

ASPECTS OF THE POPULATION GEOGRAPHY OF THE
EASTERN BORDER COUNTIES OF SCOTLAND, 1850-1967

by
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This thesis seeks to study the population of the south east Scotland counties of Berwick, Roxburgh and Selkirk from 1851 to the present day, and to establish the significance of the inter-relationship between changing demographic structure on the one hand and employment and social provision on the other.

The major characteristic of the population of the area is that it has declined throughout the period, and by considering the various possible components of population change, fertility, mortality and migration, it was clearly established that the last named was instrumental in producing this feature. The volume of net migration was computed, an idea of the gross amount of movement involved obtained from various sources, and the origins and destinations of movers was determined. From this part of the study it was evident that:

- 1) migration was a characteristic of both burghal and landward areas
- 2) net migration is only a small proportion of the gross movement



3) destinations of out-migrants were mainly Central Scotland and north-east England: origins of in-migrants were mainly rural, particularly from south-west Scotland.

4) migration is age selective: the proportion of persons aged 15-25 who undertook migration movements was at least twice as high as the proportion among people of all other age groups together, in each ten-year period from 1851.

5) out-migration is female dominated in the 15-20 age group
out-migration is male dominated in the 20-25 age group

Correlation of demographic trends with changing employment conditions, particularly in the main industries of the area was then made, and a close relationship between economic changes and population changes was established. Case studies of twelve parishes in the area were undertaken and by studying population, economic and social changes in these small units over the 1851-1967 period, it was possible to find out whether population change caused economic change or vice versa. A sample survey of the population in each parish was made, to obtain information on movement both of those in the parish, and of close relatives who may have left, and by so doing to ascertain the main reasons for living in the area, and moving to or from it at the present time.

These investigations showed that

- 1) there was some short distance movement of rural workers into towns, particularly in Selkirkshire, prior to 1910**
- 2) mobility of labour seemed to be closely tied to changes in the main industries of the counties, and any recession in these was paralleled or followed by an exodus of people from the area**
- 3) movement was dominantly inspired by the prospects of better jobs elsewhere, at all periods**
- 4) male dominance in the 20-25 age group of migrants is due to the fact that men remain in the area until they have completed an apprenticeship or other training which will allow them to compete for employment elsewhere**
- 5) during the 20th century and particularly in the last 25 years, there has been an in-migration of older people, people who are country born but who have spent their working lives in towns and are now returning to a rural area.**

This long-term decline in the total numbers of people in the area, the out-migration of young people, and the smaller in-migration of old, has produced many problems in the three counties at the present time. The area is now one of social decay and economic ill-balance, bereft of its young, more active age groups.

The population history of the three counties indicated that groups of parishes within them had similar demographic characteristics, and it was therefore possible (on the basis of selected criteria)

to delimit population regions. The spatial distribution of these regions corresponded very closely with that of the economic units to be found in the area at the present time.

This emphasised the close ties existing between demography on the one hand, and other aspects of human and economic geography on the other: and suggests that a population analysis is a useful method of arriving at an understanding of an area's geography.

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INTRODUCTION 1

The case for taking population as the core of a geographical study has been most lucidly stated by Trewartha when he said that "numbers, densities and qualities of the population provide the essential background for all geography. Population is the point of reference from which all other elements are observed, and from which they all, singly and collectively, derive significance and meaning".¹ This is particularly true of the counties of South-eastern Scotland, Berwick, Roxburgh and Selkirk, where "depopulation has caused concern.....for many years and is a symptom of most of the region's problems".²

"Every landscape, every habitation, at any moment is an accumulation of practical experience"³ and the human and economic demands of yesterday are reflected in the landscape of today. There is a reciprocity of relationships between population development on the one hand and social and economic changes on the other, and a full understanding of the geography of an area can only be achieved by recourse to its history.

1. Trewartha, G. T., The case for population geography, *Ann. Assoc. Amer Geographers*, 44, 1954 (pp. 71-97), p. 135
2. H. M. S. O., The Scottish economy, 1965-1970: a plan for expansion, cmdnd 2864, 1966. p. 94
3. Sauer, C. O., Foreword to historical geography, *Ann. Assoc. Amer. Geographers*, 31, 1941. (pp. 1 - 24), p. 8

The year of peak population in this largely rural area was 1851, and since that date there has been a progressive decline in the numbers of people living there "because of declining employment opportunities in the countryside. Economic activities have steadily moved from the villages and the rural communities into the towns and the urban areas; and as employment possibilities have diminished in the rural areas, the village populations have moved into the towns The historical forces that have been at work. have led to a centralization of economic life in large industrial units and in large urban agglomerations, and rural life and rural society have been steadily weakened. Without the provision of work there can be no reversal of the depopulating trends in our rural society: and while there are many other considerations, such as housing, social and cultural amenities and the like, to be taken note of, in the absence of a rural economy that can provide economic opportunities for a greater part of the natural increase of its population than occurs at the present time, the depopulation of our rural areas will not be reversed".⁴

Fundamental to an understanding of the present situation in south-east Scotland is a knowledge "of its people, their decline in numbers, distribution over the countryside, and their social characteristics. These latter are the product of their social life, and this has been subjected to changes, often the result of

4. Saville, J., Rural depopulation in England and Wales 1851 - 1951, Routledge and Kegan Paul, 1957, pp. 7 - 8.

economic conditions. The results of all these changes, both material and social, have been portrayed in the population structure of the district, the trends of birth and death rates, and the nature of the problem of rural emigration".⁵

The movement of people in Britain as a result of the economic and industrial revolutions has provided many writers with a rich field of study, because mobility was seen, as indicated in the preceding paragraphs, as reflecting a changing economy and society. And yet "the analysis of the data is curiously incomplete. In particular there have been few detailed analyses of regional variation in population distribution and the factors involved in population change, despite the evidence available in censuses such analyses as have been made have been principally concerned with the distribution of trends in total population numbers, a wholly inadequate basis for the analysis of the nature of population growth and of the factors underlying it".⁶

This thesis is concerned primarily with analysing the population changes that have occurred in the three counties of Berwick, Roxburgh and Selkirk since 1851, and focuses particularly upon the role of migration. In addition, the economic and

5. House, J. W., Population structure and employment conditions, North Tyne Survey Committee, 1953, p. 3.
6. Lawton, R., Problems in the analysis of population mobility in England and Wales in the later nineteenth century, Paper read to the Population Studies Group, I. B. G. (Sheffield), 1967, p. 1.

social evolution of the area during the same period has been considered, and from this composite study generalisations concerning the nature of migration within and from the area, and its underlying causes can be made.

The analysis consists of acquiring basic information concerning population distribution, characteristics and changes between 1851 and 1967; and explaining the causes of changes in these basic facts by considering the demographic components of change, the economic and social changes and assessing their effects on the population, and by undertaking a detailed survey of twelve parishes in the area in an attempt to unravel the "cause-effect" problem.

Such a study relies heavily on statistical data from a number of sources, and among the most difficult problems encountered in the course of the research are that population data vary in character and quality in time and space.

Basic information about the structure of the population and the volume of migration at different periods, was obtained from the published volumes of the census. The unit for which most of this data was published in the earlier returns considered was the parish, while more recently the district of county, county burgh and landward area designations have been used. For many purposes these units are too large and do not allow detailed local study. The unpublished Enumerators' Books for the period up to 1891 allow greater insight into conditions in the 19th century,

but for reasons of personal privacy it is not possible to get corresponding information for the 20th century. Only in 1961 was it possible to obtain greater detail, as the census of that year was produced with a series of special tabulations which gave information to the enumeration district level, thus making data available in smaller units than the parish, but not down to the individual household level of the Enumerators' Books.

Areas present something of a problem in that returns of parish areas are not accurate in early censuses, and this coupled with frequent changes of boundary necessitates much research before plotting can begin. It has been found most successful to use 1961 administrative boundaries, and to adjust earlier returns to fit these.

The format of the census schedule and the information to be recorded on it, differ slightly at each ten year period, and the interpretation put on many questions appears to vary from enumerator to enumerator.

Inconsistency of data, and lack of detail are therefore inherent problems in the study but it is hoped that the other sources used will help to give greater detail and perspective to the subject. "Population phenomena are too dynamic to be studied advantageously at any given instant in time, so that one must usually consult the full historic range of records"⁷, in order to establish the ever-changing aspect of the trends rather

7. Zelinsky, W., A prologue to population geography, Prentice-Hall Inc., 1966, p. 17.

than merely producing 'point-in-time' pictures of the demographic situation.

The General Register Office in Edinburgh produces annual reports which give information on the number of births and deaths in each twelve month period. These, for the purposes of this thesis, are accurate, but have one variable factor. Death or birth should be clearly associated with the place where life is led. Difficulties arise when people die or are born in hospitals and institutions outside the locality of usual residence - the general solution has been to 'transfer' these people to "usual place of residence" but this is not always possible, and the regulations concerning these transfers have varied from time to time - but the error produced by these alterations is probably so small as to be negligible when dealing with such small numbers as the populations of Berwick, Roxburgh and Selkirk counties. This is borne out by Lawton, in his study of England and Wales, where he found that "the early returns (of births and deaths) need to be treated with reserve, since under-registration of births was initially considerable. But by 1851 the figures are probably accurate enough".⁸

Patterns of movement from 1851 may be derived from the census tabulations on place of birth, but these give cumulative information on migration and do not indicate the amount of intercensal migration between particular areas. Internal

8. ibid. 6, Lawton, p. 1.

currents, within each county, are not indicated by such data. More direct information on population movement may be abstracted from the parish school registers, as each of these records the last school which a child attended, and their destination on leaving their present school. There is not a complete coverage of the area with this type of information.

More direct information on migration, on a sample basis, is provided by the parish questionnaire study.

With a view to understanding the economic development of the area, the occupation structure of the population was considered using census tabulations. Problems arose in the use of these statistics as terminology and classification in this field not only change from one ten year period to another but appear to vary from enumerator to enumerator. Parish agricultural returns are another source of information whose categories have changed in the 1851 - 1967 period.

Despite these limitations and inadequacies each of the sources mentioned above was used in the course of the research for this thesis, and where the discrepancies were significant an attempt to adjust the information was made. How this was done will be discussed at the relevant point in the text.

Population geography "is distinguished by an exceptionally strong reliance upon official sources for its basic information. There is nothing unusual about using government documents in geographic work, but the utter reliance of population studies

on such documents is rare. It is the nature of the phenomena, not the student's lack of enterprise, that explains this fact.....

But the techniques of random field sampling.....do offer interesting possibilities".⁹ Because of this due emphasis has been placed on the results of the questionnaire, as this source filled in many of the gaps in census data, and was the only means by which the causal factors behind migration could be obtained directly. The other sources allow reasons for migration to be inferred only, but cover a wider time span, and therefore such inductive reasoning to explain historic population movement also constitutes an important part of this work.

9. ibid 7.,

Zelinsky, P. 17.

INTRODUCTION 2

General Description of the Area.

The Tweed basin, drained by the Tweed and its tributaries, lies open to the sea eastward, but elsewhere it is practically shut off by the watershed formed by the Lammermuir and Moorfoot Hills to the north, the Lowther and Moffat Hills to the west, and the Cheviots to the south. The south-eastern portion of the basin, including the area drained by one important tributary, the Till, lies in England. This thesis deals only with the area lying north of the Border. (fig. 1)

Within the basin there is a striking contrast in physical features between the low-lying Merse, bordering the lower Tweed, and the Southern Uplands, through which flow the upper Tweed and its chief tributaries, due mainly to the widely different geological formations of which these consist. The Merse owes its general aspect mainly to the drifts which overlie the later carboniferous rocks. These drifts give a gently furrowed appearance to the ground, and this continues inland over the Old Red Sandstone until the older Silurian formation, of which the Southern Uplands consist, is reached.

There are three physical sub-units, the lowland or Merse, which is open to the sea on the east, an intermediate hill area surrounding it, and the two are encircled by the Lammermuir and Moorfoot Hills, Ettrick Forest, and the Cheviots. (fig. 2)

The last named unit is a horse-shoe-shaped group of mountains, a remnant of an original high plateau surface, with a general summit level of 1,500 - 2,000 feet. Here, although the hills lack the impressive height and striking outline of other parts of Scotland, they constitute a wild and pleasing region, and form the major watershed of the area. This plateau occupies nearly half of the total area of south-east Scotland, and its unimproved moorlands are among the most important and heaviest stocked hill sheep-grazings in Scotland. The distinctive land form characteristics of this zone are, broad flat-topped fells and smoothly convex ridges and hills, long narrow deep cut dales and their tributary waters, which terminate in steep, amphitheatre heads, or narrow v-shaped notches. "These high upland ridges, the true southern uplands, rise, often abruptly above a lower intermediate plateau surface varying from 1,200 - 750 feet along its inner edge and with a gradual slope to 500 - 400 feet on its outer, this intermediate plateau forms a ragged irregular fringe around the margins of the uplands, and extends long fingers up the major valleys."¹ In places it is considerably dissected, in others, for example to the north of the Merse, it still preserves extensive areas of gentle gradient with resultant poor drainage. This zone is transitional not only in altitude but also in land use between the wholly cultivated lowlands, and the upland rough grazings; moorland and arable land interpenetrate,

1. Tivy, J.,

The South of Scotland, in Great Britain; geographical essays, ed. J. Mitchell, Cambridge Univ. Press, 1962 (pp. 473 - 487), p. 474

drystone dykes reflect glacial soils, and the prevalence of coniferous shelter belts implies a high degree of exposure. These two plateaux overlook a more fully cultivated area, alluvial in nature and less than 400 feet above sea level. This triangular drift covered plain is ribbed from west to east by long low drumlins whose alignment is repeated in the geometrically rectangular pattern of road and field boundaries.

These units merge into one another and it is thus not possible to put definite boundaries round them. The geological structure of the area (fig. 3) is to a large extent masked by a layer of boulder clay and other deposits resulting from the Ice Age - and it is this which is responsible for making abrupt changes in topography uncommon in the area.

In the southern part of the area are found Silurian rocks consisting of flags, grits, greywackes and shales, which have been intensely folded. The lower Old Red Sandstone age is mainly represented by a great thickness of lavas which form part of the Cheviot Volcanic Series. The lava flows fall into three groups - glassy pitchstone-like andesites, oligoclase trachytes and augite-hypersthene-andesites. These igneous rocks are important elements both in the formation of the landscape and of the soils. The Silurian is unconformably overlaid by the Upper Old Red Sandstone, and in some stretches the Jed Water has cut down exposing the underlying Silurian.

Soil types within the area reflect the texture of the underlying parent material. On the areas of greywacke the soils are generally cold, wet, grey clays, but when mixed with other material and well drained and sheltered, give good grain crops - the grain matures one to three weeks later than on warmer soils equally exposed. On the Old Red Sandstone formation the soils are very variable and include the best and the worst in the study area. If the original rock is a siliceous, iron-impregnated grit then the soil is very poor but if there is much clay present then a deep, warm rich-red soil is produced, and every variation between these extremes is found. Over the volcanic rocks there is generally a loose, light, warm, sandy loam, while higher trap districts provide the finest sheep pastures in the Borders. The numerous streams and their deposits mix up the soil pattern, already complicated by glaciation, so that it is impossible to give a simple soil map.

As the rivers of the Middle Tweed provide one of this region's characteristic features, it is relevant to pause here to explain the origin of the drainage system of the area. According to Linton², the initial drainage system was of very simple pattern, in which the original Tweed played the part of the major eastward flowing trunk and received two series of tributaries, one on either hand (fig. 4): that is a group of streams flowing south-east and truly transverse to the

2. Linton, D. L., The origin of the Tweed drainage system, Scottish Geog. Magazine, 49(3), 1933, pp. 162-174.

structure they cross, and one flowing north-north-east with a high degree of discordance to structure. Both these series are characterised by a marked parallelism among themselves, evidencing their community of origin.

The smaller streams within the study area are very fast flowing and are liable to cause flooding, although the height of spate greatly varies.

The undulating topography of the greater part of the Borders makes for wide variations in every aspect of the climate (fig. 5). According to records of the Meteorological Office, as one ascends the Tweed valley and the tributary valleys of the Middle and Upper Tweed, there is a steady increase in the annual rainfall, from less than 30 inches on the sea coast, to 50 inches in the lower Cheviots, and as much as 90 inches per annum in the hill farms of the south west. While spring rainfall is liable to variation, one can generally depend on dry weather in March for the sowing of grain crops. During the months of May, June and July, there is sufficient moisture for grass and crops. ^{September} ~~September~~ is the main harvest month (August is often too wet, particularly in the Middle Tweed) as it normally has settled weather with fairly long dry periods. In the upland ^{country} ~~county~~ (elevations over 400 feet) frosts in winter are often severe, particularly in January and February. Late-spring frosts are liable to occur over the whole area in April and occasionally in May, and these tend to

injure vegetation and to destroy fruit blossom. This is a handicap against the production of market-garden crops and very little land is devoted to such crops or to fruit. It seems to be a reflection of a climatic cycle that the Jedburgh district was once famous for its "Fine Jethart Pears" (said to have been originally planted by the monks from the Abbey), and in the early 18th century the fields around Jedburgh, according to the Reverend Thomas Somerville, bore tobacco.³

The climatic catena in rainfall and temperature conditioned by wind directions, and the topographic differences based on altitude and structure, together have produced the theatre for man's activities over the ages.

The Merse, of which the upper limit of elevation may be taken as 400 feet, has a mean annual rainfall of less than 30 inches, fairly evenly distributed, but at its highest in the months of August and October. The climate is in other ways much superior to that of the upper Tweed basin from the point of view of the arable farmer; hence it is in this area that the greatest proportion of arable cultivation is found, and some arable crops are sold off the farms. Oats is the chief cereal, barley for malting purposes is next in order of importance, the area under wheat being considerably smaller, and much land is under turnips. But the Merse has also close interactions with the adjacent uplands. Ewes from the hill farms

3. The new statistical account of Scotland, vol. III Roxburgh-Peebles-Selkirk, Wm. Blackwood & Son, 1845, p. 187.

are crossed with rams of the larger breeds, e. g. Border Leicester, Suffolk and Oxford, and lambs are obtained earlier in the spring. This type of farming involves the provision of turnips for winter feeding and of young grass in spring, both of which require ploughed land, which again opens the way for cattle feeding. In this area, therefore, a high type of mixed farming prevails, with an emphasis on sheep.

West of the Merse the land rises, but the area enclosed for cultivation, as opposed to hill pasture, broadens out and penetrates the Upland valleys, where some crops are reaped above the 1,000 feet level. This zone of hilly country, extending from the Gala Water across the Tweed at Melrose and continuing southward to the Cheviots, has a considerable proportion of land under crops. Here the farms tend to be segregated into lowland farms, only differing in the degree of arable cultivation from those of the Merse, and the pastoral sheep farms of the higher slopes and summits.

This zone abuts everywhere on the large sheep farms of the Uplands. Altitude, relief, soil and climate - with rainfall varying from 35 inches to 60 inches - combine to exclude the growing of crops on a large scale. This is emphatically the heart of the hill sheep country, but the change from the Merse and the other lowland areas up to the hills is throughout a gradual one, and is always closely associated with the practice of the lowland semi-arable sheep farm.

Background up to 1850

History (Agricultural) prior to 1850

Hill Fort Era

This wild and naturally beautiful area has had a tempestuous history. As part of the frontier between Scotland and England which, in the not too distant past, were two hostile kingdoms, it is the scene of many historical events, and these have provided the background for much ballad writing about the area as a whole.

The earliest settlements in the area, at one time covered in forest and marsh, are numerous hill forts, cairns and tumuli, erected by Celtic tribes from about 1,000 B. C. until after the Roman occupation (fig. 6). There are numerous examples of these throughout the Tweed Basin, particularly in the Eastern Cheviots, especially in Bowmount Water and Kale Water. Land was cultivated on the adjacent slopes in a series of cultivation terraces below the forts, now covered with grass, but visible a long way off. The largest Hill Fort was situated on the summit of the most easterly of the Eildon Hills at Melrose. It was at one time taken over as a signal station by the Romans.

Mediaeval Period

The state of agriculture in mediaeval times was backward and poverty stricken. There were no potatoes, no turnips, no regular rotation of crops, no laying down to sown grasses and clovers to maintain soil fertility and maintain livestock in large

numbers. The land on a holding was divided into in-field and out-field. The in-field got all the dung available, and was cropped every year with grain, cabbages, etc. The out-field lay in grass and was periodically cropped until it would yield no more. The arable land of the various holdings in a community was cultivated on the system of run-rig. Lots were drawn for the various rigs each spring, so the land holder had a very scattered holding. After harvest the livestock, which was herded in summer, was allowed free access to all the rigs. The standard of production was very low in this system.

Church and Monastic Farming

The reign of David I, during the first part of the 12th century was an important one for this area. This was due to the erection of Abbeys and Monastic establishments: the religious orders of Cistercians and Benedictines were given large estates by the Crown and they founded Abbeys at Melrose, Dryburgh, and Kelso on the banks of the Tweed, at Jedburgh near the Tweed, and at Coldingham near the sea coast. Each Abbey had a number of Granges. Kelso had 14 granges each under the charge of a lay brother who rendered his accounts to the cellarer of the Abbey. There were also tenants on parts of the estates.

Intensive agriculture was practised on the monastic estates. The monks were pioneers in new ideas and organisation. Forests and

4. Corner, H.H., A history of land use in the Borders, Journal of the Royal Scottish Forestry Society, vol. 17, no. 4, 1954 (pp. 249 - 253), p. 250

marshes were reclaimed, arable land was enclosed, run-rig was abolished, and a form of rotation of crops was practised in which the land was rested in grass for a period and then cropped. Sheep were introduced in large numbers on the low ground, and hill farming was practised on the Cheviot and Lammermuir Hills.

About the year 1250 Melrose Abbey had 12,000 breeding sheep, Kelso Abbey 2,000⁵. Other land owners followed their example and the whole area became notable for the production of wool and hides. Wool was exported from Berwick-on-Tweed to France and Belgium and occasionally to Italy. This laid the foundation of prosperity of the Tweed Basin due mainly to sheep and wool.

With the break-up of the Abbeys, there was a general fall in the standard of agriculture. The abbey granges with their enclosed folds and rotations of grass and grain crops were taken over by lay lords and the system reverted to run-rig.

Ettrick Forest in Selkirkshire was an important Royal forest, and was administered by an elaborate organisation of forest laws and courts. Forest steads were let on lease, and in the course of time their tenants owned considerable stocks of cattle, sheep and horses, but were forbidden to till the land - it was essentially a pastoral economy. Between 1470 and 1479, 25 tenants in Ettrick had to leave to keep sheep, the sheep-stock being bound to the ground, and were taken over by a new tenant at valuation. The Crown had 7,500 breeding sheep in

5. Corner, op. cit., p. 250

Ettrick, the total number in the forest steads being estimated at 20,000.⁶

17th and 18th Centuries

In the 17th century conditions were still somewhat primitive, and the enclosure of farm-lands into large-scale farming units had not proceeded to any great extent. In the early 18th century, the pattern of agriculture as we know it today began to emerge, and the process was largely completed by the close of the century. Researches in recent times, notably by Handley⁷, have revealed a great deal of valuable information on this period.

As in the early days of the Border Abbeys, the valley of the Tweed was the wealthiest part of Scotland, it was peculiarly fitting that this area, after its many sufferings during the war with England, should be the first to benefit from the new ideas and become the cradle of Scottish improved land. T. B. Franklin⁸ says that in 1730 Swinton was drained, marled and enclosed, and that in 1746 at Kames turnips were introduced.

The first full account of the agriculture of the area was prepared by Douglas in 1798⁹. The parish surveys which were

6. Corner, op. cit., p. 250

7. Handley, J. E., Scottish farming in the eighteenth century, Faber, London, 1953.

8. Franklin, T. B., A history of Scottish farming, T. Nelson and Sons, 1952.

9. Rev. R. Douglas, D. D. A general view of agriculture in the counties of Roxburgh and Selkirk, Edin. 1789.

written for the Statistical Account of Scotland and which were edited by Sir John Sinclair, also appeared at this time. These indicate the remarkable developments which had been made in agriculture by that date. The industrial revolution had brought about an increased population, rising prices for food, and a plentiful supply of cheap labour. Economic benefits of much value resulted from the Union of the Parliaments of Scotland and England in 1707, after a series of bad famines in Scotland. Somewhere about the middle of the 18th century there was a great upsurge in investment in land. The old system of farming on Tweedside was swept away and it seems clear from the end of the century accounts that the face of the country in this particular part of Scotland was very much as it is today. The lowland areas were squared off into large arable farms of 400 - 600 acres, with numerous farms of 1,000 acres and more of arable land. They were equipped with substantial farm-steadings and farmhouses: grassland and arable crops were grown in rotation: the common lands had been enclosed and parcelled off into farms; woodlands and policy parks had been planted up; ditching, hedging and draining were in full swing.

A similar process took place in the hill country. Extensive forests were planted up, hill grazings were marked off with stone dykes along their outer boundaries, steadings and farmhouses were erected on the ground. The area of these farms is generally 1,000 - 2,000 acres.

Douglas records that in 1760 James Robson of Belford,

which is a hill farm in Bowmount Water, went to Lincolnshire to obtain rams to help improve the commercial qualities of his sheep which were lacking in substance. From the progeny of these sheep there arose in the course of time the Cheviot breed of the present day.

The system of intensive grazing of hill land, common to the south of Scotland was introduced. A hirsell of sheep generally extends to 800 - 1,000 acres with 500 - 600 breeding ewes, 140 ewe hoggs, under one shepherd. The flock, however, does not graze over the hirsell as a whole but is divided into three or four groups called hefts. The hefts are unfenced. The ewes and ewe hoggs on each heft keep to their own area of ground, so arranged that each will have sweet fine grass on the upper slopes where the land is shallow, bog land to provide cotton grass in the spring, and a variety of herbs, grasses and sedges on the deep soil at the bottom.

The 18th century had been a period of unprecedented advance and by the end of it the process of modernisation was complete and no essential difference in the layout of farms has taken place since that time. That this was the case was due to several factors, probably the most important of which was that the area abounded in men of great ability and enterprise, proprietors and farmers alike, who carried through these sweeping changes with remarkable skill. The large amount of capital which

was sunk in the land was no doubt the result of industrial expansion and the consequent high prices ruling for agricultural produce - it was also the result of colonial development overseas which added to the industrial prosperity of the nation.

Suffice it to say that the Border agriculturalist was not slow to take advantage of all the resources which were offered by the times in which he lived. Within the sphere of agriculture, therefore, it would seem that in studying Berwick, Roxburgh and Selkirk Counties from 1850 to the present day an evolutionary rather than a revolutionary phase is being looked at.

