educational and physical self-improvement was actively encouraged and assisted by various philanthropic organisations and individuals. Wentworth Beaumont established saxhorn bands in all three villages and funded team sports. However, self-improvement in terms of housing, income and occupation was only becoming possible with the advent of newer working occupations. Selina Todd maintains that social mobility is a myth for the working classes, it being more the case that, as occupations came to require a more educated worker and less physical labour, an appearance of progress masks a complete lack of social mobility. Nevertheless, the impetus of the workforce to mobility to use personal gains in education and outlook is a genuine factor in migration.

156 Raistrick and Jennings, pp.244 & 201–202.
157 Hunt, p.103.
159 Hunt, p.227.
The actions and inactions of the state impacted the move to mobility. The Malthusian influenced propensity for governments to encourage working-class emigration as a short-term solution to agricultural decline coupled with an irrational adherence to free trade and the financial sectors keenness for short term profit from overseas speculation rather than home investment, shows a tendency to laissez-faire governance during years of social change. What reforms that were made, notably the widening franchise, diminished the role played by the nation's landed elite. Education and healthcare were increasingly the responsibility of local governance and the success of the non-conformist church in industrial regions, both urban and rural, had a similar impact upon the squire/church influence and responsibility within the parish. Structures of education, culture, transport and finance affected the agency of individuals. The defining individualism of the North Pennine lead miner contrasts with the collectivism of the Durham coalfields compounding the personal individualism that arose from mortality and fertility ratio changes, particularly the children born into smaller-sized families. A heightened sense of 'self' served to loosen links to place. The growth in the importance of the individual impacts migrational choice by lessening the importance of push/pull factors in the decision to move. Mobility becomes a personal choice rather than an absolute necessity.

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Conclusion

The intention of this work was to redress the balance within the narrative of rural depopulation. Inevitably close inspection of any subject raises more issues than it lays to rest. A multi-layered collection of causes is evident: deindustrialisation, the pervading drift away from agriculture due to intensification, and the effect upon agriculture of industrialisation and deindustrialisation. Over this bedrock of causation lie further strata of personal agency: the pull incentives of neighbouring modernising regions, the turn in mobility brought about by modernisation and alienation after the 1849 strike and the impact of structural changes within society that enabled and encouraged mobility.

Agricultural depopulation, although pervasive throughout Britain, varied widely. Although characteristically different, the eviction of Highland crofters and the disinheretance of southern English peasantry by enclosure both result from attempts to generate more income which inevitably meant fewer workers upon the land, and thus fewer agriculturally based handcrafts and associated industries. Nevertheless, the success in feeding an ever-growing population and feeding them better would have surprised Malthus and Ricardo. Although details varied, the general trend for fewer workers was ubiquitous over several centuries.

Demographic statistics detailed in chapter one shows that in Allendale, the lead industry affected the agricultural scene, at first, by stimulating smallholding, especially at higher altitudes, with the cultivation and improvement of intake land. As mining became less profitable during the 1870s and 80s, agriculture mitigated losses. Some smallholders increased acreages and sought to make small farming profitable. The increase in the number of farms in Catton is evidence of this temporary upturn. However, lowland smallholdings eventually became subsumed by larger farms, and the highland plots of Allenheads miners were left to revert to moorland. Dairying continued around Catton but elsewhere, shooting
and sheep, neither of which required more than a minimal workforce, populated what previously had been a rich and diverse landscape.

Compounding the push to make farming more profitable with fewer workers was ongoing increased fertility and decreased mortality associated with the DTM. Once, only enough sons and daughters survived puberty to carry on an agricultural family, but since the fertility turn, there were increasing numbers of marriageable daughters and second sons left to make their life away from farming. A recognised assessment of the industrial revolution is that its success was not the establishment of industrial mills but the quick and efficient population of those mills by the agriculturally displaced. The agriculturally displaced of Allendale had only to apply to the mine agent. It was also the case that, where two sons inherited an estate, the elder would receive the land and debts, the younger the liquid capital, enabling entrepreneurial enterprise in neighbouring villages or market towns, such as Allendale Town and enhancing the overall economy. In Allendale Town, the vibrancy of this economy led to the establishment of a school of some thirty-seven shoemakers, an offshoot from Hexham's established leather trades. During the 1870s and 1880s, these craftsmen drifted away to other places and professions.