History: (Industrial) Prior to 1850

Agriculture undoubtedly formed the original economy of the area, as it did in the rest of Britain, and indeed until the middle of the eighteenth century it was completely dependent on agriculture and its ancillary home occupations. The farming community at that time was almost self-supporting. Local resources and the produce of the farm were utilised to satisfy all essential needs and only a minimum of raw materials was imported to and only wool exported from the area. This basic pattern changed considerably, however, during the Agricultural and Industrial Revolutions, and from this period on the area could be divided into two units, the industrial town and the rural area, dominated respectively by textiles and agriculture.

Prior to the late 18th century spinning and weaving were mainly domestic industries - in fact ^{there} ~~these~~ appear to be traces

of the existence of a domestic weaving industry in the area, sponsored at an early date by monks skilled in sheep husbandry. But "while the origins of the woollen industry were ancient, the more vigorous attempts to encourage its growth before 1707 were not clearly surpassed until the early 19th century and throughout most of the previous century, the woollen industry..... was frequently cited by contemporary commentators as a sector of the economy where increased growth was both feasible and necessary"¹⁰.

The rise of the Tweed valley woollen manufacturing district coincided with the Industrial Revolution. In the 18th century woollen cloths were made, but in no greater quantities than at Kilmarnock or Stirling, Edinburgh or Aberdeen. Galashiels made kerseys, "Galashiels greys", an inferior imitation of Yorkshire kerseys. They were from local wool, the Southern Uplands being already a great wool producing area.¹¹ The bigger developments in woollen manufacture did not begin until, at the end of the 18th century, the weavers of Galashiels and Hawick began to use machinery. The growth of the industry, centered especially on Galashiels, was aided by the co-incidence in time

10. Campbell, R.H., Scotland since 1707: the rise of an industrial society, Oxford 1965, p. 61.
11. Smith, W., Economic geography of Great Britain, Methuen and Co. Ltd., London, 1949, p. 113.

of the use of the power-loom in the manufacture of narrow cloths, the exploitation of fashionable demands through the use of different patterns, and the availability of supplies of wool from Australia, New Zealand and South America. Once machine production had been established (from 1790 onwards) the water power resources of the Border rivers were quickly exploited for the development of spinning and weaving.

As the industry became more firmly established in Galashiels, and Hawick, so did tweed manufacture also grow in other Border townships where weaving was indigenous, "and later there was an emigration of far sighted Galashiels men to these same neighbouring communities where they established what were to become considerable businesses."¹² Water in particular influenced the location of the first mills on isolated sites in the narrow river valleys, a physical factor which has had an important influence on the development and distribution of the industry in comparatively small centres.

By the end of the 18th century the industry was beginning to expand, and "many of the Border mills were built in the middle of the 19th century. In 1851, 72 tweed factories used 329 power-looms and 225 sets of carding engines; in 1862, 82 mills used 1,069 power-looms and 305 sets of carding engines. in 1791 Hawick had 12 knitting-frames; by 1844 it had about 1,200".¹³

12. Stevens, W. V., Manufacturing industries, in Scientific Survey of South-east Scotland, Br. Assoc. for the Adv. of Science, 1951 (pp. 120-125), p. 123.

13. *ibid.* 10, Campbell, p. 63.

History: (Settlement) Prior to 1850

The long established settlement pattern of the area was not fundamentally altered by the economic changes resulting from the Agricultural and Industrial Revolutions. The position and character of the villages, the size of the parishes and fields, the run of the roads still reflected in surprising detail the conditions of the early settlement. The natural tendency to congregate in communities not only for mutual defence and protection of property but also for economic reasons formed the basis of community settlement. The existing communities or villages had evolved as the natural focal points of the various districts, and in turn, the burgh as the focal centre of these villages. The settlement pattern had, therefore, been based on the fundamental needs and the topography and historical development of the area.

It is possible in the 18th century to isolate three clearly marked superficial features in the area. First and foremost the scattered nature of the individual farmsteads is unmistakable. The single farm is unquestionably the dominant element in the pattern. Secondly there are clear examples of clustering round a church, and finally, there are route centres.

The isolated farmstead consists of a farm house, farm buildings and workers' cottages. The number of inhabitants varies considerably from the hill sheep farms to the more cultivated farms, and large stock-arable farms in the lower Tweed valley.

Interspersed throughout these scattered units are clear

examples of clustering round a church. small kirktoons occur at intervals of two to three miles in lowland areas and tend to be strung out along roads. "The nucleated village is undoubtedly a reality for the lower lying, flatter parts of south-east Scotland. The pattern is, as we should expect, that of Northumbria. a number of nucleated villages, often having parochial status at an early date, often associated with lord's ownership, are to be found in this region in the 12th and 13th centuries. (Greenlaw, Smailholm, Swinton, Edrom, Old Cambus - in the Merse)"¹⁴. The villages of the area are, therefore, long standing agglomerations.

As agriculture dominated the area it is not surprising to find that the urban population is small. Towns have grown up as the focal points of each district. These are modest in size and functioned as livestock markets and service centres for the surrounding area. The most important towns cluster around the historical route-node of the Middle Tweed Valley, where communications from E, S & SW converge on Tweeddale, Gala Water and Lauderdale, the main gateways to the north across the Moorfoot and Lammermuir Hills. Between Kelso and Berwick-on-Tweed the only centres are Duns, Chirnside and Coldstream - the paucity of large settlements in this area is a reflection of the role of the Merse as a 'debatable' land in Scottish history.

Between 1750 and 1850 some of the towns of the Middle

14. Barrow, G. W. S., Rural settlement in central and eastern Scotland, Scottish Studies, VI, 1962 (pp. 123 - 144), p. 129

Tweed had a new function added to them - they became centres of the area's developing textile industry.

By the beginning of the period with which this thesis is concerned the area had completed the changes associated with the agricultural revolution and the pattern of settlement had been firmly established. Evolution rather than revolution was the 'key-note' in this sector of the economy from then onwards. A further industry had been introduced into the area prior to 1850, textiles, but again major revolutions were completed by then and the following century was a period of gradual development. Textile production in the last century has been concentrated in the towns of the Middle Tweed and the remainder of the area has had an agricultural economy. In regard to systems of farming, the main feature has always been that the hill farms and the upland farms have formed a reservoir of sheep and cattle to meet the needs of the low ground farms within the area and also beyond it. All classes of farms are closely integrated. Blackface or Cheviot breeds are found on the highest grazings: these are crossed with the Border Leicester ram on intermediate pastures and the resulting half-bred ewes are moved to lower ground and crossed with Suffolk Down or Oxford Down rams to produce stores for final fattening on Lothian or English farms.

CHAPTER I

The Characteristics of the Population

"Past population distributions influence present and future distributions. In other words, there is a tendency for population distribution inertia. Most distributions are explicable only in terms of the past"¹.

By going through the Enumerators' Books (unpublished) of the 1861 Census for the three counties it was possible to find out the number of persons living in each house in the area. This information, together with 1st and 3rd edition one inch Ordnance Survey maps of the area, and an engraving of much of Roxburgh, Berwick, Selkirk, and parts of Midlothian and Northumberland made for the Duke of Buccleuch around 1830 by Cranford and Brook of ^{Edinburgh,} ~~Edinburgh,~~ provided the basic data for the compilation of distribution maps. Because of the cartographic problems inherent in producing a map showing a range of values from 1 to 20,000, more than one had to be drawn.² These maps, although an inevitable generalisation of the data, indicate the location and size of the units of settlement, from farm-house upwards.

A map of the region as a whole was prepared first; this showed units of 100 or more people, and disregarded the smaller settlements. The class intervals used were arrived at by listing all units of the above type in ascending order of size, and noting where the major breaks on the scale occurred.

1. Clarke, J. I., Population geography, Pergamon Press, 1965, p. 26.
2. See: Raisz, E., General cartography, McGraw Hill, New York, 1948, pp. 253-255, for a discussion of these problems.

A series of three maps, one for each county, was then drawn, to show the distribution in greater detail; but this time units over 1,000 people were ignored. Again class intervals were selected by the break of continuum method, and it was possible to locate all places, from those containing one inhabitant upwards in size.

Fig. 7, showing units of over 100 people in 1861, reveals several characteristics about groupings of this size within the area. The most striking of these is that units of this order of magnitude are confined to low altitude situations, all being under 600 feet. At this period towns are modest in size and cluster around the important route-node of the Middle Tweed valley, where communications from the east, south and south-west converge on Tweeddale, the Gala Water and Lauderdale, the main gateways to the north across the Moorfoot and Lammermuir Hills. The largest are the industrial centres of Hawick (8,191) and Galashiels (7,385) followed by the ancient burghs and market centres of Selkirk, Jedburgh, Melrose, Kelso, Duns and Coldstream. These places all have over 1,000 inhabitants. Also in this size range are textile centres such as Lauder, Chirnside and Earlston, and the fishing port of Eyemouth.

The Merse of Berwickshire and its adjacent areas, contains few large settlements, "probably because historically this is a marchland area"³. Those that do occur, Ayton, Chirnside and Greenlaw, all with over 800 inhabitants, are

3. Tivy, J.,

The south of Scotland, in Great Britain: geographical essays, ed. J. Mitchell, Cambridge Univ. Press, 1962 (pp. 473-487), p. 479

larger than their rural service centre counterparts in Roxburghshire. There is, however, a greater concentration of settlement in this area than elsewhere in the three counties, with its even spread of units of 400 to 600 people. Within the three counties all units containing over 100 people are service centres, and even the most skeletal of them contains a shop or shops, and a blacksmith's. These incipient 'villages' are, by and large, no more than extended farm settlements, where the farm unit has been sufficiently large to have acquired provision for the basic needs of its population.

The county maps (figs. 8, 9, & 10) bring out even more sharply, the differences that exist between high ground, relatively flat ground at intermediate altitudes, and low ground.

Units of under five people are the major components in the distribution of population in upland Roxburghshire, and over all of Selkirkshire outside of Galashiels and Selkirk. Size and frequency of settlement increases with decline in altitude. The valleys of these two counties, and of northern Berwickshire illustrate this trend admirably.

On the land above 800 feet in the Ettrick Valley, 12 adjacent farms support a population of 69 people; Ettrick village itself contains a further 74 people; and the much wider, relatively flat stretch of valley north of it with elevations of 750 feet to 700 feet contains 180 people, in 12 nodes, one of these being an estate with a population of 39, the 'village' of Hopehouse with 31, and a

couple of farms of over 20 inhabitants (see fig. 11.) This is the highest part of the valley to have farms with workers' cottages attached. Between Newburgh (700 feet) and Kirkhope there are 199 people living in 14 units of which Kirkhope farm and cottages and Shaw's farm both have over 40 people. The river valley widens out at Kirkhope farm, and the villages of Old Kirkhope and Etterick¹ bridge End, together with Brockhill, Howford and Helmburn farms constitute the first large agglomeration with 229 people. From this point, northwards down valley the dispersed settlement units get larger, and more frequent, as the valley itself becomes wider and less steep-sided, and the outskirts of Selkirk are reached.

The valley in this area is under 500 feet and in the $3\frac{1}{2}$ miles between Shielshaugh and Selkirk itself there are 253 people. Many of these live in sizeable agglomerations, such as Philiphaugh farm, cottages, schoolhouse and shepherd's cottage with 48, and Philiphaugh mill with another 23 inhabitants. Close to this is Philiphaughholm farm, cottage, lodge, stables, upper lodge and mansion house with a total of 25 people; and nearby are Carterhaugh farmhouse and cottages containing 42, Oakwood House, farm, cottages and mill where 50 reside and Howden farmhouse and cottages with a further 29. In addition the junction area between the Yarrow and the Ettrick is occupied by Bowhill estate with a total population of 82. In this stretch of the river valley agricultural units would seem to be large and their buildings substantial. Beyond Selkirk the situation is similar. Population is dispersed into farming units, but these units are,

in the main, larger than in the upper parts of the river valley (in terms of their number of inhabitants), and are much more frequent in occurrence. Ettrick Bank Mansion, and Sunderland Hall further emphasise the more substantial nature of the units in the area around Selkirk. Between Selkirk and its junction with the Tweed, the Ettrick Water is well populated with some 223 inhabitants, 59 in Lindean village and farm, and the remainder distributed among nine farms and small estates.

The valleys of upland Roxburgh and Berwick exhibit the same trends. In the Upper Jed the highest habitation, Carter Toll with four people, was on the 1250 feet contour. Several small units lay between 750 feet and 1,000 feet in the right hand tributary valleys of Pier Burn and King's Cleuch, but only Letham farm and cottages at 750 feet in the valley of the Shaw Burn attained any significant proportion, having 46 inhabitants (fig. 12). Downstream from Letham is Westshiels with 10 people, then Dykeraw 8, and Southdean farm, manse and associated building with 25 people. In this area slopes are not as steep as in the Upper Ettrick valley, and immediately north of this point, between Lustruther and Southdean Mill and farm, each with over 15 inhabitants, on a relatively wide level stretch of ground, is Chesters village, with a population of 81 in 1861. This is the highest village in the valley. After this the river enters a much narrower valley and while settlement occurs, it is sporadic and very small in size, containing only two or

er three persons per unit, until Edgerston (64) followed by Camptown (39) and Merinslaw (28) are reached. Downstream from these the river valley widens and the slopes on either side are not so steep so that settlement units are found on the valley sides as well as on the floor. Between here and Jedburgh population increases in number, and is more frequent in occurrence. Mossburnford consisting of a farm and sawmill has 44 people, Bairnkine farm and cottages number 74 persons, Smailcleughfoot farm 9, Kersheugh farm and cottages 44, Glen Douglas house and school 13, Langlee house and cottages 44, Ferniehurst mill, farm and castle 44, Lintalee farm and nursery 38, Hundalee house, farm, cottages, smithy and mill 82, Todlaw 4 and Lightpipehall 21. Thus at about 500 feet in the Jed valley units become considerably larger, workers cottages appear and grouped settlement is typical. The introduction of the word house to describe the residence of the tenant or owner in this part of the valley, would seem to indicate that these were built on a more substantial scale than those in the higher districts. Below Jedburgh the valley opens out and dispersed settlement is large in size and frequent in occurrence, and similar to that found in the Ettrick Valley, north of Selkirk. This final stretch of the valley, before the Jed joins the Teviot, contains 359 people, the main agglomerations being Bonjedward with 104 and Ulston with 85 inhabitants. Again mansion houses are a typical element in the landscape, as are farms of 25 or more inhabitants.

Further east, Kale Water and Bowmount Water have a

similar distribution of population.

In the small Dye Water, a tributary of the Whiteadder, these trends can be seen on a small scale. The highest unit is Byrecleugh (fig 13) with 10 inhabitants and lying at an altitude of 950 feet. Downstream about $1\frac{1}{2}$ miles are Trottingshaws with 10 people, and Dye cottage with 3; Horseupcleugh farm and cottage containing 9 people is the only other group until Longformacus village with 146 inhabitants is reached. Thus in a distance of about five miles there are only 4 small units of settlement. East of the village are Caldra and Muirton farms, one on either side of the river with 10 and 11 inhabitants respectively. Both of these are over 680 feet above sea level. Whitchester farm and its associated cottages is the first large agricultural agglomeration and contains 31 inhabitants. It is at an elevation of 550 feet, and overlooks the junction of the Dye and the Whiteadder.

The main tributary valleys in the area exhibit the same characteristics in terms of increase in size of population group with decline in altitude, increase in number of buildings per group and greater variation in the composition of each unit as population increases, and a tendency for the larger low lying units not only to be more frequent in occurrence than their small upland counterparts but also to be of a more substantial nature.

That part of the Tweed valley lying below 500 feet contains the major part of the population in 1861. Here groups tend

to be larger than any yet discussed, and occur with greater frequency. The area east of the Tweed-Teviot-Jed junction zone in Roxburghshire falls within this category, as does most of southern Berwickshire. Selkirk county has much higher altitudes and does not exhibit to any extent the lowland distribution pattern.

Smailholm and Makerstoun parishes in Roxburghshire may be taken as examples of this population distribution type. Few farm settlements have under 20 people in either of these, and the majority have over 40 (see fig. 14). Smailholm Mains with 51 residents, Spotsmains 50, Sandyknowe 48, New Smailholm 45, Bettyfield 32, Corsick 21, Westfield 18 and one or two small units with fewer residents make up the non-village sector of the population in Smailholm parish. In Makerstoun a slightly smaller unit of distribution is found. Here ^{Haymount} Huymount with 65 residents is the largest farm, followed by Makerstoun House 47, Stodridge 44, and Greatridgehall 43. Smaller units are Manorhill 35, Linton Law and Suckleridge 28, Muirhouse 25, and Chesterhouse 20. Nucleated settlement is also larger than in the upland areas, with Smailholm village containing 254 people in 1861, separated into three distinct nuclei, East Third 107 people, West Third 105, and Over Town 42. Population units are spread evenly over the parish.

As one moves eastward into Berwickshire the units tend to get larger in terms of population numbers, and villages more frequent.

Swinton parish lying in the centre of the Merse shows

a further stage in the trends already noted. Here the almost level ground would appear to provide little control on the population groupings as these are evenly spread, and in common with Smalholm and Makerstoun are sizeable in character. Several farms have more than 50 residents, Swintonhill with 59, Little Swinton farm 53, and Swintonquarter 52; and the 15 estates and farms of the parish contain a total of 498 people (c. f. highest area in Ettrick valley, 14 units of farm and cottages contain 199 people). The village of Swinton has 431 inhabitants, and is, therefore, the largest rural grouping of people described so far.

East of this very low lying area the land rises slightly towards the coast, and in Foulden parish both the units and the villages are smaller, the latter being mainly extended farm settlements. 431 people live in the parish; 106 in the two settlements of Foulden village (81) and Newlands village (25), and the remaining 325 in 19 nuclei.

A finger of low ground stretches between Coldingham Moor and Foulden, and here again the population groupings which are characteristic of lower altitudes in the Tweed Basin are found. Ayton parish has a population of 2,014, of whom 887 live in Ayton village itself and a further 274 in the 5 other villages of the parish, Cowdrait 111, Swaddlees Corner 23, Burnmouth 53, Partanhall 58 and Stonefauld 29. Farm units are again large, with 853 people in 30 groups.

The population distribution in 1861 took two extreme forms

with a range of transitional types. In upland districts units were small, isolated, and the greatest concentrations were in the valleys which formed distinct threads of population penetrating far into Selkirkshire, Southern Roxburghshire and Northern Berwickshire away from the lowland stretches of the Tweed. Grouped settlement was completely confined to the lower parts of these tributary valleys. In contrast, in the Merse, the lowest area in the Basin, settlement was evenly spread, and both the farm and village units were larger than those in upland areas.

These contrasts between upland and lowland population distributions are a reflection of the different economies of these areas. Sheep farms, with their extensive grazings would, by their very nature, be widely scattered and as most of the upland districts are dependent on this form of agriculture the population distribution and densities seen on the maps in these districts is not surprising. Concentration in the river valleys where a little arable land was available, and where the farm buildings themselves are less exposed, is a feature characteristic of most upland areas.

On the other hand the low lying areas of the Tweed basin are excellent agricultural land, and while again sheep are the mainstay of the economy, cropping is also very important. The lower the altitude the higher the proportion of cultivation practised (see later chapter for details of agriculture). This type of agriculture requires far more employed labour, especially as

mechanisation was only in its infancy in 1861, than is required on the upland farms, and the larger farm units and villages are, in large measure, a reflection of this.

The major centres of the area are at the junction of these two zones - the point of contact between the two economies.

The map of population density in 1861 (fig. 15) brings out clearly a fact which the generalised distribution of population maps so far discussed do not, namely that the truly upland and moorland parishes have the lowest population density; that those lying in the tributary valleys of the Tweed are next lowest, and that for a density of 15 or more persons per 100 acres to be achieved a parish was either industrialised or contained land which could be intensively farmed. Increasing density and degree of industrialisation go hand in hand, but the highest densities in 1861 are reserved for "urbanised" areas, in particular Eyemouth, where the parish and the town areas almost coincide.

It must be remembered when considering maps of density of population that density is only a generalised index which allows a real comparisons, such as the above, to be made. It is subject to many drawbacks of which the fact that population data are available for administrative or census areas rather than for areas of homogeneous economy or population distribution is the most important. These areas vary greatly in size and population total. Another disadvantage is that densities are merely averages, with all the limitations that this term implies. The fact that the construction of the actual density map

is dependent on the criteria used in the selection of class intervals and the interpretation of the resulting maps depends on the shading method and the shading range used are further limitations.⁴

Despite all this, the map of population density is a useful abstraction, and has been included in this thesis to assist in the analysis of the diversity of population distribution within the area. It was felt that the use of crude densities could be justified on the grounds that, within the context of the three Border Counties, we are dealing with small units where numbers of people and ranges of environmental and social conditions are small.

Density of population maps allow the examination not only of the areal variations of population distribution but also permit temporal variations to be considered. With this in mind, and with a view to finding out something of the differences in the distribution existing in 1861 and that of 1961 (to be discussed later) density maps were drawn for 1861, 1891, 1921, 1951 and 1961. The base used in all instances was the parish, and crude densities were used at all times. Throughout the thesis when the word 'parish' is used it is meant to signify the parish with 1961 boundaries - adjustments have been made for boundary changes at previous dates.

4. see *ibid.* 1, Clarke, p. 29 for a further discussion of density mapping problems.

Table 1. Number of parishes in the various density groups.

DENSITY		1861	1891	1921	1951	1961
Group	Persons 100 acres					
1	(1 - 4)	*12	*15	20	24	24
2	(5 - 14)	32	33	36	32	34
3	(15 - 24)	13	9	5	7	5
4	(25 - 34)	6	5	3	-	-
5	(35 - 100)	2	2	2	3	3
6	(101 - 200)	2	1	1	2	2
7	(201 +)	-	2	2	1	1

*2 parishes density unknown

In 1861 densities of under 5 per 100 acres were found in 12 parishes, namely Ashkirk, Kirkhope and Ettrick in southern Selkirkshire and the adjacent parishes of Roberton and Teviot-head in S. W. Roxburgh County, together with Southdean, Oxnam and Hownam in the S. part of Roxburghshire and the parishes of Abbey St. Bathans, Cranshaws and Longformacus in N. Berwickshire. Smailholm in the centre of the area also had this low density. All of these parishes had a pastoral economy, and with the exception of Smailholm were wild upland areas with little improved land, in all instances remote from the industrial centres of the area. A further 32 parishes had densities between 5 and 15 persons per 100 acres. These account for the remaining upland districts, in particular those where pastoralism was

supplemented by some arable farming. Much of the Moorfoot and Lammermuir Hills area of Berwickshire, Coldingham Moor, and the tributary valleys in Roxburghshire have this density. The 13 parishes with densities of over 15 but under 25 persons per 100 acres occupy the Merse, as far inland as Roxburgh parish. Jedburgh, Melrose, and Yetholm are the only parishes with extensive areas of upland to come within this category. Each of these has, however, a considerable number of its inhabitants in a nucleated settlement. Jedburgh and Melrose are burghs, and in 1861 were important market and service centres. In Yetholm parish the twin settlements of Yetholm (town) and Kirk Yetholm had a combined population of over 1,000 people, due to their function as a major cattle market, and to the fact that Yetholm was the headquarters of the Scottish gypsies.

8 parishes had densities in the range 25 to 100 persons per 100 acres. Of these Ayton, Chirnside, Coldstream and Duns, all in, or on the edge of the Merse, were areas of intensive cultivation which at the period would have required much hand labour, and the last three all contain small service centres. Within this category also are the parishes of Kelso, St. Boswells, Hawick and Selkirk, the first two again being low lying arable parishes, Kelso being in addition a market and service centre. Hawick and Selkirk both parishes with a considerable urbanised population, were just entering their period of greatest development in the textile industry. Only two parishes had a higher density, Galashiels the most industrially developed parish at the period, and Eyemouth, the parish which is almost completely urbanised. It was, and still is, the main fishing port

of that stretch of the east coast of Scotland.

A comparison of 1891 with 1861 shows that those rural parishes with less than 15 persons per 100 acres at the earlier date declined slightly in density within the period, in particular Hobkirk and Morebattle in Roxburghshire and Channelkirk in Berwickshire. Several parishes which had up to 24 persons per 100 acres in 1861 had dropped a category by 1891. These are Ladykirk and Eccles in Berwickshire, and Roxburgh and Sprouston in Roxburgh County. Those parishes containing an urban centre tended by and large to increase in density during this period, and some show very high increases indeed. Hawick, Selkirk and Galashiels, that is those parishes with the greatest concentration of the woollen industry, increased in density between 1861 and 1891, Hawick from 84 to 138 persons per 100 acres, Selkirk 26 to 41 and Galashiels 108 to 277. Eyemouth also increased in density during the period (see fig. 15).

By 1921 these trends had become even more pronounced. Almost all of the parishes in the upland rim of the area were in the lowest category, that is having a density of between 0 and 4 persons per 100 acres. Lauder, Westruther and Legerwood had joined Channelkirk, Longformacus, Cranshaws and Abbey St. Bathans in North Berwickshire to bring the whole of the Lammermuirs within this low density category. In the south west, and south the parishes of Ettrick Forest, Caddonfoot, Yarrow, Ettrick, Kirkhope, Ashkirk and Roberton, together with those of Cheviotdale, Teviothead, Castleton, Hobkirk, Southdean, Oxnam, Hownam and Morebattle joined together to form a continuous expanse of low density.

Low lying arable areas had densities between 5 and 15 per 100 acres. The parishes of the Tweed-Teviot junction area come within this range, as do most of those in the low lying Merse, with Hutton, Edrom and Swinton, Stichill and Ednam dropping a category between 1891 and 1921. Those parishes with between 15 and 35 persons per 100 acres are scattered throughout the area. All of them are good arable parishes and in each instance their population total is boosted by the presence of an 'urban' area. Ayton in E. Berwickshire contains some of Eyemouth's population where the town has spilled over into the adjacent parish. Chirnside, Duns and Coldstream are all service centres for the surrounding rural area, Melrose contains a sizeable burghal population, and, in addition, contains part of Galashiels outward extensions. Earliston and Jedburgh parishes also in this range both have agglomerated settlements and contain branches of the woollen industry. St. Boswells, with a density of between 25 and 34 per 100 acres is in the same position as it was in both 1861 and 1891. It contains two settlements, St. Boswells and Newton St. Boswells, and is also a rich arable parish. Higher densities are confined to those parishes containing an industrial settlement; the woollen centres of Galashiels, Selkirk, Hawick, the agriculturally based industries of Kelso, and the fishing industry of Eyemouth. The tendency has been for 'urbanised' parishes to show an increase in density, or at least to hold their own compared with the 1891 situation.