Agricultural readjustment is a pervasive layer of causation in rural depopulation but so too is deindustrialisation. Undervalued as a cause in most contemporary analysis, the waning of rural industries parallels the failure of earlier proto industries and can be of equal significance to their populations. The retention of outmoded technology (in Allendale, the use of hydraulic energy throughout the steam age) and transportation problems (the ongoing requirement to use ponies over rough terrain) are common to both proto industries and metalliferous mining. Topographical considerations remained paramount for industrial success or failure throughout the century. Britain's metalliferous mines were situated in hard-to-reach highland
areas, whereas coalfields benefitted from their proximity to large towns and ports. Allendale suffered particularly from poor routes to refining and shipping targets.

The failure of lead mining in Allendale is an undeniable push factor to migration, not only as an economic impetus but sociologically too. However, migration was not an exodus, nor was it limited to lead workers. Chapter 3 shows how varied migrants and migrant choices were. In addition to the push motivation of economic decline is the pull factor of economic and social improvement made possible by migration. Here, recent developments in behavioural economics could be usefully applied to migration studies to interpret the balance between loss and possible gain for prospective migrants. The importance of kinship links as both knowledge streams and buffers to failure is of utmost importance in determining the cause and effect of migration; local studies, including written evidence, are invaluable in this regard.

The effect of migration upon nuptiality, detailed in chapter one, affected population numbers. The movement of young single women is fascinating and merits further extensive study. Not only were work choices broadening, but marriages made outside the usual area of contact imply hitherto hidden links of kinship and socialisation. Organised sporting and social events, agricultural fairs and recreational travel to visit those who had moved away are possible ways the marriage spectrum may have become widened.

Compounding the effects of agricultural readjustment and deindustrialisation are structural changes to authority and society discussed in chapter three. During the 1870s, Allendale lost the two most influential authority figures of the nineteenth century. Thomas Sopwith, who retired in 1871 and Wentworth Beaumont, who effectively retired from public life in the North Pennines prior to the eventual closure of Weardale mines (1881). The loss of a decision-making elite, the centralising nature of government social policy and the church's waning power in the face of creeping secularism inevitably gave individuals increased
personal agency. The enhanced personal responsibility that the removal of elite structures brings has implications for mobility and fertility. The propensity to postpone nuptiality and limit fertility in times of economic stress is universal. Allendale's enhanced tendency toward migration points to the severity of economic push factors and, more significantly, heightened mobility. Improvements in transport routes and broader kinship links enabled migration streams to new areas of employment both spatially and occupationally.

Hunt suggested in 1971 that the details surrounding the cessation of lead mining in the North Pennines was under-researched, and that has remained the case. The dramatic dispute between the Absentee Landlord, Wentworth Beaumont and his younger brother, Walter, who was very visible in the region, touring the north country speaking on behalf of the miners (see bibliography for newspaper sources), is an especially fertile area for research. The dispute carries implications regarding dysfunctionality within dynastic aristocratic families, the influence of evangelical non-conformism on politics, the factionalisation of the Liberal party (both brothers professed to be Liberals) and collectivism in the extractive industries. The parallels between John Wesley's preaching circuits and Walter Beaumont's collectivist proselytising in lead and coal mining disputes are marked.

By investigating the change in the population of a northern rural area where deindustrialisation was the primary driving force for migration, it is hoped that this research will contribute to the canon of work regarding rural depopulation and point to the importance of rural deindustrialisation to this topic. Similar micro-level research in other geographical areas would undoubtedly find similarly interconnected relationships between agriculture and industry and equally diverse causes and consequences of mobility. Rather than concentrating upon economic influences at both ends of migrational streams (essential though these considerations are), a more profound understanding of migration and the apparent turn in mobility during the mid-late nineteenth century might focus upon structural influences. The
sociological effect upon the psyche of individual actors and their subsequent movements indicates how overarching structures of government, authority and culture affected the extensive element of the population that left little written evidence. At the heart of this lies the motivation and agency of female migrants, still a recondite subject for historians.
## Appendices

### 1: Cohort of 1 in 10 Households, Allendale Census 1–11

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<th>Household No.</th>
<th>Name</th>
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*Note: This table represents a small subset of the data from the Allendale Census 1–11, focusing on households and their demographic information.*
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72
2: Cohort Women with children under fourteen, 1881

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3: Women of Allendale with children under 5 (Allenheads), 1901
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4: Allendale Cottages
Via Google maps

Allendale Cottages, OS 1890, via Edina digimaps

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