The density per 100 acres on a parish basis had changed

little by 1951. The parishes in rural Selkirkshire remained in the lowest category all having a density of under 5 per 100 acres; in upland Roxburgh county there was one addition to this category, Bedrule, extending the wedge of low density into the Tweed-Teviot area; and in N. Berwickshire the inclusion of Langton and Polwarth, together with Bunkle and Preston brought low densities right to the edge of the Merse. These parishes all dropped one category and apart from them densities between 5 and 14 per 100 acres remain the same as in 1921. Chirnside and Duns augment category three and in so doing make all parishes with small service centres lie in the density range 15 - 24 per 100 acres. Ayton also dropped into this category during the period. Of the parishes with densities of 25 and over per 100 acres only one has shown an increase since 1921. This is St. Boswells in Roxburgh County, and its increase is probably explainable by the fact that although Jedburgh is the county town, St. Boswells was, in the thirties, and still is, taking over more and more of the administrative functions of the country. The other parishes in the upper density categories (35 and above) all show a slight decline, but only Eyemouth had fallen sufficiently to come into a lower density range.

The position between 1921 and 1951 would seem to have been one of relative stagnation in Selkirk and Roxburgh Counties, and in Berwickshire a continuation of the trend towards lower densities in both agricultural and urban - agricultural areas already discernible by 1921.

Almost no change is evident in the 10 year period 1951 to

1961. Most parishes had slightly lower densities but only in Coldstream and Earliston was it sufficient to put them in a lower category. St. Boswells continued to increase in density, but not enough to include it in the over 100 persons per 100 acre category.

The crude density maps, when considered together, indicate that there has been an overall decline in the numbers of people living in the study area between 1861 and 1961. The very fact that this decline started earlier and has been of a more prolonged nature in the agricultural parishes than in the industrialised ones, reinforces the link between population and the economic and social history of the various parts of the whole region, which has been indicated in an earlier section.

The changing density of the population inevitably finds expression in a modification of the population distribution pattern. In order to see how much this pattern had altered, maps, on a comparable basis, for 1861 and 1961 were drawn. (figs. 16 to 22).

Using the information extracted from the Enumerators' Books for 1861, together with maps of the period, a further set of three maps (figs. 16, 17 and 18) has been compiled. In these one dot represents the uniform value of 25 people. A comparison of the two series (figs. 8, 9 and 10 - and figs. 16, 17 and 18) of three maps reveals that subjective decision with regard to circle size and class interval can produce different viewpoints of the population distribution within an area at any one point in time. Figs. 16, 17 and 18 still emphasise the lack of settlement units in

upland areas, and the greater numbers of people in the low lying Merse, but fail to bring out the changing size of unit, and the complete lack of uniformity in distribution which the previous map series indicated. As the first series contains the greater wealth of information and is rather less generalised in form it is probable that the picture it presents is ^a truer representation of reality than is depicted by the second group. For purposes of comparing distribution of population within the study area, however, at both the beginning and the end of the period under consideration, it was necessary to produce the more generalised maps. This is because the information available in ^{the} most recent census is not as detailed as that available from the 1861 census. In 1961 figures were published of the population within each Enumeration District but with no indication of whereabouts within the district the people actually lived. A little additional information about the details of distribution was obtained from the lists of places with over 5 buildings or 25 inhabitants which are published by the Registrar General. These two sets of statistics plus the latest available edition of the Ordnance Survey maps are the bases from which the 1961 maps of population distribution were drawn. These, the most detailed maps of population distribution at the present time that it was possible to produce, suffer from the problems of subjective judgement in placing dots, which in some areas represent a considerable proportion of the population in a single unit.

Units containing 1,000 or more people were concentrated

in the Middle Tweed area, as had been the major settlements in 1861. In fact there is little difference (see figs. 7 and 19) between the pattern of towns then and now. The largest are still Hawick and Galashiels with populations of 16,106 and 12,373 respectively compared with 4,121 and 6,606 in 1861. Selkirk is the only other centre with over 5,000 people; the burghs of Roxburghshire, together with Coldstream, Duns, Earlston and Eyemouth in Berwickshire make up the remaining settlements with populations ^{of} ~~over~~ more than 1,000 people. Apart from Earlston, Eyemouth, Jedburgh and Melrose these units have declined in numbers when compared with the 1861 figures. Newtown St. Boswells is the only new unit within this grouping, with just over 1,000 people at the last census. In 1861 it was only a farm hamlet, but gained in importance because of its position on the Waverley rail route, and its large auction mart. Since the 1930's it has developed an administrative function, and contains many county offices which were once located in Jedburgh.

Units with over 100 people are again concentrated in lowland areas, as they were in 1861. These are now fewer in number, and tend to be smaller than at the earlier period. Places like Ayton, Coldingham, Greenlaw, Lauder and Swinton have a half to two-thirds of the population that they had in 1961. A similar situation prevails in ^{Roxburghshire,} ~~Roxburghshire,~~ with Ancrum village dropping in numbers from 538 in 1861 to 338 in 1961, Denholm from 766 to 581, Lilliesleaf 325 to 233, Morebattle 341 to 228, Kirk Yetholm 358 to 126, Yetholm 544 to 426 and Sprouston 379 to 116.

This decline in the numerical size of the various units in all but the very largest centres of the area is one of the main characteristics of its population. As can be seen the actual distribution of these units has not been in any way fundamentally altered as yet, but a continuation of the trends indicated would mean that in the not too distant future some of these agglomerations will cease to exist.

The county maps for 1961 reveal some change in the number but not the general distribution of small units. The pattern in upland and lowland areas is still as it was in 1861: that is the actual units are still in the same places. Like the agglomerated settlements already discussed, however, they are smaller in size, and a small proportion of the very isolated units have ceased to exist.

The upper part of the Ettrick valley, which was studied in the field in 1967 provides an example of this. Above 800 feet there are 9 farms compared with 12 in 1861. The total population contained in these is 43, whereas in 1861 69 people lived on land above 800 feet. The village of Ettrick has declined from 74 to 26 people. North of this point in the river valley until the 700 foot contour is reached, there are 35 people in 7 units; the village of Hopehouse has disappeared, being replaced by a large caravan park with no permanent residents, and the former large estate of Thirlestane now has only 2 residents. In 1861 this same stretch of river contained 180 people in 12 nodes, the largest of which were Thirlestane with 39 people and Hopehouse village with 31.

It is not possible to make such detailed comparisons for the whole area, as collection of the necessary information would have been a lengthy task, and outwith the scope of this thesis. Recourse must be made to the information from the lists of the places of over 5 buildings or 25 people which does not, however, give a comprehensive picture of the distribution of population in the three counties as it omits small units and, in some instances, units known to the writer to contain at least 25 people.

Table 2. Jed Valley: Size of Settlement Units

Name	1861 Population	1961 Population
Bonjedward village	104	66
Ferniehurst	44	15
Howden	25	17
Hunthill	23	13
Kersheugh	44	24
Lanton village	146	71
Mossburnford	46	30
Mounthooley	31	9
Scraesburgh	65	26
Timpendean	62	18
Ulston (E & W)	85	31

Within the Jed valley, using the restricted information available, the decrease in size of units already noted for Ettrick is evident (see table 2). There does not seem to be one unit in this

area which has increased in size. Many units besides those listed have declined in numbers as the ones on the table are only those which qualify for inclusion in the Registrar General's lists of places; units such as Langlee with 44 in 1861, Lintalee with 38, Hundalee 82 and Lightpipehall 21 are not mentioned in 1961. Owing to the lack of information on units with less than five buildings or under twenty-five inhabitants it is not possible to say if any units have disappeared because their omission from the list may merely indicate their small size rather than their lack of existence.

Table 3. Lowland Tweed: Size of Settlement Units

1) Smailholm Parish	1861 Population	1961 Population	2) Makerstoun Parish	1861 Population	1961 Population
Bettyfield	32	12	Greatridgehall	43	27
New Smailholm	45	12	^{Haymount} Haymount	65	29
Sandyknowe	48	18	Makerstoun	47	37
Smailholm Mains	51	20	Manorhill	35	28
Smailholm Village	254	61	Stodridge	44	38
Spotsmains	50	35	Suckleridge	28	15
3) Swinton Parish			4) Ayton Parish		
Harcarse	27	13	Cocklaw	56	31
Little Swinton	53	21	Farneyside	40	21
Mountflair	49	20	Gunsgreenhill	31	25
Sunprim Farm	39	37	Littledean	25	12
Sunprim Mains	44	16	Prenderquest	63	32
Swinton House	18	3	Redhall	28	5
Swinton Mill	43	13	Whitrig	57	22
Swinton Village	431	266			
Swinton Quarter	52	20			
Swintonhill	59	29			
Swintonriggs					
Green	33	19			

* 1), 2), 3) and 4) : working from west to east, from the inner edge of the Merse to the coast.



Lowland areas also show this tendency. In the Merse units are smaller than previously, but retain the same areal distribution pattern. (see Table 3)

From the foregoing pages it can be seen that the maps for 1861 and 1961, singly and collectively, despite their drawbacks, provide a basis for the analysis of the distribution of population within Berwick, Roxburgh and Selkirk Counties. These maps bring out the variable densities of areas, and for the first time for this part of Scotland, the intricacy of the mesh of settlements from individual farmstead to hamlet, village and small urban centre. The variety of detailed distribution reflects the physical landscape, the type of rural economy and the historical development of settlement. The ribbonlike grouping of farms and hamlets in the dales at both periods, contrasts with the more even spread over the lower valleys, the Merse and the coastal area.

The picture of population distribution which the maps present is exceedingly complex. While characterised by a considerable degree of stability, it is constantly changing in its details, and over the period of time under study changes of considerable importance in the size of units have taken place.

Maximum population for the area as a whole occurred in 1861 with both Berwick and Roxburgh Counties recording their highest ever populations in that year. In Selkirkshire the maximum was slightly later, in fact in 1891 - this is attributable to the different function and economic history of the three counties. Berwickshire

NOT
TRUE

provides an example of the changes in an agricultural region not in proximity to large centres of population. With the agricultural improvements of the late 18th century and the early 19th century, and the accompanying rise of craftsmen and merchants in the villages and towns, the population increased during the early decades of the 19th century. The actual maximum for most parishes in the county had been reached before 1871. This was due to a variety of factors, including the replacement of the scythe and sickle by the reaping machine in the fifties which meant that fewer people were required in the agricultural labour force.

In the counties of Roxburgh and Selkirk a considerable rise in population, associated with the rapid development of the woollen industry, was superimposed on the agricultural curve at various dates up to 1861, and the overall decrease set in only after woollen manufacturing had passed its zenith in 1891. As this industry reached its fullest development only in Hawick in Roxburgh County, and a higher proportion of this county was similar to Berwickshire in being agricultural in nature, it is not surprising to find that Roxburghshire's maximum population was achieved at a somewhat earlier date, 1861, than the maximum for her most industrialised parish. In Selkirkshire, the change at the beginning of the century from mixed subsistence farming to sheep farming had led to a decline in the numbers in this sector of the population, and manufacturing came to occupy proportionately more people in this county than in either of the others we are dealing with, so that

the effects of the development of the woollen industry were felt more strongly here than elsewhere, and thus the year of maximum population for the county coincides with the peak of growth for that industry.

The earliest years we are studying show an area which had, by and large, reached its maximum population, and subsequently shows a decline over a continually increasing number of its parishes (see fig. 23). In 1851, 29 out of a total of 69 parishes had achieved their maximum population. These are situated in the central part of the area in a belt stretching from Ashkirk on the eastern boundary of Selkirk County, through central Roxburghshire including all the parishes of the Tweed valley and low-lying parts of the tributary valleys with a wedge penetrating into the upland parishes of Southdean and Jedburgh, and into central Berwickshire, with a detached segment formed by Westruther and Gordon parishes. Peripheral parishes, Ettrick, Teviothead, Channelkirk, Cockburnspath, Mordington and Hutton also recorded their maximum population in 1851.

By 1861 a further 14 parishes had achieved their maximum populations. These were in all instances adjacent to parishes which had already reached their peaks, and meant that after 1861 the total numbers living in Ettrick, the upland and low-land parishes of Roxburghshire (with the exception of the urbanised ones), the Upper Merse, north west and much of eastern Berwickshire, were declining. 14 more parishes had had their peak populations by 1871 with the result that only parishes containing

large agglomerated settlements of an industrial or service nature were left, together with those immediately adjacent to them, with their populations still growing. From the map (fig. 23) it is evident that the decline, with few exceptions, started earliest in the low lying arable areas, and spread to the adjacent valleys and upland areas - that is from the most intensively cultivated to the least intensively, from those areas where changing agricultural techniques meant a large decline in the labour force requirements to those whose agricultural practises had never required a very large labour force.

As has already been noted by 1881 all rural parishes had achieved their highest population totals, leaving only those parishes with an industrialised centre or major settlement to reach their zenith in terms of their numbers of inhabitants at a later date. Most of Roxburgh and Selkirk counties' settlements had continued to grow throughout the period 1851 to 1881, and in some instances this growth must have been at the expense of the rural areas. That this was the case is evident when one looks at the growth of population in some of the burghs in these two counties e. g. Galashiels, which at this time was experiencing a rate of growth far in excess of its natural increase. As Selkirk County itself was not yet losing population, but the total numbers in its rural parishes were going down, it is reasonable to suppose that some of Galashiels's growth was due to the movement of these people into the town. Thus it was that those parishes containing

industrialised centres, with the exception of Jedburgh, did not enter the phase of decline found in the rural areas in the fifties and sixties and to a lesser extent the seventies, until the turn of the century. Berwickshire's major settlements, with the exception of Eyemouth (fishing) and Earlston (woollen mills), declined earlier; They had their peaks of population at the same periods as the rural parishes they were centres for namely, 1881 and 1871.

Only St. Boswells parish has shown a continuous growth of population to the present day, no doubt due, as has already been mentioned, to its main town's role in recent years as the administrative centre and main auction mart of Roxburghshire.

Not all parishes declined by the same amount or at the same rate. Indeed as will be seen later when the growth of the population is dealt with, many parishes declined, rallied slightly, then declined again. For the present, however, attention will focus on a consideration of the overall amount of decline experienced in the parishes in the area between 1851 and 1961, despite fluctuations in the rate of change between the two dates (fig. 24)

Over 60% decline was found in only a small number of parishes scattered throughout the area. These are Smailholm in Roxburgh County, and Westruther, Polwarth, Fogo and Ladykirk in Berwickshire, with the decline in Fogo being the greatest in the area, 80%. The actual numbers of people involved in the decline of these parishes was in all instances small, nowhere exceeding 450, as their population totals were never very high.

A further 15 parishes now have less than half of the populations they had in 1851. The lower Merse parishes come within this group, but here again, with the exception of Edrom which has dropped by over 800 people, the numerical loss is fairly low because these parishes did not have large populations to begin with. Channelkirk, Lauder and Legerwood also had over 50% decline as did Sprouston, Linton and Yetholm in E. Roxburghshire, and Kirkhope and Ashkirk in Selkirkshire; all of these are upland parishes with limited amounts of arable farming ground; Yetholm and Lauder, however, contain small service and industrial centres, and Sprouston a large village community. Only the last three exhibit high numerical losses, in each case over 700 people.

Parishes which have experienced a drop of over 40% in their total populations between 1851 and 1961 are to be found in three distinct units. Yarrow, Ettrick and Teviothead in the SW part of the region fall within this category, and despite losing such a high proportion of their populations, in terms of absolute numbers their populations have not been greatly lowered. A belt of land in central Roxburghshire, including the parishes of Bowden, Lilliesleaf, Ancrum, Roxburgh, Maxton, Eckford and stretching towards the Cheviots in the south via Hownam, and north into Berwickshire to include Mertoun forms the second block. Of these only Ancrum shows a significant drop in absolute numbers - over 700. The third group is in western Berwickshire from Longformacus in the north to Coldstream in the south, and contains both upland and Merse

parishes, but Coldstream and Greenlaw with their urbanised settlements are the ones here which have declined by over 700 people. Declines of less than 40% are confined to parishes adjacent to, or containing urban areas, and those which have approximately the same population as in 1851 or have increased slightly are those where the woollen industry has come to be the dominant force in the economy, together with those in close proximity to them. These are Hawick in Roxburghshire, and Selkirk and Galashiels in Selkirk County with the surrounding parishes of Caddonfoot to the west and Melrose to the East. Greatest gains have been in St. Boswells parish as already noted.

Rural parishes both lowland and upland achieved their maximum populations earlier than urbanised ones, and of this latter group those which contained service centres were quicker to achieve their peak populations than the industrial ones. During the period under consideration agricultural parishes were the ones with the greatest proportional decline, although in each instance numerical losses were small; those containing service centres had lower proportionate declines but because of their greater initial populations had larger numerical losses: industrialised parishes in terms of an overall trend have tended either to have gained population or to have remained relatively static when compared with the 1851 figures. It should be re-emphasised, however, that such direct comparisons between 1851 and 1961 ignore the fluctuations in population totals which each parish has experienced in the intervening years, and which will be discussed in detail later.

At this point let us turn from the gross and general aspects of the population in this area from 1851 to the present day, to the refined and more specific aspects of the population. The term 'composition' which appears so often in discussions about population "calls attention to the existence of various internal differentials which influence the comparability of populations or of demographic phenomena. Strictly speaking, composition refers to the distribution within a population of one or more individually carried traits or attributes".⁵ A study of the composition of the population at this juncture will allow an elaboration of the description of the population to be made; and information on composition will describe the variables essential for analysing demographic processes e.g. birth, death, migration and changing population totals.

The individual characteristics to which the term composition will refer in this work are, in this chapter sex and age, and in later chapters place of birth, migrational tendencies, education and occupation. Much of this information about the population has been obtained from the censuses, but complete reliance on these periodic enumerations could not supply detailed information on all the aspects of the composition of the population listed above. Recourse was made to school admission registers to amplify the information available on migration, and

5. Hawley, A.H. Population composition, in The study of population, ed. P. M. Hauser and O. D. Duncan, Univ. Chicago, Press, 1966 (pp. 361 - 382), p. 361

records of some of the Border manufacturing firms gave added data on employment. A sample survey carried out in 1967 brought the whole population study up to date in terms of all the characteristics of population in which the thesis interest lay.

Sex constitutes one of the most readily observable elements of population composition. Its universal recognition reduces the error of reporting to a minimum - thus it is probable that over the period we are dealing with there would be few errors in recording the number of males and the number of females in each enumeration unit. Sex is undoubtedly one of the most important of all demographic characteristics. Sex composition affects directly the incidence of birth, death and marriage; it appears as a differential in migrant status, occupational distribution, and in virtually all other distributions of characteristics.

Emphasis has been placed on this aspect of population composition in all age groups because, as will be seen in a later chapter, the numbers of each sex within the area and the occupational opportunities provided by the industries of the three counties are closely linked.

"Sex composition is conventionally expressed as a ratio of males per 100 females, the sex ratio"⁶. In most cases the ratios depart from unity by small amounts either positively or negatively, e. g. U. K. 1951 92.4, and even this, according to A. H. Hawley is abnormal, "but may be due to excess war mortality among males or to net emigration of males"⁷. Bearing

6. Hawley, op. cit., p. 363

7. Hawley, op. cit., p. 364

this in mind it would seem that more than a cursory glance at sex differentiation within a population is required if the population composition in its entirety is to be understood.

Clarke notes that "the sex ratio may be recorded in three different ways:

- a) the number of males per 100 females or vice-versa.
- b) males (or females) as a percentage of the total population.
- c) the proportion of males (or females) as a decimal of unity"⁸

As the first of these seems the most commonly used ratio it is the one adopted in this thesis. It was felt that ratios were most clearly expressed and brought out the differentials to be found in sex structure if the values were positive. Because of this the ratio females to 100 males has been used as for most of the parishes in the area, over the complete time span, there have been more women than men.

Why the quote over leaf then?

The sex ratio for Scotland as a whole was 111.2 in 1861 compared with 102.4 in the three counties; in 1891 the national ratio dropped to 109.1 whereas that for Berwick, Roxburgh and Selkirk counties rose to 112; during the period 1891 to 1921 these ratios were further modified, to 107.1 for Scotland, and 120 for the three counties; in 1951 there were 109.6 females for every 100 males in Scotland and 113 in the three counties; by 1961 the ratios were 110 and 111 respectively. With the exception

8. *ibid.* 1, Clarke, p. 73

of 1861, Berwick, Roxburgh and Selkirk counties had greater proportions of women in their populations than was normal for Scotland.

In the three counties as a whole there were 102.4 women to every 100 men in 1861, a situation which may merely reflect the greater longevity of women. When one goes deeper than these total figures, however, it becomes obvious that this average is far from reflecting the sex differentials to be found within the area, and as "sex ratios below 90 or above 115 are regarded as out of balance"⁹, it would seem that in some areas, within, for example the County of Roxburgh the ill-balance between the sexes was pronounced. Similar conditions were found in Berwickshire and Selkirkshire.

Table 4. 1861: Selected Parish Sex Ratios

Roxburgh County	Sex Ratio*	Berwick County	Sex Ratio	Selkirk County	Sex Ratio
Makerston ^u	142	*Chirnside	118	*Galashiels	112
*Ancrum	113	Cockburnspath	109		
*Melrose	119	*Coldstream	115		
Roxburgh	116	*Duns	112		
*Sprouston	118	*Earlston	120		
		*Lauder	110		

* sex ratio = no. females/100 males: Average sex ratio for Scotland 111.2

9. Thomlinson, R., *Population dynamics*, Random House, New York, p. 430

On the other hand, there are areas where men outnumber women, but these are confined to Roxburgh county, and to the extreme southern tip of the county at that, with Castleton parish having 2,296 men to 1,392 women (164 men to 100 women) and Cavers/Kirkton 1,244 men to 942 women (138 men to 100 women). These two, and in particular Castleton, were centres of rail transport and construction at this period - and according to the Census Enumerators' Books most^{of} the men lived in "huts" at various construction points, and central nodes in the area. (see large population in the boundary area between these parishes on 1861 fig. 9). In the remaining parishes of the area the sexes were generally about equal in numbers, especially in the lowland parishes bordering the Tweed in Roxburghshire, and in the Merse of Berwickshire.

Throughout the area males tended to beⁱⁿ excess of females in the under 5 age group especially in the parishes listed in table 6 where the imbalance was fairly marked. In a very few instances females outnumbered males in this age group. By the age of 15 males and females equalled each other in every parish, and continued to do so until the middle thirties, except in the parishes already mentioned as being imbalanced. In the upper age groups, especially those over 55, women outnumbered men in every parish in the area.

Table 5. 1861: Numbers under 5 years of age in selected parishes (female dominated)

Parish	Males	Females
Earlston	114	131
Ettrick	22	36
*Wilton	212	274
Yetholm	69	83

*united with Hawick parish in 1895.

Table 6. 1861 Numbers under 5 years of age in selected parishes (male dominated)

Parish	Males	Females	Parish	Males	Females
Abbey St. Bathans	14	3	Foulden	32	22
Ayton	154	137	Hutton	77	56
Castleton	242	187	Kelso	242	187
Channelkirk	58	45	Mertoun	44	36
Chirnside	109	90	Selkirk	357	330
Duns	234	198	Smailholm	52	33
Eckford	74	56	St. Boswells	61	49
*Edgerston	29	16			

*United with Jedburgh parish in 1895.

The situation changed a little during the thirty years up to 1891. In no instance did men outnumber women. In the upland parishes of Berwickshire the difference was not great, that is in a belt running from Coldingham and Cockburnspath on the coast, west along the Lammermuirs to Channelkirk and south to Earlston

and Mertoun. A similar situation prevailed in Selkirkshire in the parishes which did not contain an industrialised centre and in Roxburgh county in the upland parishes which did not have a nucleated settlement of over 400 persons, and in the lowland parishes in the Tweed-Teviot junction area. Marked imbalance was recorded in the parishes listed in Table 7. 14 parishes had between 110

Table 7. 1891: Selected Parish Sex Ratios

Roxburgh County	Sex Ratio	Roxburgh County	Sex Ratio
Bedrule	117	Makerstoun	115
*Castleton	113	*Melrose	123
*Cavers	110	Minto	122
Crailing	115	Smallholm	112
Eckford	124	*Sprouston	116
Ednam	110	*St. Boswells	114
*Hawick	117	Stichill	118
*Jedburgh	111	*1) Wilton	125
*Kelso	120		
Berwick County		Berwick County	
Bunkle & Preston	111	Hutton	113
*Coldstream	118	Langton	111
*Duns	118	*Lauder	110
Edrom	119	Nenthorn	110
*Eyemouth	117	Polwarth	128
Foulden	125	*Swinton	111
*Greenlaw	110	Whitsome	111
Hume	119		
Selkirk County		Selkirk County	
*Galashiels	117	*Selkirk	118

- * Parishes containing a settlement of 400 or over population
 1) United with Hawick in 1895
 Sex Ratio for Scotland = 109.1

and 115 women for every 100 men. These are either parishes with small service centres such as Castleton, Jedburgh, St. Boswells, Lauder and Greenlaw, or intensively cultivated parishes in the Merse, namely Smailholm, Nenthorn, Ednam in the upper part of it, and Swinton, Whitsome and Hutton nearer the coast. The woollen centre parishes, Hawick, Selkirk and Galashiels, had a ratio between 115 and 120 as did those with the larger burghs in Berwickshire, that is Eyemouth, Duns and Coldstream. Other parishes with ratios of this order are to be found on the edge of the Merse at altitudes of 400 - 500 feet, and all have easy access to burghs, for example, Bedrule is near both Hawick and Jedburgh, Crailing is just north of Jedburgh, Edrom is adjacent to Duns. The remaining parishes in this intermediate altitude zone, Hume, Stichill and Makerstoun all had small populations at this period, about 300 people, so that small numerical differences between their male and female populations appear as large imbalances in terms of a sex ratio. Only six parishes have ratios over 120, Melrose, Kelso, Minto and Eckford in Roxburgh County and Polwarth and Foulden in Berwickshire. Imbalance in the sex-ratio became a feature of more and more parishes in the thirty years 1861 to 1891, the industrialised and urbanised ones in particular being markedly female in population composition by the later date. The more intensively cultivated parishes, and those adjacent to the main centres of population were also unbalanced but not to such an extent: only the rural upland parishes of the three counties continued to maintain an equilibrium with regard to the total numbers of males and females in their populations.

Table 8. 1891: Under 5 Sex Ratio

Male dominated parishes	Sex Ratio	Female dominated parishes	Sex Ratio	
<u>Selkirk County</u>				
Ashkirk	65	Edrom	143	Berwick County
<u>Berwick County</u>				
Bunkle and Preston	82	Langton	131	
Chirnside	80	Legerwood	131	
Cockburnspath	73	Polwarth	175	
Cranshaws	50	Ancrum	250	Roxburgh County
Greenlaw	74	Cavers	177	
<u>Roxburgh County</u>				
Bedrule	33	Hawick	133	
Castleton	57	Minto	200	
Crailing	57	St. Boswells	174	
Eckford	44	Yetholm	200	
Hobkirk	25			
Makerstoun	50			
Maxton	40			
Morebattle	63			
Roxburgh	50			
Southdean	50			
Sprouston	15			

As in 1861 most parishes were male dominated in the under 5 age group, but this situation only reached extreme proportions in a small number of parishes in particular those with small total populations, such as Ashkirk, Cranshaws, Bedrule, Hobkirk, Makerstoun, Maxton where the numbers in this age group were all under 15 for each sex. Perhaps more significant is the fact that a larger number than previously were female dominated in this age group, in particular Hawick, Minto and Cavers, St. Boswells and Yetholm, all parishes with large

nucleated settlements in or near them. By the age of fifteen the numbers roughly balanced except in those parishes female dominated from the younger age-group, and equilibrium was approximately maintained in all but the female dominated until the mid-thirties as had previously been the case.

Table 9. 1921: Sex Ratio for selected parishes.

Roxburgh County	Sex Ratio	Roxburgh County	Sex Ratio
*Ancrum	122	*Kelso	122
Bowden	121	*Jedburgh	116
Crailing	124	*St. Boswells	123
Eckford	118	*Yetholm	127
*Hawick	134		
Berwick County		Berwick County	
*Chirnside	107	Eccles	119
*Coldingham	112	*Eyemouth	116
*Coldstream	110	*Duns	119
Cranshaws	76	*Lauder	116
*Earlston	115	Polwarth	119
Selkirk County		Selkirk County	
*Galashiels	126	*Selkirk	125

*nucleated populations of over 500 in each of these parishes.
Sex ratio for Scotland = 107.1

Further modifications of the sex structure can be discerned in the 1891 to 1921 period. Only Cranshaws in Berwickshire, right up on the Lammermuir Ridge had markedly more men than women with a sex ratio of 76. A smaller number exhibited a female bias than in the two preceding years studied. Again the upland parishes of Berwick, Roxburgh and Selkirk counties were in equilibrium, with by this period Castleton,

Cavers and Minto in southern Roxburghshire joining this group, and a number of the low lying Merse parishes also evening out, namely Foulden, Hutton, Whitsome, Edrom and Swinton, and the upper edge of the Merse parishes Greenlaw, Hume, Neuthorn, Ednam, Sprouston, Stichill, Smailholm and Maxton. Greatest changes in the sex-ratio were found in the urbanised parishes, especially those containing branches of the woollen industry, Galashiels, Selkirk and Hawick being even more unbalanced than at the previous dates considered. Kelso and St. Boswells, service and administrative centres also had sex ratios in excess of 120 (see table 9). Parishes adjacent to major centres also showed greater bias than previously, for example, Bowden and Crailing. On the other hand parishes containing rural service centres such as Coldstream (118 to 110) and Greenlaw (110 to 105) showed less imbalance by this period and other Berwickshire centres, Duns (118 to 119) and Eyemouth (117 to 116) remained much the same. Thus in all but the most industrialised parishes the situation remained relatively unchanged, or slightly more balanced between 1891 and 1921. The towns of Selkirk and Roxburgh Counties continued to experience an increase in the female proportions of their populations.

Sex ratios in the under fives exhibited a slight dominance on the part of men but in no parish was this in any way excessive. This balance was maintained until the age of 15 by which time male numerical advantage had been lost,

and from then on, in each age group women were in greater numbers, especially in the parishes already singled out as having an abnormal ratio.

In 1951 and 1961, rural parishes, including within this category those parishes with rural service centres, were almost balanced with regard to sex proportions, none having over 106 nor under 97 as a sex ratio. The industrialised centres on the other hand continued to exhibit a marked imbalance, although even in these the ratio was lower than in 1921.

Table 10. 1921 and 1961: Selected Parish Sex Ratios

County	Parish	Sex Ratio 1921	Sex Ratio 1961
Roxburgh	Hawick	134	125
	Jedburgh	116	108
	Kelso	122	116
	St. Boswells	123	119
Berwick	Duns	119	115
	Earlston	115	109
	Eyemouth	116	114
	Lauder	116	114
Selkirk	Galashiels	126	120
	Selkirk	125	120

The proportion of females to males in the area rose in the industrial parishes until 1921 and thereafter fell slightly: in those parishes containing nucleated settlements of over 400 it

tended to be imbalanced in 1891 but the position improved in the smaller of these by 1921 and in those with larger "urban" populations had completely evened out by 1951, remaining balanced to 1961. Upland parishes have at all periods exhibited almost equal proportions of males and females in their populations. Such trends in the individual parishes in the area as have been described are reflected in the overall ratios for the three counties already mentioned.

As has been seen for most of the parishes in the area studied males outnumbered females in the under five age group in 1861, and the position remained the same until 1891, with the gap narrowing to 1921. It continued to do this until 1931, but since 1951 it would seem that there has been an upward trend of male preponderance in this group, so that in 1961 it had risen to 106 males for every 100 females in the area as a whole.

The causes of this recent upward trend, experienced by the whole of Britain, are not certain, although there is reason to believe "that the sex ratio at birth is directly related to the standard of living and to the degree of pre-natal hygiene"¹⁰.

It has been mentioned that females have outnumbered males in the upper age groups (over 55). This reflects the fact mentioned by Clarke¹¹ and Hawley¹² that males have higher infant mortality, which rapidly reduces their numerical superiority. Mortality among males generally exceeds female mortality

10. *ibid.* 1, Clarke, p. 73

11. *ibid.* 1, Clarke, p. 74

12. *ibid.* 5, Hawley, p. 363

throughout life so that women are particularly preponderant in older age groups. This factor, however, cannot account, on its own, for the marked imbalance of women over men which some parishes have experienced during the last 100 years.

" The study of age structure has been too often neglected by geographers, perhaps because it is less easily observed and appreciated than some other aspects of the composition of the population. Too often statements are made about population growth in absolute numbers without reference to changes in age-structure, yet one cannot proceed very far in the study of population growth and migration without examination of age structure. Moreover, there is hardly an aspect of individual or communal life which is not affected by age; economic and social activities, social attitudes, mobility..... *in Clarke*

Furthermore, age structure is directly influenced by three variables, mortality, fertility, and migrations. These variables are not entirely independent, and any change in one may eventually influence the other two, but social and economic conditions only influence age structure through them. *Clarke (1965) p 63* It seems reasonable, therefore, in view of the expressed aim of this thesis to comment upon depopulation within the area, to spend some time on a fairly detailed study of age composition.

To begin with national trends (for Scotland as a whole) were established, then the position for the three counties collectively, and finally a detailed study at parish and burgh

level, for 1861, 1891, 1921, 1951 and 1961 was made.

Age-sex pyramids for each area, population being represented in terms of absolute numbers, and of percentages, (i. e. 2 pyramids per unit area) were drawn at ^{thirty} ~~thirty~~ year intervals from 1861.

Diagrams of proportions of the population in the age groups 0-14, 15 -34, 35 - 64 and 65+ for Scotland, the counties, and the smaller enumeration units were constructed, as were graphs showing ageing of the population at the apex for Scotland and the three counties.

The age-groupings selected were considered to be meaningful in the context of this part of the thesis where an attempt is being made to find out the overall change in population within the area during its period of decline.

The under fifteens and those over sixty-five separate out from the remainder of the population as these are dependent on the economically active members of the population, that is those aged fifteen to sixty-four. The proportions of the population in these differing age-groups indicate the type of birth and death rates being experienced by the population at a given time. e. g.

U. K. 1951.	Under 15	22.2
	15 - 64	66.8
	65+	11.0

According to A. H. Hawley "this indicates that the population is distinguished by low birth and death rates. To the extent that the large proportion in ages fifteen to sixty-four are the pro-

ducts of former high fertility rates, the population at these ages cannot be fully replaced on the basis of the fertility rates which give rise to the group under fifteen years of age. Such a population experiences rising average ages"¹³.

Splitting the working age-group into two, 15 -34 and 35-64 seemed a reasonable extra grouping as this would allow some indication as to whether there was a decline in the younger part of the population (perhaps due to migration) or not, and similarly would allow advance indication of ageing of the population, by giving a glimpse of the changes in numbers of those in the age-group immediately preceding retiral.

An examination of the four age-groups reveals certain variations of a demographic and geographic nature within the population of the three counties. As the first and last groups are more or less dependent on the middle age-groups attention was first focussed on these. Figure 25 shows the changes in the proportions of the four age-groups in Scotland between 1851 and 1961. The obvious features are the continual increase in the proportion of old people between 1891 and 1951, the continual decline of young people between 1881 and the last war, and the change during the 1950's resulting from higher birth rates.

The area we are concerned with has undergone a profound change in age composition since 1861. The proportion of children has fallen considerably and there has been a marked increase in the numbers of older people in the total population.

13. *ibid.* 5, Hawley, p. 364.

While similar to the national trends already mentioned the ones for Berwick, Roxburgh and Selkirk Counties are distinguished by their severity (fig. 25). The aged have come increasingly to occupy a larger and larger proportion of the population, and the young have declined in numbers - these trends at a far greater rate than that experienced by Britain as a whole. The diagram shows that children under 15 years of age constituted about one-third of the three counties' population during the period up to 1880 and this proportion did not change much until after 1900. The first major alteration in the form of the age structure was a remarkable increase, between 1891 and the early decades of this century, in the proportion of persons aged 65 and over, which rose from 4 per cent to 15 per cent of the total population. After 1900 the proportion of children in the population entered a decline, and at the same time the percentage of over 65's continued to increase. The proportion of adults aged 15 - 64 years old in the population dropped slightly to 1891, and has continued to do so throughout this century. Within this age-group the proportion over 35 has come to be larger than that under 35.

Table 11. Maximum, minimum and average percentages of population under 5, by sex.

Year	Sex	Roxburgh		Berwick		Selkirk	
		range	average	range	average	range	average
1861	M	10-19	14	12-22	15	10-16	15
	F	8-15	13	4-17	14	10-15	14
1891	M	8-15	12	8-17	12	12-17	12
	F	7-14	10	8-14	10	10-12	11
1921	M	5-12	8	6-13	9	6-9	8
	F	5-12	6	4-14	8	4-10	6
1951	M	6-10	9	8-11	9	7-9	9
	F	5-9	7	7-9	8	6-10	7
1961	M	6-9	8	5-10	8	7-9	9
	F	5-8	6	5-10	7	5-10	6

Table 11 shows the range of percentages of the parish population by sex under five years of age, at varying times from 1861, together with the county average in each instance. In all counties, throughout the complete time span the percentage of males under five to the male population total has been greater than the female percentage to the female population. Both sexes have also had a continually declining portion of their numbers under the age of five, except for a slight rallying in Berwickshire between 1921 and 1951, to be followed by decline, and an increase in Selkirkshire after 1921 to 1951 and a relatively static situation since then in that county. In no instance do the ~~the~~ 20th century percentages of under fives exceed or even equal those of the 19th century, in fact the present portion of the population within that age group

represents about one-half to three-fifths of the 1861 percentage. The actual numbers involved show an even greater drop than these figures suggest, as in nearly all of the parishes in the area the total population has declined during the period, for example, Ayton (Berwickshire) 154 boys under 5 in 1861, 60 under 5 in 1921 and 22 in 1961. The range in values of the percentages under five, by sex, show trends similar to the average narrowing and declining as one moves towards the present day. At all periods the range of values for the percentage has tended to be greatest in Berwickshire, with Roxburghshire in an intermediate position and Selkirk County, the most industrialised of the three having its range and average values fairly close.

Only in Castleton parish did male children under 15 years of age represent less than a third of an individual parish's male population in 1861 being only 27% here. Elsewhere in the area being studied this age group represented between one third and one half of the male population. The highest proportions were in the urbanised parishes, Selkirk, Galashiels, Jedburgh, Lauder, Gordon, Coldstream, Chirnside and Eyemouth and in the parishes immediately adjacent to these. Over 40% was also recorded in the lower areas of eastern Roxburghshire and in the Merse parishes of Berwickshire. Intercalated with these, were areas where more than 35% of the male population was in this age group, thus bringing most of the three counties within the figure of one third already mentioned (see fig. 26). Parishes with proportions under 35 are found in northern Berwickshire

in the Lammermuir Hills, namely Longformacus, Abbey St. Bathans and Langton, and again in the rugged uplands of western Selkirkshire in Yarrow parish, and in a wedge in southern Roxburghshire from Castleton to Lilliesleaf. All of these are isolated hill areas.

The proportion of males under 15 had declined in many parishes by 1891. Jedburgh, Galashiels, Gordon and Eyemouth were the only burghs still to have over 40% in this group: and their adjacent parishes had with the exception of Crailing, Oxnam and Ayton, dropped at least one category during the thirty year period. Nevertheless most of the area had at least one third of its male population still under 15 by this period - Upland Roxburghshire and Selkirkshire fall within this category (see fig. 26) but a large wedge from Lauder, through Westruther, Longformacus, Langton, Edrom, and Swinton to the border parishes to Coldstream, Ladykirk, Hutton, Foulden and Mordington were lower by this period.

A marked decline in the proportion of male children within the male population is evident when one compares the maps for 1891 and 1921. Very few parishes had over 30% of their male population in the under 15 age group and only Ladykirk had over 35%. Those with over 30% are mainly 'intermediate upland' parishes; they are not the highest in the area, but they are within the hills which encircle the three counties. Abbey St. Bathans, and Bunkle and Preston in Berwickshire are in this category, along with Teviothead, Hobkirk, and the area from Oxnam to Linton and

and Sprouston in Roxburghshire. Most parishes had between 25 and 30 per cent of their male population in this age group, lower proportions being found in the very high parishes of western and southern Selkirkshire, in Jedburgh, and in scattered locations in Berwickshire in both upland parishes such as Cranshaws and Langton, and lowland ones like Mordington and Hutton.

By 1961 further declines were evident. Eastern and western Berwickshire, Central and Southern Roxburghshire and northern Selkirkshire all had 25 to 30% of their male populations under 15 (see fig. 26). Upland Selkirkshire had between 20 and 25 per cent in this group, as it had had in 1921, and eastern Roxburghshire and central Berwickshire formed a large wedge with proportions in this range. Many parishes in the last two areas had dropped by 5 to 10 per cent the proportion of their male populations who were under 15 during the forty year period. In Melrose parish the lowest proportion ever recorded for this age group in the three counties was found - between 15 and 20 per cent.

Table 12.

Proportion of population under 15 years of age (numbers of parishes in each percentage group)

15-	20-	25-	30-	35-	40+	per cent	
0	0	1	11	26	30	Male	*1 parish -
0	0	3	27	33	5	Female 1861*	no information
0	0	3	24	29	11	Male	* * 2 parishes -
0	0	14	37	14	2	Female 1891*	* no information
0	15	39	14	1	0	Male	
9	31	23	6	0	0	Female 1921	
1	25	43	0	0	0	Male	
4	63	2	0	0	0	Female 1961	

Scottish average under 15, 1861 36.0%
 1891 33.1%
 1921 27.1%
 1951 23.4%
 1961 24.2%

Females under the age of 15 have always formed a lower percentage of the female population than boys have of the male. Only five parishes in the area were recording over 40% of their female populations in this age group in 1861, namely Ettrick, Bedrule and Southdean, Legerwood and Cranshaws. Upland parishes in all three counties had proportions over 35%, most of Selkirkshire being in this category, as was southern Roxburghshire and northern and north eastern Berwickshire. With few exceptions the remainder of the three counties had over 30% of its female population less than 15 years of age, thus while about $\frac{1}{3}$ of the women in the area were under 15 as was the case for men, few parishes greatly exceeded this figure, whereas in the male sector of the population 30 parishes had over 40%. By 1891 only two parishes had over 40% of their female population under 15, and a further 14 had percentages over 35. These were found in southern Selkirkshire and Roxburghshire in upland areas, and in the rich arable Tweed-Teviot junction area, in parishes where there was also a high proportion of male children (see figs. 26 and 27). Most of the area had over 30% of its female population in this age group, as it had in 1861, with the largest number of parishes, 37, being in the 30 - 35 per cent range. Only 14 parishes had lower percentages, Melrose and the adjacent Bowden and St. Boswells, and the central Berwickshire parishes of Greenlaw, Fogo, Eccles, together with Ednam and Kelso, forming the main groups of these. By 1921 the proportion of females in this age group had dropped even further, as by now

less than $\frac{1}{3}$ of the female population of the three counties was under 15. In the upland parts of each county between 25 and 30 per cent of the females were in this age group. Proportions of 20 to 25 were found in urbanised parishes, especially those containing branches of the woollen industry, such as Galashiels, Hawick, Jedburgh, Earlston and Duns, and the parishes immediately surrounding them. Similar percentages were found in the upper Merse in Greenlaw, Eccles, Sprouston, Kelso, Eckford and Linton, and the parishes bordering the Tweed downstream from them. (fig. 27). There were two main areas with lower averages, the urbanised parishes of Melrose, Hawick and St. Boswells, together with Mertoun and Maxton and Bowden, and the Longformacus-Langton-Fogo group in Berwickshire. By 1961 a uniformly low percentage in this age group within the female population was found in all parishes in the area. Only the burghs of Lauder and Duns had over a quarter of their women under 15, and the remainder of the area with the exception of Melrose, Caddonfoot, Hawick and Coldstream had between 20 and 25 per cent. The last four had even lower proportions, between 15 and 20 per cent.

From these comments, the maps, and ^{table 12} table 12 it is evident that the proportion of children in the area has declined considerably in the last 100 years, and particularly in this century. Females under 15 have always constituted a lower proportion of the female sector of the population than boys have of the male.

Within the male population, rural areas, in particular

upland parishes, lost earlier than the more urbanised ones, but for females the opposite was the case.

The implications of these trends are that there have been more women within the adult age groups, proportionately speaking, than men; and that for both sexes there has been a decline in natural regeneration of the population.

TABLE 13

Proportion of population aged 65 and over (number of parishes in each percentage group)

per cent		0-1.9	2-4.9	5-7.9	8-9.9	10-12.9	13-16.9	17.19.9	20-24.9
1861*	Male	2	32	31	2	0	0	0	0
	Female	1	22	34	10	0	0	0	0
1891**	Male	1	15	35	12	3	1	0	0
	Female	1	16	36	7	7	0	0	0
1921	Male	0	3	23	22	20	1	0	0
	Female	1	4	22	26	13	3	0	0
1961	Male	0	0	0	0	31	38	0	0
	Female	0	0	0	0	5	58	5	1

Scottish average, over 65	1861	=	4.9%
	1891	=	5.4%
	1921	=	7.0%
	1951	=	11.7%
	1961	=	10.2%

* 2 parishes no information

** 2 parishes no information

Those aged 65 and over have come to form a larger and larger proportion of the population in this area during the last hundred years (see table 13). In 1861 this part of the population constituted a low proportion of the numbers of each sex in the parishes of the three counties. Only in Duns and Yetholm for men, and Coldingham, Foulden, Hutton, Greenlaw, Stichill, Kelso, St. Boswells, Bowden, Minto and Cranshaws for

women, were more than 8% of the totals in this age group. Rather more parishes had a higher percentage of females than males over 65 at this period, 34 as opposed to 31 in the 5-8 per cent range. This coupled with the numbers over 8 per cent indicate that the female population was slightly more aged than the male. Percentages between 2 and 5 were found for both sexes in southern Roxburghshire and much of Selkirkshire. (see figs 28 and 29). By 1891 the picture had changed slightly, with 5-8 per cent being the norm for both sexes, as the proportion over 65, and there was little difference between the sexes in the numbers of aged. Again Selkirkshire stood out, in both sexes, as a block where there were few aged, and for women this was still the case in Southern Roxburghshire. For men the proportion over 65 had increased in this part of the area, and for both sexes there had been a slight increase in western Berwickshire. By and large however there was no great ageing of the population in the thirty year period 1861 to 1891.

Major modifications are evident between 1891 and 1921 (see figs 28, 29). By then a significant proportion of the parishes had 8 per cent and more of their populations aged 65 and over. This was the situation for men in 43 parishes and for women in 42. 10 per cent and above was found in the urban parishes of Berwickshire and in the north western part of the county, for the male sector of the population. It was also found in northern Roxburghshire, particularly in parishes with large settlements such as Melrose, Ancrum, Kelso and Yetholm, and in Yarrow, Selkirk and Ashkirk parishes in

Selkirkshire. Peripheral upland parishes tended to have low proportions of their male populations in this age group as had also been the case in the second half of the 19th century. Cockburnspath, Abbey St. Bathans, Bunkle, and Preston, and Longformacus in the Lammermuirs, Ettrick, Robertson, Teviothead and Southdean in the Cheviots being cases in point. High proportions over 65 (10%+) within the female population were found mainly in the northern and eastern part of the area being studied. Only Cavers and Yetholm in Roxburghshire were outwith this zone.

Residential burgh parishes such as Melrose, Kelso, Greenlaw, Duns and Coldstream, with their limited service centre functions came into this category, along with their adjacent parishes. Only the parishes of upland Selkirkshire and Roxburghshire, and the Abbey St. Bathans-Bunkle and Preston - Edrom - Whitsome group in Berwickshire had less than 8 per cent of their female populations over 65. (see fig 29)

By 1961 the position was even more radically changed, and an aged population was much in evidence. In every parish in the area over 10 per cent of the population of each sex was aged 65 and above. More than half of the parishes had 13-17 per cent of their male populations in this age groups, and for the females 58 out of 69 parishes fell within this category. From table 13 it is evident that ageing has been a more pronounced phenomenon for the female population than for the male, and in the burghs of the three counties, rates of 17 per cent and above were recorded for women.

The maps and statistics on the proportions under 15 and over 65 indicate quite clearly that the population had aged considerably in the last 100 years, and in particular since 1921. Parallel with the changes in the numbers and proportions of these two dependent sectors of the population have been changes in the 15-64 age group. For this middle age group there are wide differences between one part of the region and another, at all periods in the past.

In 1861, within the male sector of the population the range for the 15-64 age group was from 45 to 69 per cent of the total for each parish. Only a small number of parishes had less than 50 per cent of their populations in the working age group. These are Roberton, Ashkirk, Bowden, Galashiels, Hownam, Eckford, Snailholm, Legerwood and Cranshaws, and all of these had a high percentage under the age of 15. (see figs 26 and 30). Much of Central Roxburghshire from Jedburgh to St. Boswells and Makerstoun, and Central Berwickshire from Coldstream to Gordon and Greenlaw had 50 to 55 per cent of their male populations within this age group. Again these parishes had high proportions under 15, with in all instances at least 35 per cent in this younger age group. Proportions above 55 but below 60 were found in the upland parishes of the three counties and over 60 per cent was confined to 4 parishes in Roxburghshire, namely Castleton, Cavers, Hobkirk and Minto - and in each of these there had been a large influx of railway construction workers at the period, particularly in the first two mentioned, which considerably altered the age structure of their populations.

In 1891 there were only three parishes with less than 50% of their populations aged 15-64. These were Channelkirk which had dropped a category in the thirty year period, Polwarth which had dropped two, and Lauder which had remained in the same one. The parishes of southern Roxburghshire and upland Selkirkshire had mostly declined in the proportion within this aged group by 1891 but in the remainder of the area there had been little change. Kelso, Earliston, Lauder, Longformacus, Bunkle and Preston, Coldstream, Hutton and Mordington all showed slight increases.

By 1921 the picture had again changed, this time much more radically than in the thirty year period from 1861 to 1891. The general increase (see fig 30) can be explained in part by the fact that there was a drop in the numbers and proportion of males in the population under the age of 15. In terms of the age differentiation within the male population one finds that by 1921 only the upland parishes of Selkirkshire have over 60 per cent of their population in the 15 to 64 age group. The remainder of the area has the uniform average of between 55 and 59 per cent.

During the period 1861 to 1921 while the proportion in the working age group had been fluctuating from place to place and period to period, a glance at the age distribution of the parish populations reveals one constant characteristic of this portion of the population. It was steadily ageing, at an abnormally rapid rate by Scottish standards. (see fig 25). The proportion within the 35 to 64 age group was increasing in all parishes, whilst the proportion in the 15 to 35

range was declining. This situation was further aggravated by an increasing number of people over 65 years of age as we have already seen, and a declining number under 15. For the greater part of the three counties there was an accelerated decline in the number age 0-14 and 15-34 after 1891. Much of the Teviot and Upper Tweed, the valleys of southern Roxburghshire and northern Berwickshire have declined in the proportion aged 15 to 34 from 1861 to 1921 and have shown a continuous, and much steeper decline in the 0-14 age group. A few parishes, e. g. Castleton and Cavers, increased their proportions in the younger age groups in the earlier part of the period being studied, but even in these there has been an ageing of the population since 1891. This decline coincides with the completion of rail works in this area.

Only one parish in the area shows a continuous increase in the proportion of the 0-14 age group - Roxburgh - but this is balanced by an appreciable lowering of the numbers in the 15-34 group, and a large increase in those aged 35-64. Longformacus in northern Berwickshire has had a static population in terms of proportions in the various age groups from 1861 to 1921.

Coming up to date in terms of the age differences in the male part of the population one finds that only in Selkirkshire, in the rural parishes of that county, is the percentage of the population in the 15 to 64 group at all comparable to the high values found in the 19th century. At the present time ageing of the population is the major characteristic; and despite an increase in the birth rate (to be

discussed in a later chapter) in the immediate post-war years, a decline in the numbers and proportions of men under 35 in all parts of the area is evident.

(The average age of the male population in 1861 was 29.1 years compared with 30.2 for Scotland; by 1961 these figures had changed to 35.8 years and 34.2 respectively. The average age of the women in the three counties in 1861 was 30.6 years compared with 31.1 for Scotland, and these had changed to 39.2 and 35.3 by 1961).

The average age of the population in 1961 was 38.2 years in 1961 compared with 31.3 years in 1861, and 34.4 and 32.1 for these dates for Scotland as a whole.

Age differentials within the female part of the population show as many variations as is found in the male ^{sector} ~~section~~. In the period 1861 to 1891 the average percentage under 15 was 35 per cent, with a few parishes, for example Cranshaws at 45 per cent, much higher:-

Cranshaws: 1861, 45%; 1891, 30%; 1921, 20%. After 1891, as in Cranshaws, all parishes exhibited a decline in this age group, a decline comparable to that of the males of the same age. This decline was of varying severity and either took the form of a general downward progression in numbers and proportion at a rate similar to that experienced before 1891 or was at a more accelerated rate than had hitherto been the case. By 1921 the average proportion had achieved the low value of 22 per cent, and by this time the deviations

from this average were much less than those of the 19th century (range from 17 to 26 per cent). The recent census enumerations of the area indicate that in both 1951 and 1961 females under the age of 15 still made up 22 per cent of the total female population; this despite an increase in births, similar to that previously mentioned with regard to the male sector of the population, in the immediate post-war years.

The over 65 age group was in all cases less than 10 per cent and ^{in most} made up only 4 or 5 per cent of the total female population of a parish in 1861. It is within this group that greatest changes may be seen in dependent population during the time period we are concerned with. Little variation in the ^{proportion} ~~percentage~~ over 65 was noted up to 1891, but thereafter there were large increases both numerically and proportionally in this part of the population. In the rural parishes of Selkirkshire and Berwickshire the increase was slight up to 1921, most of these having between 7 and 8 per cent in the 65+ age group. Those parishes with greater agglomerated settlement, and those containing burghs, as in most of central Roxburghshire, had a higher proportion in this group - about 9%. Increases were greater thereafter. By 1951 the figure for rural parishes was on average 12%, with those adjacent to major centres in Roxburgh County rather higher (14 or 15 per cent). The burghs had an even more startling increase. Over 18% of the female population was over 65 years of age in those in Roxburghshire, 15%

in Selkirkshire; but only 13% in Berwickshire. It would seem that the differences in the economy of these places may in some way be responsible for their having such a wide difference in the proportion of aged females in their female populations. The Berwickshire burghs, with their rural outlook, have the same characteristics as the areas they serve in this instance; whereas in the industrialized burghs of the other two counties, where females constitute a greater proportion both of the population, and the work people, a different picture emerges. This was still the picture in 1961 with the burghs having a greater proportion of women over 65 years of age than the rural areas.

One thing is very clear from this discussion of dependent population - ageing is typical of all parts of the area, and the proportion of both men and women in this part of the population is increasing at a hitherto unexperienced rate.

Let us now examine the total working population, that is females age 15-64, before studying the significant groups within it; 15-49... childbearing, and 15-34... main working group.

Most parishes in the area had over 60% of their female populations in this age group in 1861 - a much wider geographical unit than for men of similar ages where 65% is confined to 4 parishes in southern Roxburghshire. Here over 65% is found in Oxham and Westruther, and in the two blocks, Ednam - Whitsome and Hume-Mertoun - Smailholm - Kelso - Edrom, both of which were rich arable areas. Less than 60% was found in southern Roxburghshire

(in those parishes with a high proportion of male railway workers) and in Selkirk and Bowden, Earliston and Gordon, and Yetholm. Only two parishes, Cranshaws in the extreme north and Howham in the south had less than 50 per cent in this age group - both of these parishes are very marginal agriculturally, and had low total populations.

In 1891 the areal distribution of parishes with 65% and over of their population aged 15-64 was even greater. It included those with this proportion in 1861, plus more of the agricultural low-land parishes, particularly those in the Merse, and the urbanised areas of Melrose, Galashiels, Selkirk, Hawick, Kelso and by this time, St. Boswells. Yetholm and Howham continued to have low proportions in this age group (see fig 31) and Morebattle had dropped a category in the thirty year period.

In contrast to the lowering proportion of males in this age group by 1921, there was a tendency for the good agricultural parishes, and for the urbanised ones to have a static position with regard to females aged 15-64, compared with previous decades. This tendency is repeated in both 1951 and 1961 where for most of the area 60% or thereabouts of the female population was within this age group.

Similar to the males aged 15-64 however, females in this category exhibit the same major characteristic - namely ageing. While the proportion in the group as a whole has changed little over time, a larger and larger proportion of them are over 35 years of age.

Taking the main working group, 15 to 34, one again sees wide variation in time and space. There is an overall tendency for this group to have declined in absolute and relative terms in all rural parishes, good agricultural areas as well as the more marginal ones. This has been most marked in the period since 1891, (see fig. 32) as was the case in the male sector of the population. The decline in young adult females has continued to the present day, but has been slightly less severe than that of young adult males.

Bedrule and Crailing parishes in Roxburgh County are, however, the exceptions to the above. Here this part of the female population has markedly increased in relative terms, although as the population in each is small their absolute increase is negligible.

In 1861 those aged 15-34 constituted roughly $\frac{1}{3}$ of the female population in Roxburgh and Selkirk Counties, and $\frac{2}{5}$ of Berwickshire's. The best agricultural areas in both Roxburgh and Berwick counties tended to have a higher proportion in this age group, in particular Mertoun, Nenthorn, Hume, Ednam, Eccles, Edrom, Foulden and Ayton with nearly 50 per cent.

By 1891 the position was somewhat different: 30 per cent of the female population in most parishes was between the ages of 15 and 34. The only exceptions were the urbanised parishes in Selkirkshire and Hawick in Roxburgh County where 35 to 40 per cent were in this age group. Several very good agricultural parishes also had this higher than average proportion, namely Eccles, Fogo, Ladykirk,

Nenthorn, Whitsome, Ednam, Crailing, Stichill and Roxburgh.

Again by 1921 the picture had changed slightly. 28 per cent was the average proportion of females in the young adult group, with very few parishes greatly exceeding this figure, and those which did were again important arable areas. Industrialised parishes by this period had declined slightly having between 32 and 34 per cent of their female populations in this age group.

At the last two censuses decline in the proportion of females within this category was again evident. 18 to 20 per cent of the females in rural parishes were aged 15 to 34 in 1951, and an average of 24% in the industrialised parishes in Selkirk and Roxburgh Counties. In 1961 these proportions had dropped slightly further with 18 per cent being the average for rural areas and 21 per cent for urbanised ones.

Thus one is faced, in this sector of the population, with a decline trend which is more pervasive in time and space than has been usual in Scotland (see fig. 25). Such reductions in the young female and male working age group cannot be explained in terms of changes in birth and death rates - it is indicative, as will be seen later, of a movement away from the area.

The other important age grouping within the female sector of the population is 15 to 49 years, the childbearing years. Its importance can be readily grasped when one considers that changes in it can affect a population's ability to regenerate itself; and that the

effects of variations in this age group can therefore be felt, not merely at the time of their occurrence, but in the succeeding generations. Discussion of this component of population will be left until the section on fertility, as its importance is greatest in this aspect of demography.

When one considers age and sex structure within the area over the time span 1851 to 1961 it is possible to isolate various forms of change. In fact five major types of age-sex structure change can be observed in the three counties.

Firstly a specific age group may have remained static in terms of the proportion of the population within it over the complete time span. Secondly an age group may have increased its proportion in the 110 years. A third major type which may be distinguished is that in which an age group increases in proportion to the remainder of the population for a time and then declines. A fourth type is where there is a decline in the proportion within an age group, followed by an increase or static period and the fifth major type is one showing overall decline within an age group. Overall increase or decline may be greater at one period than another, thus giving sub groups to these categories. The graphs showing proportions in each age group by sex for each parish were carefully studied and one or other of the categories 1 to 5 ascribed to the 0-14 and 15-34 age groups. Changes in these two are naturally associated with equal but opposite changes in the proportions of those over 35. We thus have for each parish a 'type' change in the age structure, by sexes, and this was mapped

and gives rise to regions with relatively homogenous age-sex characteristics. (fig.33). The presence of such regions implies an underlying uniformity in the causal factors bringing about the modification of the age-sex structure in each unit. Groups of parishes have had this aspect of their population compositions changed in the same way, and the units produced provide the first step towards establishing population regions based on the totality of demographic phenomena found in the area.

The increase or decrease of a population is the balance of births, deaths, immigration and emigration; and the end product of the interaction of these factors, the growth cycle may be summarized by a graph showing the population total at different periods.

For the purposes of examining population "growth" within the area graphs recording the total population in each county and in Scotland from 1851 were drawn (fig.34). The rate of growth of population in Berwick, Roxburgh and Selkirk compared with that for Scotland was also ascertained (fig.35), and finally graphs of the numbers in each parish were made (fig.36).

Scotland's population has grown continuously from 1801 onwards, except for a negative reading in the decade 1921-31 of 0.8%. The graphs indicate that for the period 1801 to 1861 population growth proceeded at an ever declining rate (15% to 6%) and that from then until the 1891-1901 decade rates fluctuated about the 10% growth value: during the 20th century there was, until 1931 a much more

marked slowing down in the rate of growth than had hitherto been experienced. (From 11% in 1891-1901 to -0.8% in 1921-31).

From then to the 1941-51 decade the rate of growth was about 5%, falling again in the period 1951-61 to 1.6%. Thus for the country as a whole there has been first a declining rate of growth, a relatively static period, further accelerated decline and in the most recent decades some stabilising of the rate of growth, but at a much lower rate than at any previous period.

The three counties that this work is concerned with exhibit some of these features, but in all instances show more severe signs of decline than does Scotland as a whole.

Until the 1861-71 decade Berwick county, while showing a much lower rate of growth than Scotland, did grow in population. The rates in the decades from 1801 till this time ranged from 8% to 0.9%. Thereafter Berwickshire entered a cycle of declining growth. Until 1881-91 the decline was severe (from 0% to -8% in 30 years) but levelled out around the -4% mark from then until 1921. Since then decline has been much greater, reaching the rates of the latter part of the 19th century, and in fact the 1951-61 rate of 10.5% decline is greater than any previously recorded for the county.

Roxburghshire shows higher rates of growth in the early period, and higher rates of decline in the 1881-91 decade. The early years of the 20th century were a period of recovery for Roxburghshire - instead of having a period with a stable rate of decline, it experienced

some growth, in fact in the 1921-31 decade this was at a rate of about +3%. Thereafter however, as was the case with Berwickshire, Roxburgh county went into a phase of decline, but this decline has not yet reached the proportions of that of the late 19th century being -5% in 1951-61, and -9% in 1891-1901.

Selkirk county shows the greatest extremes in growth and decline exhibited by any population in the area. Here from the decade 1801-11 until the 1871-81 decade the population grew. Every second decade during the period showed a high rate of increase (up to 28% in the 1871-81 decade) while the alternating decades increased at a slower rate (up to 7%). By 1891-1901 the rate had dropped abruptly to the lowest rate recorded -15% - thus Selkirk county went into a very rapid decline in growth. 1901-1911 showed an increase of about 6% but thereafter Selkirkshire has continued to experience decline.

It should be emphasised that the base population during the period of growth was less than at the beginning of the decline phase in each county, so that increases in terms of absolute numbers in the early phase were not nearly so large as the subsequent decreases, although the rates of these two phenomena may have been roughly the same.

All parishes have a smaller population at the present time than they have had at some stage in the past, with the exception of St. Boswells which has shown a steady increase in population over the past 100 years. In terms of a time series pattern its population

totals at each census when graphed have a curve which is unique within the three counties.

The other parishes show several distinct types of curve illustrating their growth cycle - each of these being but a variation on the theme of overall decline. The parishes exhibit three major types of decline, each of these having one or more sub-groups.

The first, and seemingly simplest, are those which have experienced continuous decline from 1851 through to 1961. A major sub-class comprises parishes whose downward slope has been interrupted for one or more decades by a level "terrace", a period of relative stability. 27 of the 69 parishes in the area exhibit this type of population growth. These parishes have three major locations - namely eastern Berwickshire, the central part of the whole area, and southern Roxburghshire (fig. 37).

A second group are those with a maximum population after 1851, but showing decline from that maximum. This decline can take several forms: it may be a general steady decline from the peak to the present day total; it may be a decline which exhibits one or more decades of recovery; or it may be a decline exhibiting an extended phase of recovery followed by more decline. 26 parishes, mainly in the upland areas of the three counties fall within this category.

The smallest group is that exhibiting decline, with subsequent recovery - although never quite attaining the earlier maximum of population. Within this group are those parishes exhibiting a simple

decline followed by an increase, those which have declined, increased and then declined again, and those whose most recent phase is one of either increase or relative stability. 15 parishes have this type of growth cycle, in two main concentrations; in the Lower Tweed (but above the Merse) and in the Teviot-Jed-Tweed junction area.

This examination of figures 34, 35 and 36 - reveals that the rate of increase or decrease of the population varied both in time and space.

The cycles of growth both from the individual parish graphs and the county graphs giving the rate of this phenomenon are the result of the action of several demographic functions, namely births, deaths, in-migration and out-migration. These are the functions which, along with economic and social considerations, have already been cited as in some way accounting for the changes in population density, distribution, age and sex structure, and so on. The role played by these phenomena will be discussed in subsequent chapters, but at this point, a few generalisations may usefully be made concerning them.

During the period we are concerned with, the birth rate was continuously high, as in most West European countries until the turn of the century; a slight lowering was seen thereafter until the last couple of decades when it has increased again. Similarly throughout the period the death rate has shown some change: from being relatively high at the beginning of the time period in all age-groups, it has shown continuous decline to the present day, so that

14. Ryder, N.B., Fertility, in *The study of population*, ed. P.M. Hauser and O.D. Duncan, Univ. Chicago Press, 1966 (pp.400-436), p.410.

the present rate is made up mainly by the deaths of people over 60. The changes in these two vital rates, however, go only a short distance towards explaining the very great differences we have seen in the population composition and growth in this area, and so one has to look to other factors to explain these changes. From a study of the age-sex diagrams, and the growth cycle graphs, it would appear that the area has lost a great number of people - that is, it has experienced much out-migration; the depleted numbers in the 15-34 age-group on the pyramids would tend to support this conclusion. That there has been another migratory movement, particularly in recent years, is suggested by the progressive ageing of the population, and the increasing numbers in the over 65 sector of the population. This in-migration however, is not nearly so great as the out-migration of young people.

From the previous pages of discussion on the characteristics of the population it seems that the parishes of the area fall into population types. It should thus be possible to establish population regions within the area. Any approach to the population geography of this Border area must necessarily treat dynamics as a central theme; and this was done by making a study of the raw data from which maps showing the year of maximum population in the different parishes of the area, amount of decline from this maximum, and the final population distribution of the area were drawn. These, as has already been indicated, suggest the existence of chronological phases

in the 'life cycle' of the parishes; a number of major patterns of change appear when time series in terms of total population and age and sex structure change of these parishes, are compared.

From these five groups of data:

- 1) year of maximum population
- 2) percentage decline
- 3) type of parish growth cycle (3 types with sub-groups)
- 4) male parish age cycle (5 types for each of 2 age-groups)
- 5) female parish age cycle (do.)

it was possible to pick out, by means of cross tabulation, population regions regions in which a given series of demographic changes have taken place to give the population distribution and inherent characteristics which we have at the present time. These are distinctive only when considered in relation to the data used in their delimitation, and if a further set of information was added, it is likely that the boundaries would be substantially altered. The criteria used for the delimitation are those which were available for the whole time span, to the parish level, and which are least likely to have been subject to any significant error in enumeration. It should be noted here that while all possible means were used to make the groupings objective, some selectivity must inevitably have occurred as in some instances the category into which an age graph or population growth graph fitted was not clear-cut.

There appear to be four types of population history within the area, and parishes of each type were spatially located, by and large, in major blocks (fig. 37). 27 parishes were classified as type 1. These were parishes characterised by decline from an early maximum, in all the attributes listed, and are mainly found in 'isolated' parts of the three counties - in southern Selkirkshire, S.E. Roxburghshire and N.W. Berwickshire. All of these are largely dependent on sheep farming for employment and economic opportunity, and with the exceptions of Lauder, Gordon, Greenlaw and Yetholm contain no large villages or service centres. Other parishes in this group with the same physical isolation and economic identity are Southdean, and Cockburnspath, while Minto, Bowden, Smailholm, ^{Stichill} ~~Stichell~~, Coldstream and Whitsome are examples of arable and arable-pastoral areas with the same type of population history.

Decline with periods of recovery is characteristic of 15 parishes, found in two major locations, in the low lying Tweed Basin between Kelso and Swinton, and in the parishes adjacent to the Jed and Ale Waters. Mordington and Teviothead, completely separated from others of this type also fall within category two. The more easterly of the two blocks is very rural in character, with large arable farms and sizeable settlements, which include the burgh of Kelso. The Jed-Ale area is more mixed in economy - here there is the full range of Border agricultural activity from Upland

sheep farming to lowland arable. As in the other area, the farm units are large, and in Lilliesleaf, Ancrum and Maxton, together with N. Jedburgh the settlement units are similar to those further east. Like the first area mentioned, this one also contains a burgh - Jedburgh.

The third group, containing 26 parishes, are those which show an increase followed by a decline in their age structure and population growth graphs. These fall into two types, those with a maximum about 1870 and rural in character, and those with a somewhat later peak and a more urbanised population. Parishes of this type are found in three discrete locations. Along the sea coast and stretching inland to include all of the lower Merse, and the hills to the north, is a purely agricultural belt of parishes. With the exceptions of Longformacus, Cranshaws and Abbey St. Bathans, these all have a basically arable economy, and contain the rural service centres of Duns and Chirnside, and the port of Eyemouth. Settlement units, as we saw at the beginning of this section, are among the largest to be found in these three Border counties. The second group lies on the Roxburgh-Selkirk boundary and includes the parishes of Selkirk, Galashiels, Melrose, Earlston and Mertoun. The agricultural economy of these parishes is a mixture of arable farming, cattle fattening and sheep rearing. The main economic function of Selkirk, Galashiels and Earlston is the woollen industry, and Melrose serves a dormitory function for Galashiels. Mertoun

is the only truly agricultural parish of the group, and with its more open topography tends to be more of an arable area than the others. The other group in this category is found in southern Roxburghshire. The parishes of Hawick, Cavers, Hobkirk and Castleton which make up the block are sheep rearing districts, with very little arable land. Hawick and Newcastleton dominate the settlement scene, and both of these are textile centres, the former one of the most important in the three counties. Cavers, and to a lesser extent Hobkirk have come to serve a semi-dormitory function for Hawick, with many of their women working there.

The fourth distinctive type of population history is found in only one parish, St. Boswells, where population growth has been continuous throughout the time period. This arable parish has two major settlements within it, St. Boswells village, and Newtown St. Boswells, and it is in the latter that most growth has taken place as this is one of the major sheep auction centres for the area as a whole, and is now the main administrative centre of Roxburghshire.

Within these population regions are parishes which conform to each other in all respects, having identical population characteristics: others however, may vary from the pattern in one or more factors. For the purposes of detailed study of the population characteristics of the area, and their inter-relationships with other factors, parishes were selected, one deviant and one normal, from each population region; the results of this intensive investigation

will be considered in a later chapter. The selection of these parishes was made dependent on the establishment of population regions, rather than economic or social or topographic areas, as it was felt that the population patterns of this area are symptomatic of the transformation of its total geographical character.

CHAPTER II

The demographic aspects of change.

In the preceding chapter it was seen that a general decline in population numbers was the keynote to the demographic history of the counties of Berwick, Roxburgh and Selkirk during the period 1851 to 1967. This decline was reflected in changed distributional and density patterns, and in changes in the age and sex differentials of the population. It is the result of the adjustment which the population in the area made to changes in the dynamic forces within demography, and to changing economic and social conditions.

In a consideration of the decline in the population it is not enough to be purely descriptive, as has been the tendency so far, nor to look only at the growth cycle 'in vacuo'; it is necessary also to examine how a change in one component reacts upon the other components, and upon the "growth" of the population. In the present chapter, therefore, the characteristics and inter-relationships of fertility, mortality and migration are described and discussed. It should be noted here that if the conditions of mortality, fertility and migration are taken as given, the resulting trends in population growth can be understood only by taking into account the age structure of the population. The proportions of children, of adults in the reproductive age groups, and of elderly people in the population are, on the one hand, functions of fertility, mortality and migration, and on the other hand, important determinants of the

birth rate, the death rate, and the rate of population growth. Thus, throughout this chapter on the dynamics of population growth, and the search for demographic explanations to account for it, age and sex will continue to be a theme.

Only when these inter-relationships of fertility, mortality, migration and age-structure are taken into account is it possible to arrive at an understanding of the adjustment of population trends to changing economic and social conditions.

Fertility.

Human fertility is the occurrence of live births, and it is one of the three variables of population change, the other two being mortality and migration. Its effect is felt at all times and in all segments of the economy of an area: different segments of the population are growing at uneven rates because of differential fertility.

In recent decades, much information has been obtained on fertility, on social and psychological factors affecting fertility, and on physical processes which have long been little understood. There are still many unanswered questions, however, and much basic research on the subject remains to be done. The present

1. See: Lewis-Faning E.,
Report on an inquiry into family limitation and its influence
on human fertility during the past 50 years.
(Papers of the Royal Commission on Population vol. I),
London, H.M.S.O., 1949.

section is not intended to be a summary of specialised knowledge in various fields relating to fertility. All it seeks to do is to outline some of the fundamental trends in S.E. Scotland's fertility: the data used are largely limited to census data on births, on ratios of young children, and to national vital statistics on births.

Fertility like the other aspects of population so far examined, has been declining in this area for most of the period with which this thesis is concerned as can be seen by examining figures dealing with natural increase (table 14) and the graph showing number of births per annum. (fig.38). This is in accord with the overall national trends, and would seem to have been no worse here than elsewhere. For Scotland as a whole the rate of natural increase, that is the excess of births over deaths, has, in proportion to the population, been falling since the 1870's. In 1871-80 it amounted to 14% of the population of 1871. In 1941-50 it was no more than 5.8% of the population of 1941. The three counties that this thesis is dealing with exhibit an even greater decline in rate of natural increase over this period, as in 1871-80 the rate was 15.1% and in 1941-51 5.6% of the previous population. The heavy Scottish losses by emigration, mainly to the younger age groups which have caused much concern in many publications, have assisted in the decline by taking away

2. See: Glass D.V. & Grebenik E., The trends and pattern of fertility in Great Britain: a report on the family census of 1946. part I. (Papers of the Royal Commission on Population vol. VI) London, H.M.S.O., 1954.

Table 14. Natural Increase in Roxburgh, Berwick and Selkirk Counties for selected years

	1861	1891	1921	1951	1961
Births	3285	2830	1773	1200	1231
Deaths	1770	2117	1339	1668	1349
†	+ 1515	+ 713	434	+ 18	- 68
Total Pop.	100,620	113,333	95,990	92,973	85,629

(Source: Register General's Annual Estimates)

prospective parents, but the main cause is a long continued and heavy decrease in the fertility of marriage. This is plain from the fact that the average number of children per family in the 1870's was about 6 whereas today it is approximately 2.01³. This generalisation applies to the Border Counties as much as to Scotland as a whole.

The heavy weight of the fall has been in the present century and from the table it can be seen that decline in fertility has been greatly in excess of declines in mortality; it has also proceeded at a faster rate than the overall decline in population.

The graph of annual births for the three counties may be divided into two major phases.

- 1) pre-1880
- 2) 1880-1967

In the earlier of these the number of births rose slowly and steadily from 1861, through the seventies to a peak in 1880. From this peak it entered a long phase of decline which lasted from 1880 to the present day. This period is broken by two relatively short phases during

3. Census of Scotland, 1951, vol.V, Fertility of marriage, p.iii

which the number born each year rose. These co-incide with the last years of World War I, and the first few years of peace (i.e. 1917-1920); and the whole of World War II and the years immediately following it (1938-1947) particularly 1945 to 1947. Together they divide the period of overall decline into three units.

The first period was one of rapid decline with the number born in the three counties dropping from 3,570 in 1880 to 1,278 in 1917. The rate of decline was slightly greater before than after 1902. Decline between the wars proceeded at a slower rate than previously from 2,050 in 1920 to 1,108 in 1938; and since the peak of 1,616 in 1947, even more slowly to 1,066 in 1960.

Thereafter there was an increase to 1964, followed by two years of decline. This is the only period of increase since 1880, which has not been precipitated by war, and must therefore be considered a significant phase in the area's birth records. It has not lasted for long enough yet for it to be possible to say whether or not this increase represents a reversal of almost a century of decline.

The most readily available material for studying fertility within the area is the decennial census data on the population classified by age and sex. A common fertility measure which can be computed from this, is the ratio of the number of children in the age group under 5 years, to the person-years for females in the reproductive ages has been suggested by J.I. Clarke⁴ and N.B. Ryder.⁵ This may be expressed as follows :-

4. Clarke, J.I., *Population geography*, Pergamon Press, 1965, p.104
5. Ryder, N.B., *Fertility*, in *The study of population*, ed. P.M. Hauser and O.D. Duncan, Univ. Chicago Press, 1966 (pp.400-436), pp.404-405.

$$\text{fertility ratio} = \frac{\text{number of children under 5 years} \times 1000}{\text{number of women aged 15 - 49}}$$

This calculation produces a simple index for ascertaining fertility, and one which can be easily mapped, but it must be used with due regard to its limitations. These ratios vary over time, not only because of changes in birth rates, but also because of changes in infant mortality, changes in the proportion of women in the more fertile portions of the child-bearing age range, and changes in the completeness with which young children have been enumerated in censuses (particularly the early censuses). These ratios are also affected by such factors as migration of population between the time of the children's birth and the date of the census. Duncan and Reiss state that "differences in marital status are another possible source of error in comparing such ratios".⁶ However, these disturbing factors are not sufficiently important to hide the fertility trends for the 19th and 20th centuries. Ratios of young children to women are sometimes described as measures of effective fertility because they show what the situation was after most of the children have passed the first few months of life, a period during which death rates were especially high in the earlier part of the period we are concerned with.

Class intervals for mapping fertility ratios were selected by picking out the breaks in value of the parish ratios when all the years had been listed. Mapping was done to the parish level, and information was readily available for this in 1861 and 1891. For 1921 it

6. Reiss, A. J., *Social characteristics of urban and rural communities*, 1950, J. Wiley and Son, Inc., New York/Chapman and Hall Ltd., London, 1956, footnote p. 48

was not possible to acquire directly comparable information as the Census changed the age-group interval of their published data. The 1921 map ratios were calculated from the equation,

$$\text{Fertility ratio} = \frac{\text{number of children under 5 years}}{\text{number of women aged 15-54}} \times \frac{1000}{1}$$

and are therefore all slightly lower than they would be had it been possible to obtain the $\frac{5}{15-49} \times \frac{1000}{1}$ ratio. In 1961 parish information was not available, but data at the enumeration district level had been tabulated by the Census. It proved possible to build the enumeration districts into parish units, and so the final map for 1961 is comparable to those for 1861 and 1891.

TABLE 15

Number of parishes in the various fertility ratio categories (see fig.39)

Period	1	2	3	4	5	6	no data
1861	3	2	35	11	11	5	2
1891	1	11	47	3	5	-	2
1921	31	29	9	-	-	-	-
1961	3	25	33	3	3	2	-

In 1861 fertility ratios of 550 plus accounted for over 20 per cent of the parishes in the study area. These are Cockburnspath, Coldingham, Bunkle and Preston, Eyemouth and Mordington on the coast, and stretching inland from them Cranshaws and Longformacus; a second group of Melrose and Legerwood; and a third comprising Selkirk, Ashkirk and Kirkhope. Linking these into an almost continuous wedge are the parishes of Greenlaw, Westruther,

Earlston, Bowden, and Galashiels, all of which have ratios over 500. Only three parishes whose ratios are well above the area average of 425, are outside this belt, namely Bedrule, Hawick and Castleton.

Those parishes which have approximately average rates (i. e. group 3, 341-500) constitute more than half of the total number of parishes in the area. They occupy most of central and south-east Roxburghshire, and lowland Berwickshire.

Minto and Crailing in the Teviot-Tweed junction area, and Abbey St. Bathans, Langton and Polwarth in northern Berwickshire are the only parishes with lower rates.

By 1891 the position had changed a little: both the map (fig. 39) and the table (15) bring out the fact that most parishes had lower fertility ratios than previously. Only Chirnside, Gordon, Nenthorn, Abbey St. Bathans, Langton, Polwarth and Southdean show any increase over the 1861 figures. Category six was not represented at all, and the small number of parishes in groups four and five were marginally distributed in the agricultural and industrial context of the period. Channelkirk, Cranshaws, Cockburnspath and Hownam were rough upland and moorland pasture areas, as was much of Gordon. Bedrule is a tiny parish with a very dissected surface. Chirnside and Nenthorn are the only exceptions to the foregoing statement, the former with a nucleated settlement of over 800 people, and the latter being situated on the edge of the Merse.

Declines were greater in some parishes than others.

Melrose and Legerwood dropped from over 650 to under 340 in the 30-year period, thereby exhibiting the most spectacular decline in fertility in the area. Galashiels, Selkirk, Earlston and the coastal parishes with their industry or considerable amount of nucleated settlement, although declining managed to remain above the area's average rate of 380. Other industrial or well settled parishes like Hawick, Jedburgh, Coldstream and Duns, who had not had excessive rates in 1861 showed little change.

Rural parishes on the other hand, especially those in the Merse and Tweed-Teviot area, declined considerably and by 1891 had below average rates of fertility (fig.39).

It is difficult to assess the 1921 position because of the non-comparability of the data. It would appear, however, that by this period a decline in fertility had set in in all sectors of the area's economy, industrial, and lowland, and upland agricultural alike. The decline in places like Galashiels, Selkirk, Jedburgh, Lauder, Earlston, Coldstream and so on is very striking and can be readily appreciated by comparing the 1891 and the 1921 maps, as can the universally low fertility ratios compared with the previous century's.

By 1951 the situation was showing some signs of improvement. Calculations made from the 1951 Census data indicate that the districts of county in the study area had fertility ratios in the 300's. This was still the position in 1961.

The 1961 parish map shows that the overall rates were higher than in 1921, but that there has not been a return to the high rates prevailing in the 19th century. The upland rim of the area has rates in the 340-500 group, and all of the lowland area from Cockburnspath, Coldingham, Eyemouth, and Mordington inland up the main river valley, and the tributary ones as far as Selkirk and Caddonfoot have less. A few parishes greatly inflate the general ratio for the area, in particular Jedburgh parish at 852 and Kelso 714, and give it the impression of having greater fertility than is the case in reality.

It should be noted that during this century fertility as compared with the 19th century is probably much higher than the rates imply, because migration has reduced the numbers in the 20 to 40 age-groups in this area.

The maps and the preceding paragraphs allow the following conclusions to be drawn about the fertility of the area.

- 1) it declined throughout the area until the thirties
- 2) it declined more in the rural than the urban parishes, until the turn of the century. Thereafter decline was widespread
- 3) the increase after 1951 interrupted, at least temporarily, a long-time downward trend
- 4) despite^a recent increase the area's fertility is still low and nowhere approaches the conditions of the 19th century

- 5) the increases are confined to a few parishes, e.g. Jedburgh, and serve to greatly inflate what is otherwise a rate little in excess of that of the twenties.

Considerable attention has been given to the question of whether changes in the age-composition and marital status of the population have contributed to the long period of decline in the birth rate,^{7,8 & 9}

Changes in Age Structure

It would seem logical that variations in the 15-49 age group in women would have profound effects on the ability of an area to grow in terms of population numbers as women give birth to children only during this period of their lives. A large number of births during one year, therefore, will probably not be followed by a large number in the following year. Consequently fertility is often subject to short term fluctuation.

The proportion of women of childbearing age, to the total female population within the parishes of the area had not varied greatly during the period 1851 to 1967. On the other hand, in line with the ageing of population described in the previous chapter, there has been ageing within the childbearing part of the population. The proportion of women in the age group over 35 has increased markedly since 1891, with a corresponding decline of young adult women.

7. see U. K. Royal Commission on population report, H. M. S. O., London, 1949, p. 26.
8. see Kuczynski, R. R., The balance of births and deaths, Brooking's Inst., Faber, 1928, Vol. I, Chpt. 1 and appendix A.
9. see Kuczynski, R. R., The measurement of population growth: methods and results, London, 1935 pp. 234-235.

During the period under consideration there have been differences between the fertility of urban and rural parishes. As has already been indicated in this chapter in the earlier decades fertility tended to be higher than average in those parishes containing burghs, or urbanised settlements. This was the case until about 1920; and from then onwards this situation has gradually changed. The last two censuses do not merely show an overall increase in the fertility of the area, but also show that fertility was greater in the rural than in the urban areas. This is one feature of fertility that can perhaps be explained by changing age structure within the female population.

The 15-35 age group showed its earliest decline in numbers in the rural parishes of Berwick, Roxburgh and Selkirk counties (see previous chapter), a trend which was apparent in the later decades of the 19th century. By comparison, there was much less falling off of this group in the urbanised districts, and in fact it is only within this century that burghal population has exhibited this aspect of ageing of population. Most writers on the subject of fertility would appear to be in agreement that the more youthful the age-composition of an area the higher should be the fertility of its population.¹⁰ With this in mind it is not difficult to explain the declining fertility first in the landward areas and later in the urbanised ones, a decline in fertility which stabilised in the rural areas about 1921 when the rate of decline in numbers of young adult women had slowed down considerably. That the decline in the fertility of urbanised areas was later, more severe, and has only recently shown signs of stabilising, is due to the part played by the industrialised centres as high female employers of

10 *ibid* 4, Clarke, see p. 109

labour, which for a time had the effect of partly checking out-migration of young women.

Thus changing fertility within the three counties may be attributed, at least in part, to changes in the female age structure.

Marital Status

The census reports for the three counties reveal that the decline in the fertility ratio until 1950 does not reflect to any considerable extent a change in the tendency to marry, or the age at which marriage takes place. Table 16 shows that the proportion of all women in each county aged 15 years or over who are married did not decline during the period that fertility declined,¹¹ but there is a marked increase in the proportion married in 1951 and to a lesser extent 1966 which would seem to exceed the corresponding increase in number of births in the early sixties. Similarly there has been a steady increase in the proportion of married women who are under 20 years of age.

The proportion of women remaining unmarried until the end of the childbearing period increased as fertility declined between 1880 and 1900. The strongest correlation in terms of conjugal condition of the female population is that pertaining to age. The proportion of married women in the child bearing age groups exhibited a parallel decline to that for births per annum for the greater part of the time period with which this thesis is concerned. It increased markedly by about 1951 and has since declined very slightly, a situation which

¹¹ these findings are in accord with the conclusions reached in *ibid.* 7, U.K. Royal commission report, p. 21, and pp. 47-48.

correlates with the recent increase in fertility.

TABLE 16

Female Marital Status in Berwick, Roxburgh and Selkirk Counties

Period	Proportion married	Proportion of those married aged under 20	Proportion of those married aged 15-49	Proportion all women single over 49	
Berwick	1861	26	0.2	73	4.0
	1881	27	0.2	71	4.0
	1901	31	0.3	66	6.0
	1921	37	0.4	59	7.0
	1951	44	0.4	62	4.0
	1966	46	0.6	61	7.0
Roxburgh	1861	25	0.4	71	4.0
	1881	28	0.5	70	3.0
	1901	29	0.1	68	5.0
	1921	34	0.4	57	9.6
	1951	54	0.4	64	9.6
	1966	46	1.4	61	8.3
Selkirk	1861	28	0.3	71	3.0
	1881	29	0.5	67	2.0
	1901	30	0.2	64	10.0
	1921	36	0.2	58	7.0
	1951	43	0.4	60	8.0
	1966	45	0.6	60	7.0

Family Size

Judging from statements in newspapers and popular magazines, usually in connection with economic prospects, many people believe that the post-1950 surge in births, common to the nation as a whole, is a reflection of an increase in the average size of families i. e. a reversal of the long-time trend towards smaller families.

Unfortunately over the century we are dealing with, much less information is available regarding changes in average family size - the number of children born per completed family - than regarding changes in fertility. "However, substantial decreases in the relative number of large families and corresponding increases in the relative number of small families are known to have occurred in counties experiencing large declines in the birth rate. For example, in Great Britain four or more children were born to the great majority (63%) of the couples married around 1860, but to only 20 per cent of those married in 1925. The most frequent numbers were five, six and seven in the earlier group, and one or two in the later group. The proportion of families with only one or two children increased about five-fold from about ten per cent of all families in 1860, to about fifty per cent of the families in 1925. Finally, childless couples rose from nine per cent to seventeen per cent of the total during this period".¹²

¹² U. N. Dept. of Soc. Affairs, (population division), The determinants and consequences of population trends, Population Studies, no. 17, New York, 1953, p. 73.

In the same period in Berwick, Roxburgh and Selkirk counties, fertility ratios declined, and in view of the above comment about Great Britain, it seems probable that a correlation exists between this decline and a reduction in family size.

In the absence of vital statistics on the number of children per completed family reliance has to be placed on other sources to ascertain why in recent years the trend of decline in fertility has been reversed. Census statistics on the number of households in each county tabulated according to size indicate very generally the changes which have taken place. The majority of households are equivalent to families and it was felt that in the absence of other data sufficient justification was provided for the assumption that family size would vary directly with household size

TABLE 17

Berwick, Roxburgh and Selkirk Counties:-
Proportion of persons in households of differing size

Persons/household	1951	1961	1966*	
	%	%	%	
1	11.6	14.8	16.8	Berwickshire
2	26.8	29.7	29.8	
3	23.8	22.4	21.6	
4	18.9	17.2	17.5	
5 or more	18.9	15.9	13.9	
1	11.7	16.4	16.4	Roxburghshire
2	26.2	30.4	29.9	
3	24.5	21.4	20.9	
4	18.1	16.5	16.9	
5 or more	19.1	15.1	14.8	
1	14.6	18.3	17.7	Selkirkshire
2	28.2	31.0	28.8	
3	25.1	20.8	19.9	
4	16.8	15.9	16.0	
5 or more	14.5	13.5	15.9	

* 10% sample survey

From the statistics on the number of persons per household it would seem that the bulk of the increase in the number of births since 1959 did not involve a return to the once common large family of five children or more as the proportion of larger households is on the decline in the three counties. This is particularly true of Berwickshire, which is the most agriculturally orientated of the three, where in 1951 18.9 per cent of the population were in households of five and more compared with 13.9 per cent in 1966. Table 17 shows that for Berwickshire in the post war period households where there have been three or four persons have constituted a stable proportion of all households in the county, and that declines in those with five or more persons have been offset by an increasing proportion of one and two person households.

In Roxburgh there has been an almost parallel situation. The proportion of households with five or more people has declined during this period and there has been a relatively static position with regard to three and four person households. Again the deficit has been made up by an increasing proportion of the population living in one or two person households.

In Selkirkshire a different situation prevails. Here those living in households with three, four or more persons have not declined as in the other two counties. In fact the larger households have increased very slightly. The proportion they make up of the total number of

households. Decline is most evident in the three-person household here, dropping from 25.1 per cent of the total number of households in 1951, to 19.9 per cent in 1966. The two person household has accounted for approximately the same proportion of the total during the post-war period, and the one person household, as in the other counties, has increased.

Thus it would seem that only in Selkirkshire is it possible that the recent increases in fertility indicate an increase in family size. In the more rural counties evidence of this is lacking, and if anything it would seem that far from an increase in family size, increased fertility is a result of greater number of families having one child i.e. a spread of the small family system.

It may be however that, if these trends continue, not only will fewer women be childless, but also that there will be an eventual increase in the family size.

Thus one may conclude that family limitation accounted in part for the decline in fertility experienced by the area in the late 19th and early 20th centuries, but that in recent years while family size is still limited, the family unit has become more widespread.

It would seem that while fertility differentials may go some distance towards explaining the general decline in population experienced by the Eastern Border Counties in the past 100 years,

demographic factors themselves do little to explain the changes in fertility. Apparently this aspect of the population requires some appreciation of external forces such as economic and social conditions within the area before it can be completely understood. Suffice it to say at this point, that the decline in fertility experienced by the Border Counties is not great enough, on its own, to explain the large decreases in population which have taken place since the 1861 peak population total.

Populations increase in numbers by the addition of births and immigrants; they decrease in number by death and emigration. Mortality, the occurrence of deaths, is therefore one of the fundamental factors determining the size of human populations. It is usually exceeded by fertility, but in contrast with fertility, it is more stable and predictable, and less prone to mysterious fluctuations.

Mortality

In this thesis interest focuses on mortality because it influences not only the total size of a population but also its composition by age and sex.

The basic source of mortality data is the Annual Report published by the Registrar General based on information which is collected by the General Register Office in Edinburgh. These reports allow a fairly comprehensive analysis to be made of mortality in Berwick, Roxburgh and Selkirk counties, as they provide information

not merely on the total number of deaths in each county, but also classify these deaths by age, sex, and in some instances by cause of death.

Direct comparability of statistics throughout the period 1850 to 1960 is not possible for various reasons, not least of which are that firstly the reliability of the entries on death certificates has varied with the state of medical knowledge at each period; and even at one time two different doctors may give different diagnoses of the cause of death, particularly in the case of old people where several physiological systems are collapsing at one and the same time; and secondly that in the early part of the period under study people by and large died at home, or at least in their local area. With the increasing use of hospital facilities over the last half century many deaths occur away from the place of normal residence. Regulations on how to 'transfer' these deaths to 'usual place of residence' have varied from time to time.

The statistics however, despite their drawbacks, give a general indication of mortality for the three counties (see fig. 40). Decline set in in the mid-seventies and lasted until the beginning of the thirties; from then onwards it increased very slightly.

Crude death rates, that is the number of deaths per thousand population, were calculated for each decennial period by averaging the previous ten years figures. By doing this it was felt that irregularities in the trends produced by 'unusual' years would be ironed out. These calculated averages reveal a general downward

progression in the incidence of death in the three counties.

Table 18.

Berwick, Roxburgh, Selkirk Counties - Death rate at selected periods

	1861	1891	1921	1951	1961
per 1000	19.6	18.6	13.9	16.0	15.7

This decline has not been steady but by and large the death rate would seem to have reduced itself by about 25% in the past century, compared with Britain where the rate has dropped from 26 per 1000 in 1861 to 13 per 1000 in 1961. The comparison being made between the rates at different periods however is not completely satisfactory because the population at each period greatly differs in composition. The present population of the three counties is markedly aged when compared with Britain as a whole, and because of this the 1951 and 1961 rates are not as low as the national ones.

In an attempt to find out how much death rates had declined the rate by age groups was calculated for 1851-61, 1881-1891 and 1951-61 Statistics for such a calculation are not available for either the decade before or after 1921. From these the effects of mortality can be seen at different periods with reference to age groups within the population.

Table 19.

Berwick, Roxburgh and Selkirk Counties

Proportions dying in 2 age groups during the previous 10 years

per 1000 in age group	1861		1891		1921		1951		1961	
	under 1 yr	over 75 yrs	under 1 yr	over 75 yrs	under 1 yr	over 75 yrs	under 1 yr	over 75 yrs	under 1 yr	over 75 yrs
Berwick	16	23	16	32	/		5	40	2	51
Roxburgh	21	18	16	27	/ 22*		2	43	3	46
Selkirk	17	20	20	22	/ 15*		5	42	2	49

* Scottish average

The table shows that death rates of persons in the youngest and oldest age groups, were, until recently, higher than those of persons in the middle years; and that the improvement in mortality in all age groups has been particularly rapid during the second quarter of this century.

Child mortality has shown the most spectacular decline in the three counties during the time period in question from nearly 20% of the children born not surviving beyond the first year of life in 1861 to only 2% of them dying before the first year is ended in 1961.

A decline in mortality is also evident for those in the middle age groups; and is reflected in the continually increasing proportion who are aged 75 and over before dying - more and more people are living longer in these three counties. For the 5 year age groups over 75 years only slight decreases in the mortality rates have been recorded.

The reasons for this overall improvement in mortality are impossible to single out "It is not possible on the basis of existing data to measure separately the effects of such diverse causes as the improvements in nutrition, housing, environmental sanitation, personal hygiene, and medical knowledge and services or the increasing health consciousness of people and their desire for a longer life. It is even less feasible to isolate the effects of various underlying economic and social changes such as the rise in real wages, the improvement of agricultural techniques, the development of transportation facilities, or the enactment of specific laws relating to employment conditions, housing, etc. In consequence, no general statistical analysis of the relative importance of such factors has been

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made."

In view of this no attempt has been made to explain mortality trends: these are similar to those experienced by Britain as a whole, and much of N. W. Europe also, during the same period.

For the purposes of this thesis it is important only to realise that mortality has declined: that, therefore, in the absence of other demographic factors, the population of the three counties should show some increase - and this is not the case.

The major contribution which declining mortality makes to the nature of the population within this area is to indicate one of the underlying reasons for ageing. The greater longevity now experienced by the population partly explains the increase in the proportion of men and women over 65 years within the three counties.

One reads that "for every 100 males there are usually between 90 and 110 females"¹⁴ but in this area, as recently as 1951 there were 113 females to every 100 males, and in previous decades this figure has been as high as 130 and 140 women to every 100 men (see previous chapter). Differential mortality is one of the reasons for the excess of females with respect to males, but cannot account for the large imbalance of the sexes to be found at all times in Berwick, Roxburgh and Selkirk Counties.

14. *ibid.* 4, Clarke, p.73

Table 20.

Natural Increase in Berwick, Roxburgh and Selkirk Counties, 1861-1966

	Berwick		Roxburgh			Selkirk			
	Births*	Deaths*	Births	Deaths	Births	Deaths	Births	Deaths	
1861-70	11553	5962	5591	17479	10007	7472	4183	2194	1989
71-80	10418	5911	4507	15761	8947	6811	8290	4377	3913
81-90	8991	5280	3711	15003	9067	5936	8103	4270	3833
91-1900	7357	4824	2533	11530	8315	3215	6248	3910	2338
01-11	6273	4139	2134	9624	7378	2246	4582	3267	1315
11-21	5069	3651	1418	7887	6796	1091	3634	3016	618
21-31	4724	3826	898	7178	6415	763	3466	3057	409
31-41	3061	2997	64	6050	6139	-89	2783	2852	-69
41-51	3332	2943	389	5963	5878	85	4236	3104	1132
51-61	2166	2406	-240	5241	5587	-346	3390	4477	-487
61-66	1680	1890	-210	4032	3772	260	1957	1936	21

* Source:- Registrar General's Annual Reports

From this discussion of fertility and mortality in the area, and the figures on table 20, it would seem that the population is increasing naturally - yet the statistics on total population for the three counties indicate an overall decline.

The fertility and mortality of the three counties are different only in degree from the remainder of Britain. "England and Wales offer

a classic example of the demographic transition. Here, death rates were already fairly low in the 1850's, and continued to decline regularly until the 1920's. Because of the rapid ageing of the population, however, no further appreciable fall in the death rate has been possible in recent decades, although the mortality rates in individual age groups have continued to drop lower.

The birth rate, which was high in the 1850's, rose to a maximum in the 1870's. A possible reason may have been that, with the decline in mortality, large numbers of children could survive to reproductive ages and, in their turn, give birth to an increased number of children. After the 1870's, and until the great economic crisis of the 1930's, the birth rate fell sharply and consistently until only a narrow margin was left between the frequency of births and the frequency of deaths. In recent years, however, the birth rate has recovered to some extent. ¹⁵ That the situation is more extreme in the counties with which this thesis is concerned can be seen by the fact that for much of the fifties the number of deaths per annum exceeded the number of births. However it is only during this very short period that there has been an absolute decline in numbers in the area, from natural causes.

15. U.N., Some quantitative aspects of the ageing of western populations, Population Bulletin, no. 1, New York, Dec. 1951, pp.42-57.

Migration

Only one component of population change is left, namely migration. As the other two, fertility and mortality seem to have little to contribute towards an explanation of the decline in population in this area, it would appear that migration must be the chief mechanism by which this trend is brought about.

Analysis of internal migration within a country involves the use of certain concepts and terms that are more or less unique to it. In as much as these terms must be used throughout the discussion to follow, they are defined in advance:-

In-migrant: a migrant who crosses a migration-defining boundary in the process of changing residence and entering a given community from some other area.

Out-migrant: similarly an out-migrant is one who crosses a migration-defining boundary in the process of changing residence and entering a given community somewhere else.

In the pages that follow the community boundaries may be either the outer limit of the three counties; the boundary of each county; or the parish boundary, depending on the scale of migration being dealt with at the time.

For the purposes of this thesis no differentiation has been made between those moving into or out of the area whose origins or destinations are

outwith Britain i.e. immigrants to Scotland who have moved into the three counties are termed in-migrants because their origin is outwith the three counties and no emphasis has been placed on the fact that they have come from overseas; the converse is true for out-migrants and emigrants.

Area of origin: the area from which a migrant departs

Area of destination: the area to which a migrant travels

Differential migration: migration selectivity, or the tendency for some parts of the population to be more migratory than others. The incidence of migration is greater among some segments¹⁶ of the population than among others.

¹⁶.See: Bogue, D.J., Internal Migration, in The study of population, ed. P.M. Hauser and O.D. Duncan, Univ.Chicago Press, 1966 (pp.486-509), pp.490-491, for a more detailed discussion of terminology.

TABLE 21

Scotland: estimated net loss by migration, 1861-1960

Period	Natural increase*	Intercensal increase/decline	Estimated net loss by migra- tion
1861-70	416,285	297,724	118,561
71-80	468,793	375,555	93,238
81-90	507,864	290,074	217,790
91-1900	499,811	446,456	53,355
01-11	542,893	288,801	254,092
11-20	369,189	121,593	238,596
21-30	352,386	-39,517	391,903
31-50	502,294	253,435	248,859
51-60	336,776	82,075	254,701

* excess of births over deaths: from Registrar General's Annual Reports

TABLE 22

Berwick, Roxburgh and Selkirk Counties: estimated net loss by migration, 1861-1960

Period	Natural increase	Intercensal increase/decline	Estimate net loss by migra- tion
1861-70	15,052	3,294	-11,768
71-80	15,198	9,933	- 5,265
81-90	13,480	- 898	-14,378
91-1900	8,057	-10,516	-18,573
01-11	5,681	- 1,548	- 7,229
11-21	3,127	- 5,594	- 8,721
21-31	2,070	- 834	- 2,904
31-40	- 98	- 2,654	- 1,146
41-50	1,606		
51-60	-1,067	- 5,687	- 4,620
61-66	- 81	+ 648	+ 567

Migration from these three Border Counties has been very great; the rate being much higher than for Scotland as a whole^{17, 18} (tables 21, 22), and has had the effect of reducing the population of the counties of Roxburgh, Berwick and Selkirk from the decade 1871-80 onwards. This migration was particularly evident in the periods 1881-1910, and since 1921.

Total figures such as those in table 22 mask many differentials within the stream of migrants. There have been areal differences in the amount of migration at various periods; and also differences in the sex composition of the migrants in each of the three counties.

Areal differentials

Table 23 indicates that migration started in the rural county, and at a later date became a feature of the more urbanized ones also. Berwickshire, with its very small development of town population has a steady flow of migrants throughout the period. Roxburgh's migration started slightly later, and Selkirkshire, the most urbanized of the three was even later in showing a significant

17. See: Mears, F.C., Interim report on population trends in relation to industrial development and housing needs, Central and South-east Scotland Regional Planning Advisory Committee, 1945, p.20.

H. M. S. O.,

18. See: ^ The Scottish economy, 1965-1970: a plan for expansion, cmdnd 2864, 1966, p.94.

exodus of people. In a temporal sense the exodus has been steady from Berwickshire, but has fluctuated more from Roxburgh and Selkirk Counties.

Table 23
Sex Differential in Migration

Berwick County.

Period	Male Natural Increase	Intercensal Increase or <i>Decline</i>	est.net migration	Female Natural Increase	Intercensal Increase or <i>Decline.</i>	est.net migratio
1861-70	3,010	-9	-3019	2,581	-118	-2699
71-80	2,429	-471	-2900	2,078	-623	-2701
81-90	2,004	-1499	-3503	1,707	-1487	-3194
91-00	1,502	-719	-2221	1,002	-863	-1865
01-10	1,216	-533	-1749	918	-648	-1566
11-20	No information by sex.					
21-30						
31-40						
41-50						
51-60						
* 61-66	-129	-197	-326	-71	-150	-221

Roxburgh County

61-70	4,018	-1044	-5062	3,454	+899	-2555
71-80	3,674	-302	-3976	3,104	-230	-3334
81-90	3,403	-426	-3829	2,533	+725	-1808
91-00	1,911	-2661	-4572	1,304	-2276	-3580
01-10	1,292	-766	-2058	940	-846	-1786
11-20	No information by sex					
21-30						
31-40						
41-50						
51-60						
* 61-66	330	+183	-147	-70	+124	+194

*1966 figures are estimates.

Table 23 (contd.)
Sex Differential in Migration (contd.)

Selkirk County

Period	Male			Female		
	Natural Increase	Intercensal Increase or Decline	est.net migration	Natural Increase	Intercensal Increase or Decline.	est.net migration
1861-70	1,061	+1634	+ 573	928	+1922	+ 994
71-80	2,082	+5428	+3346	1,831	+6131	+4300
81-90	2,140	+ 584	-1556	1,693	+1205	- 488
91-1900	1,341	-2070	-3411	997	-1927	-2924
01-10	831	+ 659	- 172	484	+ 586	+ 102
11-20						
21-30		No information by sex				
31-40						
41-50						
51-60						
* 61-66	101	+ 879	+ 778	- 80	- 191	- 111

*1966 figures are estimates.

A further indication of these two generalisations can be seen from the population growth curves described in the previous chapter. In these it is almost universally the case that parishes with a truly dispersed population began to exhibit a decline in population before those with nucleated settlements or towns (see also fig. 23).

Sex Differential

Only one county, Selkirkshire, exhibits any marked phase of in-migration. This occurred between 1860 and 1880 and was

dominated by female movement, directed towards the main towns in the county. From 1880 onwards out-migration was the characteristic trend here, as it was for the whole period for Berwick and Roxburgh counties. This movement away from the area was male dominated.

The bar graphs (fig. 41) illustrate that female migration from Berwickshire though slightly lower in volume than male, paralleled it, increasing and declining in the same decades. This is also the case in Roxburghshire except in the 1881-90 decade when male migration from the county rose more rapidly than female.

Male migration into Selkirkshire paralleled female in the 1861-80 period, and then as male out-migration increased, then declined in volume, so did female but at a lower rate.

Age differential.

So far the discussion of migration has only considered the total aspects of the situation. That sex is a differential in migration has already been mentioned; age is also.

Indirect measurement of migration totals for the period 1951-61 was made by a refinement of the survival ratio method, which estimates the proportion of the population which should be expected to survive at the second census and determines the difference between this surviving expected population and the actual population. The disadvantage of this method is that the time of actual occurrence of the migrations is not known, nor the

number of moves made. The destination or origin of migrants is not indicated.

The number of net migrants for each 10 year age group, separately for males and females for each administrative district, was obtained by applying a 10 year net survival rate (calculated from the annual deaths in the five years preceding each census per age group using the Registrar General's Annual Reports) to each 10 year group in the 1951 base population and then subtracting from the 1961 figure, for a group ten years older, to find the migrants by elimination of those who had died in each ten year age group. (The reverse procedure was also carried out and the average of the two possible migration totals taken).

It should be emphasised here that there are several statistical problems involved in computing age differentials as outlined above. The first of these is that the lower the size of the original population, the greater the error in the migration estimate - because of this the most reliable figures are those computed for the area as a whole (and even here the cohort values are too low for complete accuracy); and the individual county figures do not necessarily add up to this. Smaller units than the county have to be used with extreme caution as it is probable that the error in calculation is very great. However as far as obtaining some idea of age differential is concerned the method is useful in that while the number of migrants from each age group is only approximate the proportion that they form of the total is not. Another important drawback is that

at the earlier of the two censuses being used the calculations are particularly prone to error in the lowest and highest age groups, that is under five years and over fifty-five years. ¹⁹

Table 24

Migration from Berwick, Roxburgh, Selkirk Counties 1951-1961 (by age groups) *

1951 age	population	deaths	m	S	1961 age	population	C	Migration
0-4	7535	59	.00783	9815	10-14	7101	7243	-144
5-9	6373	8	.00125	9937	15-19	5526	6334	-808
10-14	5930	3	.000506	9974	20-24	4664	5915	-1251
15-	11017	11	.000998	996	25-	9679	10973	-1294
25-	12472	23	.00184	9816	35-	11486	12243	-757
35-	13589	25	.00183	9812	45-	12319	13542	-1223
45-	12826	38	.00296	9936	55-	11213	11974	-761
55-	10344	175	.0169	8441	65-	7874	8781	-857
65-	8252	335	.0405	663	75-	3999	5470	-1471
75	3537	460	.127	23	85	656	816	-157

1961 age	1951 age	Average Age
10-14	0-4	10-14
15-19	5-9	15-19
20-24	10-14	20-24
25-	15-	25-34
35-	25-	35-44
45-	35-	45-54
55-	45-	55-64
65-	55-	65-74
75-	65-	75+

It should be noted that migration from the three counties calculated by the above method greatly exceeds that on P. 134

The age groups 10-85 in 1961 according to Lawley are the most accurate - they estimate out-migration at 7486 between 1951-61

"The Scottish Economy 1965-1970, a plan for expansion (cmd. 2864)p.93" estimate migration from these three counties plus Peebles at 9924 for the same period.

* see appendix I for explanation of calculation.

19. Oral discussion with Dr. Lawley, Dept. of ^{Mathematics,} ~~Maths.~~, University of Edinburgh.

From Table 24 it is evident that the characteristically heavy loss groups are those aged 20-30 by 1961, for the three counties as a whole.

The appendix I tables, at county level, and at burgh and landward area level partly bear this out. The bar graphs (fig. 41) indicate that the situation is slightly different in each administrative area; but it is clear that in most the heavy loss groups for men are those under 35 by 1961 in the agricultural areas, and those less than 25 or over 55 in 1961 in the urban areas.

From the main agricultural areas (i. e. rural Berwickshire and Roxburghshire) over 35 per cent of the male migrants were in the younger age groups. Even in the agriculturally more marginal area of Selkirkshire over 30 per cent of the migrants were within these age groups.

In the urban areas out-migration is very evident in each county for males in the 15-24 age group by 1961, and in Berwick and Selkirk for those over 55. In Roxburgh County, with the exception of the 25-34 age group, urban out-migration is high.

From the tables and graphs it would seem that although younger women migrate more readily, there is not the same concentration in the groups under 35 to the exclusion of others as there is for men. This is true in particular of the urban areas; in the rural ones female out-migration in the younger age groups, in particular under 25 by 1961 is more marked, in other words there

is a tendency for rural women to migrate in the early years after school-leaving. In the early twenties out-movement of women from both urban and rural areas is evident. The late twenties and early thirties constitute a ten to fifteen year stable phase, with almost no female migration (see especially Selkirk and Roxburgh counties). After 45 i. e. 55 in 1961 there is a slight increase in migration totals.

A similar set of calculations was made for the periods 1861-71 and 1901-11, with a view to ascertaining whether or not differentials in terms of age and sex of migrants had varied throughout the time span that this thesis is concerned with.

Table 25.

Age & Sex differentials in Migration.

		1871 - 1871				1901 - 1911				1951 - 1961								
		Roxburgh		Selkirk		Berwick		Roxburgh		Selkirk		Berwick		Roxburgh		Selkirk		
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female		
10-	271	33	200	150	+8	+5	201	212	148	161	+9	+17	68	89	28	56	33	19
15-	713	581	1234	400	+63	+161	463	427	411	278	64	29	202	266	154	180	+41	+4
20-	933	859	1281	526	+279	+397	674	521	588	487	33	32	295	245	374	257	+189	+40
25-	879	814	1089	549	+165	+356	283	254	431	333	138	+38	241	192	177	455	+5	220
35-	241	347	723	417	+78	+123	160	138	229	168	+7	+57	312	118	359	212	-337	137
45-	163	183	353	296	+27	+21	129	104	217	128	+18	+27	502	211	380	224	-242	29
55-	49	69	311	206	+9	+25	98	62	271	196	+4	+13	333	203	465	362	-53	129

* age at end of period
except where indicated the figures are all negative.

Table 25 shows that from 1861-1961 certain characteristics with respect to migrants are common at all times. It indicates the predominance of young adult males moving; and the fact that female migration was spread more evenly over the age groups.

Berwickshire at all periods has shown a concentration on the movement away of young people: Roxburgh the young, and then the hints of a lesser peak in those over 55: and Selkirk, in the first two periods we are dealing with some in-migration. In 1861-71 an in-migration of both sexes, dominated by females, is evident: but by 1901-1911 the younger age groups were characterised by small numbers leaving the county, especially young men, and it is only in the 35+ age groups that in-migration occurs.

There was some areal differentiation in the migration process, from rural areas only in 1861-71, from rural and to a lesser extent urban by 1901-1911, and since then from all parts of the area. This accords with the findings of the Scottish Office published in 1966 where one finds the following comment "Depopulation has caused concern in the Borders for many years, and is a symptom of most of the region's problems..... The special characteristic of depopulation in the Borders is that besides thinning out population in the countryside and villages it has also, to an extent unparalleled elsewhere in the United Kingdom, eroded the demographic stability of the main towns as well." ²⁰

20. *ibid.* 18, The Scottish economy..... pp 94-95.

The type of migration so far discussed is net migration, the balance of gains and losses to the area. From it we know nothing of the destinations and origins of those involved in the migration process.

Origin & Destination.

At its very simplest level place of birth data indicate some movement. Figure 42a shows this for each decennial period from 1851. That migration was not all in the one direction is evident from this map; but in terms of sheer volume out-migration has at all times greatly exceeded in-migration with regard to these three counties. This out-migration had reached significant proportions by the turn of the century, and was particularly directed towards the industrial areas around Edinburgh, and in N. Lanarkshire. It slowed down a little after 1911, and only in the last two decades has it assumed its previous proportions. The Edinburgh district has always attracted many people from the three counties. Migration outwith Scotland, and indeed outwith Central Scotland, has not been very great.

Movement into the three counties has always been small, and at no time in the last hundred years, offset the total losses by out-migration. Like out-migration this reached a peak during the latter part of the 19th century, but it does not exhibit the marked increase seen for out-migration in recent decades. This in-migration was mainly of people coming from other rural parts of Scotland, and in

particular from the adjacent S. W. Border area. The large number of letters between woollen manufacturers in Galashiels and Hawick and their counterparts in Yorkshire in the latter part of the 19th century, asking for skilled men to run their factories because of a lack of local people with suitable talent, would indicate that there was some in-migration of industrial workers. ^{21, 22.} By and large, however, this must have involved either only a very small number of people, or people who remained in the area for only a short time, because such movement cannot be substantiated from Census returns.

All birthplace data suffer from the major defect that the information they give on migration is cumulative, and only indicates the extent to which an area has gained or lost population at each census date. They do not show the amount of intercensal migration to and from particular areas. While they have allowed analysis of the volume of migration, and the pattern of inter-regional migration at County level, they do not give any indication of the movement within an area.

An indication of such patterns may be obtained by using school admission registers. This source does not allow total migration to be computed as the information is confined to those families with

21. Discussions with C. Gulvin, Dept. of ^{Economic History,} ~~Econ. Hist.~~, University of Edinburgh, who is at present preparing a Ph. D. thesis entitled The Border woollen industry, 1700-1914.

22. *ibid* 17, Mears, See p. 22.

children of school age, ... it is merely a method whereby the minimum amount of movement to and from a parish may be calculated. As such it gives a valuable insight into the direction of movement.

School Records for the period were not of a standard type, but most of them yielded the following information:

Date of Entry to school, Name, Parent/Guardian, Address,
Date of Birth, Previous school, Date of leaving, Reason
for leaving, destination.

Unfortunately such full information was seldom noted for each child, and so some school registers were more complete and helpful as records of migration than others.

Certain problems arose about using such data as was recorded, in particular the problem of not counting the same family twice. Another major disadvantage of using these records was that while a child's name, address, and previous school, together with his date of entry into the parish school were generally all recorded, very often the date when he left and his reasons for doing so were not noted. Thus in nearly all instances in-migration is more fully recorded than out-migration. A further draw back to the information on out-migration is that very often when the date of a child's leaving school is recorded his destination is not; and sometimes where a destination is noted it is not clear whether this was an instance of the child going to a higher school, or of the whole family moving.

Nevertheless a careful scrutiny of the information recorded in the parish school registers does give an indication of the numbers of families moving into and out of a parish at any given year, and also gives an idea of the origins and destinations of these migrating families.

The records available for this type of analysis are for Roxburgh County only, ²³ and so analysis of direction of movement has of necessity been confined to this area. The table indicates which school registers have been preserved, and the periods for which information of different types is available from them. From this it can be seen that no school has records that cover the complete time span with which this thesis is particularly concerned. Several however cover a great part of the period, in particular Ancrum and Ednam records which run from 1873 to the present day, and Denholm from 1893 to 1967. But all of them, no matter how short their time span, provide an insight into direction of in- and out-migrants at various periods since 1870, and are therefore of major importance to this work being the only recorded sources with some indication of migration with regard to any part of the area under study.

23. Source of registers, Mr. Baxter, Director of Education, Roxburgh County.

Table 26.

School records available for estimating migration

School & Parish	dates for in-migration	dates for out-migration	dates for out-migration with destinations
Ancrum	1873-1967	some 1885 on 1900-1967	1910-1967
Bowden)) Bowden	1870-1941	1870-1942	1900-1942
Midlem)	1873-1936	1874-1936	1874-1936
Denholm)) Cavers	1893-1940 1950-1967	1894-1912 1920-1941 1951-1967	incomplete at each decade
Kirkton)	1898-1938	1898-1943	incomplete at each decade
Ednam	1873-1967	1942-1967	1942-1967
Hobkirk	1928-1967	(1928-1967)	(1928-1967)
Towford Oxnam	1872-1964	1903-1964	incomplete till 1930
Riccarton)) Castleton	1878-1960	1919-1960	1919-1960
Saughtree)	1938-1962	1938-1963	1938-1963
Clarilaw	1874-1942	1899-1925 1931-1943	1899-1943

Analysis of migration with reference to each school in turn will be made to see if there are any general patterns.

Towford school records, and those for Bowden and Midlem will be dealt with in detail, to allow an appreciation of the wealth and detail of the data which this source yields to be appreciated. Hobkirk and Ancrum parishes, because of the similarity of their migrational

trends to the first two discussed, will not be described in detail.

Cavers and Ednam parishes provide examples of units in close proximity to a burgh, and containing sizeable agglomerations of population. These and that part of Hawick parish for which records are available receive the same treatment as the first two parishes discussed, because it was felt that migrational patterns should be clearly established for all types of economic areas.

Castleton parish, in the south of Roxburghshire, exhibits some unusual migrational trends, and so the school records for the parish are discussed in detail.

Towford School - Oxnam Parish

Oxnam parish lies in south-east Roxburghshire, and stretches from the Scotland-England Border to just south of the river Tweed. It is, and has always been, an area devoted to sheep rearing, with no large settlements, and no industrial activities.

In-migration to the parish can be deduced from 1871 onwards, in terms of the volume of the movement and the origins of the migrants. From 1901 the volume of out-migration can also be obtained from the school registers, but it is not until after 1911 that even half of the out-migrants are recorded with destinations.

Graphs were drawn of the number of families moving into and out of the parish at yearly intervals, and in ten year periods. It should be noted that the first of these graphs shows only those families known to have moved in specific years; and that the bar graph shows

the total number who must have moved during the 10-year period, although the exact year in which they moved was not noted. The totals on the bar graphs are therefore sometimes greater than on the line graph.

In-migration falls into the following time phases, as can be seen from the graph (fig. 43):-

1871-1881, 1895-1908, 1912-1916, 1919-1928, 1936 +.

1871-1881 was the first phase of growth followed by decline in terms of the number of families moving into the parish. It reached a peak during the four-year period 1876-1879 when 18 families were recorded as migrating from other areas to live in Oxnam.

The second phase, 1895-1908, did not achieve quite such a peak, but its extent was greater with 27 families entering the parish between 1895 and 1903.

A minor phase occurred between 1912 and 1916 when 9 families moved into Oxnam. This led into the longer period from 1919-1928 when the number of families migrating into the parish rose from 2 in the year 1919 to 6 in 1925, and then declined again.

Table 27.

Oxnam Parish	Migrating Families			
	Period	In migration	Out migration	net gain/loss
	1871-80	25	-	-
	81-90	9	-	-
	91-1900	19	11	+ 8
	1901-10	18	16	+ 2
	11-20	13	16	- 3
	21-30	26	26	0
	31-40	12	18	- 6
	41-50	16	16	0
	51-60	22	25	- 3
	61 ⁺	8	10	- 2

Source: Towford school admission registers.

From 1936 onwards migration into the parish has shown a fluctuating overall increase to the mid 60's.

Out-migration has had fluctuations in volume also, fluctuations which were not parallel to those for in-migration. It built up to a peak in 1924-1929 when 23 families left the parish, and dropped again in the 30's; during the 40's large numbers of out-migrating families one year were followed by none the next year; since the beginning of the 50's out-migration has increased.

In the latter part of the 19th century in-migration dominated out-migration by smaller and smaller amounts until by the 1911-20 period the number of families leaving the parish was greater than the number entering (fig. 43). Since then, during no decade, has

in-migration exceeded out-migration. The loss to the community would seem to be on the increase as the excess of out-migration over in-migration in the period 1961-65 was almost as great as the excess during the longer 1951-60 period.

The origins and destinations of migrants have varied during the time span for which Towford records are available.

Of the families entering the parish between 1871 and 1880 all came from other parishes in Roxburghshire; in 1881-90 two came from outwith the county, one from Berwickshire, and the other from Lockerbie; during the decade to 1900 all in-migrants to the parish were again from within the county; and in 1901-1910 two families from Morpeth and one from West Barnes in Midlothian were the only ones not to come from Roxburghshire. This picture of very localised movement continues through the periods 1911-20 with again one family only from outside the county, 1921-30 with two, one from Ettrick in Selkirkshire and one from Stirling, and 1931-40 with one family moving from Hume and one from Lauder, both in Berwickshire. (see fig. 44). During this period 1871 to 1940, however, the spread of migrants from other parts of Roxburghshire was increasing, with the proportion from the parishes immediately adjacent to Oxnam declining at each decennial period.

By 1941-50 the distances covered by in-migrants were greater: 3 families came from Northumberland, and one from Westruther in Berwickshire, and the remainder, while all from Roxburghshire,

were from parishes some distance from Oxnam.

Almost half (15 out of 32) of the in-migrants in the period 1951-60 came from outside Roxburgh County, and those from within the county were again not from parishes adjacent to Oxnam. N. E. England figured ^{prominently} ~~prominently~~ with 5 families migrating to Oxnam, and Edinburgh district had 4. This trend of greater distances being covered has continued in the 60's, with a family coming from as far away as Orkney, and five of the eight in-migrant families coming from places outwith Roxburghshire.

Out-migration has at all periods shown a wider spread than in-migration (see fig. 44); at no period has there been the same concentration on parishes adjacent to Oxnam as was seen for in-migrants from 1871 to 1930. In 1911-20 of the nine out-migrating families whose destinations were recorded four left the county; in 1921-30 seven out of seventeen left the county; and in 1931-40 nine out of eighteen left Roxburghshire. By 1951-60, two thirds of the migrating families whose destinations were known were leaving the county completely, and since 1961 about 50% of them have left the county. Most of these have moved to N. E. England and Central Scotland.

Towford's records suggest therefore that since 1911-20 out-migration has exceeded in-migration. The early records, although very incomplete, show that most of the movement to and from the parish was confined to the surrounding area, in fact to those parishes

immediately adjacent to Oxnam. By 1921-30 there was a little movement to- and fro- over the county boundary, but still within the area with which this thesis is concerned. In-migration remained fairly localised, mainly from other parts of the county, until 1950, but out-migration from 1931 onwards occurred over greater distances, to counties immediately outside the area and to Central Scotland and England, in particular to N. England. Since 1950 both in-migration and out-migration with respect to Oxnam have involved areas outwith the three counties.

It is notable that in the period from 1870 to 1964 only two families are recorded as leaving the country, both in the 1921-30 period.

Bowden Parish:- Bowden and Midlem Schools.

This parish is situated in eastern Roxburghshire, immediately west of Selkirk and south of Melrose. It has an undulating topography, everywhere below 800 feet. In 1861 it contained two settlements, Bowden with 241 inhabitants and Midlem with 250. These contained rural service functions such as blacksmiths, and a full range of shops to supply the everyday needs of the surrounding agricultural area. By 1961 their numbers had dwindled to 171 and 79 respectively.

Employment in the parish has been confined to these small service activities, and to agriculture, which here has always been a mixture of arable cropping and sheep rearing.

For Bowden parish two school registers are available to provide

an indication of the movement of families to and from the parish. In both instances the records start in the 1870's, and Midlem's run to the early 30's, while those for Bowden go on into the 40's.

Table 28.

Bowden Parish	Migrating families			
	Period	In-migration	Out-migration	net gain/loss
	1871-80	69	64	+ 5
	81-90	72	75	- 3
	91-1900	67	70	- 3
	1901-10	62	57	+ 5
	11-20	56	65	- 9
	21-30	19	27	- 8
	31-40	17	23	- 6
	41 [†]	2	1	+ 1

Source: Bowden school admission registers.

Bowden school records indicate a consistently high rate of in-migration from 1871 to 1921, and a very low one by comparison from then on (fig. 45). Out-migration with regard to this school has not been at a constant rate; it has fluctuated more widely than in-migration. In the period 1873-1886 years of high out-migration were followed by one or more years at a much lower rate, for example 1873 and 1874 both had ten families leaving the parish, this dropped to six in 1875, 4 in 1876 and rose again to eleven in 1877. This peak was followed by the lower rate of three in 1878

and 5 in 1879, and rose to eleven in 1880, and so on to the twelve of 1886, a peak which was not achieved again until after the turn of the century. From 1877 to 1893 the number of out-migrating families per annum fluctuated about the figure five, and from then until 1902 was even lower, with the years 1894 and 1898 recording no out-migrants at all. 1902 to 1921 was the next important phase of out-migration, with trends similar to the 70's and early 80's, of a high rate one year being followed by a much lower one in the next year.

As was the case with in-migrants, the 20's, 30's and early 40's had a much lower number of migrating families than previously, but the rate was slightly higher than for in-migrants (see fig. 45).

Despite its fluctuations out-migration has been the more dominant of the two processes, and has, with the exception of 1871-1881, been greater than in-migration in each decade.

Midlem school records for the same parish exhibit slightly different characteristics. Neither in- nor out- migration have been as great as in the Bowden records. In-migration according to the Midlem registers had two peaks in the 1870's, 1873 with 19 families entering the parish, and 1876 with 9 families coming in, but the other years of the decade showed little movement to the parish. 1881-1890 was a steadier period with four per annum being the average rate. From the peak of five in 1896, to a similar figure in 1916 in-migration remained stable, if low, each year, with most years recording only

one or two families as entering the parish. Thereafter to 1924 peak years alternated with

Table 29.

Bowden Parish		Migrating Families	
Period	In-migration	Out-migration	net gain/loss
1871-80	39	35	+ 4
81-90	32	41	- 9
91-1900	18	25	- 7
1901-10	19	24	- 5
11-20	21	29	- 8
21-30	22	24	- 2
31 ⁺	8	4	+ 4

Source: Midlem school admission registers.

low rates of in-migration, and from then on conditions were similar to those prevailing at the turn of the century with most years recording only one or two in-migrant families.

Out-migration from Bowden parish according to Midlem school registers was high until 1890 with three peaks between 1874 and 1887, namely 1876 with nine families leaving the parish, 1880 when eleven families were noted as out-migrants, and 1885 when a further eight left. After 1890 peak years were separated by longer periods of low out-migration (see fig. 47); even the peaks themselves were low when compared with the earlier period the five of 1900, 1911 and 1925 occurring amidst years when one, two, or three families leaving the

parish was the normal situation.

Nevertheless out-migration was the dominant process and was exceeded by in-migration only in the 70's and in the few years of the 40's for which records exist.

Table 30.

Bowden Parish		Migrating families	
Period	In-migration	Out-migration	net gain/loss
1871-80	108	99	+ 9
81-90	104	116	-12
91-1900	85	95	-10
1901-10	81	81	0
11-20	77	94	-17
21-30	41	51	-10
31-40	25	27	- 2
41 [†]	2	1	+ 1

Source: Bowden & Middlein schools' admission registers.

In-migration to the parish according to both sets of records was greatest in the 19th century and has been declining quite steadily during this century.

Out-migration has fluctuated greatly but has been, except in the decades 1871-80, 1901-10, and since 1941, far in excess of in-migration. The period 1911-20 had the greatest loss with at least seventeen families less being in Bowden parish at the end of the ten-year period.

The maps (figs. 46, 48) of origins and destinations for migrants connected with Bowden parish show that in-migration was mainly from the Border area at all periods. The Midlem school records infer that in-migrants to the area around the school came over greater distances than those to the immediate vicinity of Bowden school, where short distance movement from the adjacent parishes was the commonest form of in-migration.

Out-migration from the parish was to other parts of the Border area, and both sets of records reveal that it occurred over greater distances than in-migration. Bowden school records show that many families moved away from the Borders altogether, to Central Scotland and in particular to the Edinburgh district. This trend is not so marked with regard to the Midlem records, fewer families connected with this school moving to Central Scotland and a very small number going South.

The detailed treatment made of the information which the school registers for Oxnam and Bowden parishes provide indicates the type of data available, and the methods used to ascertain volume of migration, and origins and destinations of migrating families. In view of this it was felt that for the remaining parishes which it is possible to study in this way, which had similar types of economy, much less description was required. Tabulations, graphs and maps have been made for each, as in the instances already discussed, and conclusions drawn from these.

Hobkirk Parish.

Rutherford writing in 1866 says that "the larger portion of the parish is pastoral, but in the valley of the Rule the soil is deep and fertile" and its "hill sides are now waving with grain, where formerly there was only rough heather and benty grass."²⁴ The position is little changed; sheep rearing is the main activity in the parish, and arable cultivation is still confined to the valley floor. Wauchope Forest in the southern part of the parish, and extending east into the adjacent Southdean, was established after the second world war by the Forestry Commission, and is the only alternative source of employment to agriculture found within the parish. Proximity to Hawick, about five miles from Bonchester Bridge, has meant that in recent years many women have travelled there for employment in the mills, but there is no indication of such a journey-to-work movement prior to 1930.

24. Rutherford, J. and J. H., *Southern counties register and directory*, Kelso, 1866, p. 283.

Table 31

Hobkirk Parish		Migrating families	
Period	In-migration	Out-migration	net gain/loss
1928-30	17	3	+14
31-40	73	71	+ 2
41-50	59	57	+ 2
51-60	44	61	-17
61 [†]	52	55	- 3

Source: Hobkirk school admission registers.

For Hobkirk parish the school records available are concerned with the thirty-nine years from 1928 to 1967. These indicate that both in-migration and out-migration have fluctuated considerably during the period. (see fig. 49.)

Out-migration did not exceed in-migration until the 1951-60 decade, but during the two previous ones the total in-migration was only very slightly higher than the out-migration.

A perusal of the origins and destinations of the migrant families connected with Hobkirk parish reveals certain points of interest. Only 25% of those entering the parish between 1928 and 1930 came from outside the county; the remainder moved from other parts of Roxburghshire to Hobkirk, in particular from the adjacent parishes (see fig. 50). Thirty-eight out of the seventy-three migrants in the decade 1931-1940 came from outwith the

county, in particular from adjacent counties; of the remainder the greater proportion again moved from the parishes surrounding Hobkirk, into it, but the spread of in-migrants from within Roxburghshire was wider than in the pre-1930 period.

Between 1941 and 1950, thirty-one out of fifty-nine migrants came from outwith the county, the spread of areas of origin being much wider than during the previous ten years. Parallel to this was the fact that the twenty-eight migrants from other parts of Roxburgh County also moved over greater distances than was previously the case.

Exactly 50% of those migrating to Hobkirk parish in the 1951-60 period came from outwith Roxburghshire. As has been the case in earlier decades no single area of origin stands out, but the adjacent counties account for about 30% of these families. Those migrants from within the county showed a wider dispersal than at any previous period, and very few came from parishes adjacent to Hobkirk.

Since 1961 these trends have remained in evidence. The figure of 50% of the parish's migrants coming from outwith the county was retained, and the tendency for them to come from further and further afield continued. Distances covered by migrants from other parts of the County also continued to increase.

Almost 50% of the out-migrants during each decade have moved away from the County: twenty-nine out of seventy-two in 1931-40, thirty-one out of fifty-seven in 1941-50, twenty-four out

of sixty-one in 1951-60 and twenty-five out of fifty-five since 1961. Their destinations have varied at each period but Central Scotland and N. E. England have figured in those listed for each decade. Migration to other parts of the county has in most instances been over greater distances than migration from other parishes in Roxburghshire. Receiving areas in about 60% of the cases have been parishes containing burghs, or large villages, in particular Hawick, Cavers (Denholm), and Ancrum.

From the maps and graphs it can therefore be seen that out-migration has been more prevalent than in-migration as far as Hobkirk parish is concerned. This is in line with the findings for other parishes studied in Roxburghshire. Distances moved by in-migrants have increased over time; but have always been less than those over which out-migrants have moved.

Ancrum Parish

This was in 1861 an entirely agricultural parish, lying on the north bank of the Teviot: a mixed economy with pastoral and arable activities equally represented was practised. It contained two settlements, Ancrum village (pop. 538) and Longnewton (pop. 81) which provided the rural residents of the surrounding area with all their immediate needs in terms of food and clothing, and the services of blacksmiths, joiners and coopers.

By 1961 Ancrum had 338 inhabitants and Longnewton 41, and the former contained only two general stores and a garage. Employment by this date within the parish was completely agricultural in nature.

Table 32.

Ancrum Parish Migrating Families

Period	In-migration	Out-migration	net gain/loss
1901-10	73	28	+ 45
11-20	68	100	- 32
21-30	68	60	+ 8
31-40	76	56	+ 20
41-50	68	93	- 25
51-60	60	72	- 12
61 ⁺	27	45	- 18
1871-80	105		
81-90	84	no information	
91-1900	73		

Source: Ancrum School Registers

Migration with respect to Ancrum parish was investigated using the parish school registers. From these it was found that during the period 1871-80 more families than in any subsequent decade entered the parish, averaging 12 or more per annum. Annual in-migration rates remained high for the rest of the nineteenth century, about eight in the 1880's and seven in the 1890's. (fig. 51). This latter rate was maintained until 1950, then dropped to six in the fifties, and four in the sixties. Fluctuations about these annual averages were

greater this century than last.

Unfortunately the school records for the parish are very incomplete, and for the thirty years of last century for which it was possible to ascertain the amount of in-migration, there are no corresponding indications of how much out-migration took place. For all of this century the record of out-migration is not as full as one would wish, as in many instances the exact year of a family's moving is not shown, and it has only been possible to indicate during which decade they must have left the parish.

In-migration was dominant in the decades 1901-1910, 1921-1930 and 1931-1940, but during the other decades of the twentieth century out-migration was the main theme.

From the maps (fig. 52) it can be seen that at all times out-migration has ~~at all times~~ been over greater distances than in-migration, many in-migrant families, especially in the earlier decades studied coming from the local area. This is a feature which Ancrum parish displays in common with those parishes already studied. At no period has there been a large number of people leaving the parish for destinations in immediately adjacent ones. The industrial parishes of Hawick, and to a lesser extent Jedburgh and Kelso, have been the main receivers of migrants who have moved to other parts of the county.

Cavers Parish: Kirkton and Denholm Schools.

The northern part of Cavers parish consists of rich arable and well cultivated lands, and the south, where it meets Castleton parish is bleak and moorish, and devoted entirely to sheep raising. Denholm village is the main settlement of the parish and contained 766 people in 1861, and 581 in 1961.

In 1861 those who were not employed on the farms of the parish worked in Denholm. This village provided a wide range of shops and services for the surrounding area, and also contained the premises of a hosier and stocking maker. Thus the parish's labour force was more diversified than that of those already studied.

By 1961 woollen manufacture had ceased in the village, and those employed in this industry travelled to and from Hawick. Day-to-day needs were still supplied by the shops of the village, but for clothing the people of the parish had to buy elsewhere.

Two sets of school records are available for the parish of Cavers. Kirkton school serves the southern part of the parish and takes children up to 13 years of age, after which they must go to Hawick. Denholm school serves the north of the parish for primary education and a much wider area than the parish itself for senior education. The records for these schools do not cover exactly the same period, but both give a good insight into migration trends as they affect the parish. Both commence in the 1890's and Kirkton's are fairly complete until 1942; Denholm's are available to the present day.

Table 33.

Cavers Parish Migrating families.

Period	In-migration	Out-migration	net gain/loss
1891-1900	23	9	+ 14
1901-10	40	17	+ 23
11-20	49	33	+ 16
21-30	37	26	+ 11
31-40	10	11	- 1
41 ⁺	4	0	+ 4

Source: Kirkton school registers.

Apart from the decade 1931-40 migration into the parish exceeded migration from it as far as families connected with Kirkton school are concerned. In-migration increased steadily from 1892 to 1920, and then declined until 1942. Out-migration, taken decade by decade, shows the same trend (see table 33 and fig. 53).

There are gaps in the information in Denholm's school registers. Out-migrants are not recorded from 1912 to 1919; and it is impossible to unravel in- and out-migrants from evacuees in the forties.

The number of migrants connected with Denholm school was much higher than for Kirkton: but like Kirkton in- and out-migration fluctuated year by year (see figs. 53 and 55).

Table 34.

Cavers Parish Migrating families.

Period	In-migration	Out-migration	net gain/loss
1891-1900	60	47	+ 13
1901-10	69	85	- 16
11-20	62	no information	
21-30	103	76	+ 27
31-40	89	63	+ 26
41-50		no information	
51-60	70	73	- 3
61 ⁺	29	34	- 5

Source: Denholm school registers.

The table (34) shows that in-migration increased decade by decade from the 1890's until 1930, and then declined. Out-migration on the other hand increased between the 1890's and 1910; and then declined. The exact decade during which this decline set in is not clear as information is very incomplete for the period 1912 to 1919, but certainly the 1921-30 total of seventy six families leaving the parish is lower than the 1901-1910 one of eighty-five. It continued to decline in the thirties, but had increased once more by the fifties. Again the point at which the change in trend occurred is not clear as data for the forties is very muddled. Decline in volume of out-

migration set in again in the sixties.

Net gain to the parish according to Denholm records occurred in the 1890's, in the 1920's and 30's, and the other decades for which information is available i. e. the 1900's, and the 50's and 60's are periods of net loss.

Table 35.

Cavers parish Migrating families.

Period	In-migration	Out-migration	net gain/loss
1891-1900	83	56	+ 27
1901-10	109	102	+ 7
11-20	111	incomplete information	
21-30	140	102	+ 38
31-40	99	74	+ 25
41-50		incomplete information	
51-60	70	73	- 3
61 ⁺	29	34	- 5

Source: Kirkton & Denholm school registers.

When the two sets of records are considered together it would appear that it is only in the 50's and 60's that the parish has actually lost population (see table 35) and even then the net loss amounts to only eight families during the seventeen years.

Of the 23 families entering Cavers via Kirkton school records in the 1891 to 1900 decade, seven came from outwith Roxburgh County. These were from Edinburgh, Northumberland, Berwickshire and Selkirkshire. The remainder moved by and large only the short distance from adjacent parishes. This was the picture in the first and second decade of this century, with areas of origin both within and outwith the county becoming more and more widespread. Nearly 40 per cent of those who have moved into the parish in the twenties and thirties came from outside the county. Selkirk county accounted for many of these, but other places of origin were scattered throughout east central and southern Scotland. Within county movement during this period was concentrated on the area around Cavers.

Two of the nine families who left the parish according to the Kirkton records between 1898 and 1900 left the county altogether, one to Edinburgh and the other to Glasgow. A further three left the district, to unrecorded destinations and four moved to the nearest urbanised parish, Hawick. Edinburgh and Hawick continued to be important receiving areas in the first decade of this century, when of a total of seventeen families leaving Cavers, two went to Edinburgh and seven to Hawick. Two families are recorded as going overseas during this period, both to America. The following decade is one in which eight out of thirty three out-migrant families left the county. Edinburgh is no longer listed as a destination, three families moved to Selkirkshire, one to Dumfries, one to Berwickshire, and the other

three left the country, again two to America, and one to Australia also. Of those moving to other parts of Roxburghshire, Hawick was again the main receiving area with five families moving from Cavers to it during the ten year period.

By the 1921-30 decade Edinburgh and district had once more become established as a receiving area (see fig. 54) and with the exception of one family who moved to Australia, Selkirk, County was the only other known destination of migrants from Cavers. Within county movement lost its concentration on Hawick during this period. From 1931 until the school closed in the early forties, Kirkton records indicate that within county movement was more important than migration outwith Roxburghshire altogether. Edinburgh, Kirkcaldy, Ashkirk and England account for the four families who left the county; the remainder showed a marked tendency to have destinations within the immediate vicinity of Cavers.

Areas of origin and destination as revealed by Denholm school registers are slightly different from those already described for this parish. According to them only one sixth of the families entering Cavers in the last decade of the 19th century came from outside Roxburgh county altogether, mainly from the Edinburgh area. The remainder exhibited the characteristic movement from adjacent parishes typical of the period, and in particular from Hawick.

Between 25 and 30 per cent of those entering the parish in the decades 1901-1910 and 1911-1920 moved from areas outwith the county.

Many came from Berwickshire and Selkirkshire, but for the remainder Edinburgh and Glasgow were the main places of origin. Of those entering Cavers from other parts of Roxburghshire Hawick continued to provide the greater number, but with this exception the parishes from which people moved were not adjacent to Cavers.

During the thirties and forties the proportion entering the county remained the same, and Central Scotland, Berwickshire and Selkirkshire accounted for most of them. Within county movement again showed no concentration on the surrounding parishes and Hawick lost its pre-eminence as the provider of people for Cavers.

Nearly 70 per cent of the in-migrant's families in the 1957-60 decade came from places outwith the county, Duns, Dumfries, Edinburgh area, N. Lanarkshire, and N. E. England being notable among them. Those who came from other parts of the county were from locations within the whole area, and not from any single place within Roxburghshire.

Approximately half of those entering the parish since 1961 have come from outwith Roxburghshire, in particular from the other two counties with which this thesis is concerned, the remainder coming from diverse points within the country (see fig. 54). The 50 per cent who moved from other parts of the county show no single area of origin but come from places spread throughout Roxburghshire.

Denholm records yield less precise information about out-migration than in-migration, as in many instances a change of

residence is noted but the location of the new one is not. 50 per cent of those leaving Cavers between 1891 and 1900 have no destinations noted. A further 25 per cent left the county and the remainder moved the short distance to adjacent parishes (see fig. 56).

In the first decade of this century, the picture was still the same; one quarter of the out-migrant families left the county, for Central Scotland in particular and a wide spread of other destinations within Britain. Two families emigrated, one to Canada and the other to the U. S. The within county movement was focused primarily on Hawick, and the other parishes adjacent to Cavers.

40 per cent of those moving from Cavers in the period 1921-1930 left Roxburgh County. Their destinations were primarily in Berwick or Selkirk Counties or in Central Scotland. For the remainder Hawick continued to be an important focus, but those who did not move there showed no other specific preference within the county and moved to places in every part of Roxburghshire.

The following two decades saw 50 per cent of the out-migrant families leaving the county altogether, with in 1931-1940 Edinburgh and district and industrial centres throughout Britain acting as receiving areas; and in 1941-1950 Berwickshire, and the Edinburgh area absorbing most of them (see fig. 56). For those families who did not leave the county, destinations became more and more widespread in this period, with no concentration on Hawick being evident.

Since 1951 the proportion leaving the county has been on the increase. Edinburgh and N. Lanarkshire were important destinations in the fifties, together with a wide distribution to other industrial centres in Britain: in the sixties the counties round about have come to the fore as receivers of migrant families from Cavers. Movement within Roxburgh has been scattered, and no single destination stands out (see fig. 56).

Migration to and from Cavers parish as revealed by these two sets of school registers is a very complex process. However certain features stand out. The first of these is that this is an area where in-migration has been dominant: and secondly it is an area which has shown much interaction with the neighbouring parish, Hawick.

Otherwise the parish exhibits the trends which the previous ones studied show, of out-migration occurring over greater distances than in-migration; and of distances for the two increasing as one moves from the 19th century to the present day.

Ednam Parish

Ednam parish, in north-eastern ^{Roxburghshire,} ~~Berwickshire,~~ is situated on both sides of the river Eden, from which it takes its name. The land of the parish is entirely devoted to arable cultivation, with sheep and cattle rearing forming an important part of the economy.

In 1861 there was one village in the parish, Ednam, with 166 inhabitants, and this had dropped to 140 by 1961. Employment

within the parish has been entirely agricultural, the village at no time providing service employment for more than a handful of people.

For Ednam parish, school registers exist from 1873 until 1967, with in-migration information for the whole period except for the years 1908 and 1909, and out-migration only since 1941.

In-migration declined from thirty-nine in 1873 to eight in 1885, rose again to fifteen in 1886 and remained relatively static at this rate until 1901 when twenty four families entered the parish; this was followed by a second peak of twenty five in 1904. There appears to have been a drop off in the numbers entering the parish after 1907 to the low rate of three in 1910. This is followed by a short phase of increase to nine in 1913 and 1914, then decline to no in-migrants in 1916. In-migration increased thereafter to a peak of eighteen families migrating to the parish in 1921. Sharp declines in the numbers entering the parish then occurred with ten in 1922, six in 1923 and 1924, eight in 1925 and four in 1926. From this date onwards the number of families entering the parish increased in number to fifteen in 1936 and 1938, and declined again to none in 1940. The forties saw another phase of increase in the number of in-migrants, which reached sixteen by 1948 and from then through the fifties the number of people entering the parish declined in number. In the sixties the number of migrants continued at a low rate.

Out migration increased from one in 1942 to eighteen in 1948, and for the following seven years fluctuated about sixteen per annum then dropped to two by 1958. It rose again to sixteen in 1961, remained

high with fourteen in 1962, thirteen in 1963, and then declined.

Table 36.

Ednam parish

Migrating families.

Period	In-migration	Out-migration	net gain/loss
1871-80	193		
81-90	154		
91-1900	128		
1901-10	128		
11-20	67		
21-30	88		
31-40	104		
41-50	68	66	+ 2
51-60	59	83	- 24
61 ⁺	14	50	- 36

Source: Ednam school registers.

The map (fig. 58) illustrating in-migration to the parish in the 1871-80 decade shows that of the 193 families moving in the ten year period roughly 50 per cent came from places outside Roxburgh. Of these, however, many came from the adjacent parishes over the county boundary in Berwickshire and so in-migration to Ednam in the early period is every bit as localised as it was for the parishes already studied. During the following two decades approximately 60 per

cent of the in-migrants had their origins outwith Roxburgh county. The distribution of places of origin is shown on map (fig. 58) and these maps (for the decades 1871-80, 1881-90, 1891-1900) reveal that people moving into Ednam covered greater distances in each successive 10-year period. This is true both for the proportion of families coming from outside Roxburghshire, and for the families moving from other parts of the county.

During the first decade of this century it continued to be the case that approximately 60 per cent of the in-migrants crossed the county boundary mainly from Berwickshire; but Edinburgh and district and N. E. England are also well represented. By 1911-1920 no appreciable increase in the proportion from outwith the county had taken place. The third coming from other parts of Roxburghshire continued the trend already established in the 19th century of a continually declining concentration on parishes adjacent to Ednam. Those from outwith the county, as was the case in the previous decade, came first and foremost from Berwickshire; and also from the other counties around Roxburghshire. In the following two decades, from 1921-1940, 50 per cent of the in-migrants came from other parts of the county: these continue to show less and less concentration on the area immediately adjacent to Ednam. The remaining 50 per cent again came mainly from Berwickshire, but the pre-eminence of the parishes on the other side of the county boundary from Ednam is less evident. Outwith Berwickshire there is no specific area of

origin which stands out on the map (fig. 58). The decade 1941-1950 is one in which only one-third of the migrating families moved from other parts of Roxburghshire to Ednam, and by this decade the spread of their areas of origin covered the whole county and showed no concentration on a specific area within it. The other 66 per cent came, once again, primarily from Berwickshire, from places scattered throughout the county, and also from Edinburgh and district and N. E. England.

Since 1951 the position has changed slightly. Two-thirds of the migrants were still coming from outside Roxburgh county, with Berwickshire and Edinburgh and its immediate vicinity supplying most of these. The other third exhibited a marked orientation: a large proportion of them came from Kelso (see fig. 58).

Out-migration during the 1941 to 1950 decade was dominantly within the county, some two thirds of those leaving Ednam moving to other parts of Roxburghshire. Kelso, by far, received the largest number. From the map (fig. 58) it can be seen that the remaining 33 per cent had widespread destinations within Britain. The period from 1950 saw a continuation of the tendency for Kelso to be the main destination of migrants from Ednam with almost 50 per cent of the families moving during the seventeen years going to this parish. Berwickshire and north-east England were the main receiving areas for the remainder of the migrants.

Since 1961 two families have emigrated to Australia, the only overseas movement to be recorded in the 104 years of the school's existence.

North Hawick Parish:- Clarilaw School.

The two basic industries of Roxburghshire are represented in this parish. Much of its southern section is devoted to sheep rearing, and the north is an arable-pastoral area. The town of Hawick is one of the main woollen centres of the Borders.

Clarilaw School lay north of Hawick, in the area of mixed agriculture. Employment for those families connected with it was therefore to be found in this industry, and (especially during the twentieth century) in the mills of Hawick.

Clarilaw School registers exist for the period 1874 to 1943, with in-migration being noted at all times, and out-migration for the years 1899 to 1925 and 1931 to 1943.

During the period 1874 to 1889 a number of peak years in terms of in-migrating families was separated by years with low rates; taken together these indicate a decline in the volume of movement into the parish.

The phase 1892 to 1919 is characterised by a series of increases and subsequent declines in the numbers of in-migrants: and from 1921 onwards the annual number of families entering the parish was lower than in the two periods already discussed, one or two per annum being normal, and several years having none.

Table 37.

Hawick Parish		Migrating families	
Period	In-migration	Out-migration	net gain/loss
1871-1880	34	No information	
81-90	20	No information	
91-1900	39	10	+29
1901-10	38	34	+ 4
11-20	43	40	+ 3
21-30	12	13	- 1
31-40	15	26	-11
41 [†]	2	11	- 9

Source: Clarilaw School Admission Registers.

Out-migration with regard to the northern district of Hawick parish also fluctuated, rising from one in 1899 to nine in 1900, then dropped to two in 1901 and 1902, before reaching a further peak of six, then five in 1903 and 1904. Between the years 1905 and 1911 when no families left the parish, two peaks occurred, five in 1907 and six in 1909. 1912 saw the highest annual exodus recorded in the Clarilaw records with ten families leaving the parish in that year. Subsequent peaks were 1915, 1917, 1919, 1920 and 1923, with five or six leaving during each of them; the intervening years had much lower rates (see fig. 59). In the thirties there was only one peak, seven in 1932, and since then the number of families leaving the parish has been very low.

In-migration was dominant until the twenties, with the number of families entering and leaving the parish each decade rising up till then. Thereafter both in- and out-migration involved fewer families and out-migration was the dominant process. (see table 37).

Prior to 1900 in-migrants from outside Roxburghshire formed only a very small proportion of those entering the parish, 6 in 1871-80, 5 in 1881-90, and 6 in 1891-1900. Two from Langholm, one from Dumfriesshire, one from Stirling and one from Edinburgh are the only ones from outwith the study area of this thesis. Within county movement in these three decades is dominated by migration from adjacent parishes.

During the first decade of the 20th century approximately 20 per cent of the migrants entering the parish crossed the county boundary, and over half of these came from Berwickshire or Selkirkshire, the remainder being from Dumfriesshire. The proportion of migrant families from other parts of Roxburghshire came, as can be seen on the map (fig. 60), primarily from the area around the parish, in particular from southern Hawick, Covers, Hobkirk, Bowden and Lilliesleaf. In the same period out-migration was characterised by almost fifty per cent of those leaving the parish leaving the county also, mainly to destinations in Berwick, Selkirk and Peebles counties, with Dumfries, Coatbridge, Carlisle and Midlothian also being mentioned. Of the remainder, the tendency, as with in-migration,

was to move only short distances and Southern Hawick, Cavers and Lilliesleaf each received a significant number of the within county migrants.

The situation was very similar in the 1910's with the adjacent parishes still accounting for most of the in- and out-migrants. The remainder of the in-migrants, some 25 per cent, tended to show a wider spread of places of origin than in the 1900's although again most came from within the study area. A much lower proportion, (one-seventh) of the out-migrants than in the previous decade left the county altogether - the majority had destinations in the adjacent parishes.

Two-thirds of the in-migrants in the twenties came from outside Roxburghshire, but Dumfriesshire was the only area of origin noted which was outwith the three counties, Berwick, Roxburgh and Selkirk. Twenty-five per cent of the parish out-migrants left the county, and for the remainder destinations within Roxburghshire were much more widespread than previously.

1931-40 saw some 50 per cent of the in-migrants and 40 per cent of the out-migrants coming from or going to places outside Roxburgh County. With the exception of a family from Galashiels and one from Ashkirk in-migrants moved from widely dispersed points within Central and Southern Scotland, namely Midlothian, Bathgate, Langholm, Dumfriesshire and Perthshire. The out-migrants in this category moved, with few exceptions, to Berwick

and Selkirk Counties. Within county movement in the period emphasised the trend already noted in the previous decade towards a wider dispersal of areas of origin and destination.

As with the other parishes studied, this is again, on balance, an area of out-migration. On the bases of the school registers, movement has tended to be fairly localised, the highest proportion of migrants coming from or going to adjacent parishes; and throughout the period 1874 to 1943 most of it has been confined to the area of the three counties.

For the parishes already studied migration has exhibited several common features. Areas of origin and areas of destination within any one ten-year period are different; and over the period for which records are available origin areas vary. Destinations however, especially those outwith the three counties, are fairly constant, i. e. Central and S. W. Scotland, and N. England, both east and west.

A fact which does not clearly emerge from the annual figures and the origin and destination maps, but which is revealed by the school records is that movement within the area is continuous in time and space. . . . there is an ebb and flow which is much greater in volume than the migration outwith the area all together. The population is extremely mobile, but this mobility has not always resulted in a decline in the number of families living in the area; often it has resulted in a redistribution of the same number of people within a given unit.

From a study of the school registers it would appear that in the period prior to 1910 there was very great mobility, mobility which followed set lines. Unfortunately it has not been possible conclusively to prove the following statements as there is not a complete coverage for the whole area in the school records available.

None-the-less it is worthwhile to note that families appear to have moved around in a definite circuit;

- i. e. child registered at A, register records move to B
- child registered at B, register records move to C
- child registered at D, register indicates came from C,
register records move to A

The above situation may indicate the progression of a family from A to B to C to D and back to A the missing register makes this but an inference (as the child registered at D may not be the same one as at A and B) but the fact that such a "movement" can be traced time and again tends to substantiate the idea that internal migration did have a set pattern, and was not completely haphazard. Of course, each family had a totally different circuit, and moved from place to place at different times of the year in fact, in some cases the migration was not continuous but indicated a movement round a set number of farms, in no particular order.

Family Movement

Example 1	Family A	Year	Address	Year	Address	Year	Address
	Old Belses, Ancrum	1906		1907	Mossburford Jedburgh	1911*	New Belses Ancrum

* Ancrum school record in 1911 indicates that family came from Minto.

Example 2	Family B	Year	Address	Year	Address	Year	Address
	Hopton Ancrum	1906		1908	Rawflat Ancrum	1914	Hopton Ancrum

Example 3	Family C	Year	Address	Year	Address	Year	Address
	Kirkton sch.	1897	Ormiston	1900	Honeyburn	1901	Effledge
			Denholm		Denholm		Denholm
							sch.
							sch.

* Kirkton school record indicates that family came from Hobkirk.

Example 4	Family D	Year	Address	Year	Address	Year	Address
	Clarilaw sch.	1893*	New houses	1896	Whitriggs**	1897	Burnhead
			Clarilaw		Denholm sch.		Clarilaw
							sch.
							sch.

* Clarilaw school record indicates that family moved to Fogo in Berwickshire in 1894

** Denholm school record indicates that family came from Bedrule parish

It should be mentioned that these are not seasonal migrations, as any one family would stay for periods of differing lengths at each location. (Table 38). Again, within these parishes at least, it does not appear from the records that movement was greater at any one time during the school year than at others; families moved in differing months.

It should not be thought that all, or even the majority of families moved in this manner; a study of the records indicates that only a small proportion of migrating families were of the above type.

Castleton Parish: Saughtree, Hermitage and Riccarton Schools.

The economic structure, and the migrational trends for Castleton parish differ slightly from those parishes already discussed, and so a separate and full treatment of the data available for this parish was made.

Castleton parish in southern Roxburghshire consists of part of the valley of the Liddel Water, surrounded by upland which reaches elevations of over 2,000 feet. It is a sheeprearing parish, and its main centre Newcastleton was created at the end of the eighteenth century as a weaving town. In this centre in 1861 there were 1,124 people who were occupied in the cottage industry and in the various commercial and retail services which the town supplied both for its own population and that of the surrounding area.

The Waverley line from Hawick to Carlisle passed through the parish, and its construction and maintenance afforded employment

to many people. A further source of employment in recent years has been produced by the planting of Newcastleton and Whitrope forests within the bounds of the parish.

In 1961 there were 927 people in Newcastle^{ton}, and those who did not work in the service activities of the town, travelled elsewhere for employment: many women work in the mills in Hawick.

Three sets of school records are available for Castleton parish, those for Saughtree, Riccarton and Hermitage, all in the northern part of the parish. Those for Saughtree and Hermitage cover a relatively short period and will be dealt with first.

Saughtree was a typical rural school, and exhibits migrational patterns which broadly conform to those already discussed for the other parishes in Roxburgh. In-migration fell in numbers from the initiation of the school in 1938 when five families came into Castleton parish to only one in 1941. The forties were a period of increase to four in 1944, decline to one in 1947 up to five in 1948 and down again to one by 1950. From then until the school's closing in 1963 in-migration was spasmodic, with several years having none at all. (See fig. 61).

Out-migration was irregular in occurrence in the first few years of the school's existence; two families left the parish in 1939 and 1940, none in 1941, and four in 1942; thereafter there was no further out-migration until 1946, and in that year two families moved from Castleton. From then until 1956 there was a phase of increase

followed by decline, 1947 with 7 families leaving the parish, 1948 with 5, 1949 with 9, 1950 with 7, 1951 and 1952 with 6, 1953 with 5, 1954 and 1955 with 3, and 1956 with 1. This was the most significant period of out-migration in the school's short history. With the exception of five out-migrant families in 1958, movement out of the parish was low for the remainder of the time period. The table shows that out-migration for the period far exceeded in-migration except during the first three years of the school's existence.

Table 39.

Castleton Parish	Migrating families			
	Period	In-migration	Out-migration	Net increase/ decline
	1938-40	12	4	+ 8
	41-50	24	53	- 29
	51-60	13	36	- 23
	61 [†]	1	5	- 4

Source: Saughtree School Admission Registers.

In the three years 1938-40 two thirds of the migrants entering the parish did not come from other parts of the county; N. England was the chief area of origin, accounting for half of these. During the forties this proportion was retained, with the greater part of the 66 per cent coming from Berwickshire, Selkirkshire, and N. England. Those from within the county moved only the short distances south from Teviothead, Jedburgh or from other parts of Newcastleton. By

the fifties almost all of those entering the parish had their origins outside the county - Melrose and Bingham accounted for the only within county movers. The remainder again came from places in the surrounding counties in both England and Scotland.

Out-migrants between 1938 and 1940 had four destinations; one family went to Hawick, and the remaining three left the county, one to Canonbie, one to Kielder, and one to Auchterarder. 1941-50 was a period during which over half of the out-migrating families left the county to places in S. Scotland and N. England (see fig. 62). 70 per cent of those who did not leave Roxburghshire moved into Newcastleton village, and the other 30 per cent had destinations mainly in the adjacent parishes.

The fifties saw the proportion leaving the county altogether declining to 30 per cent, and there was a corresponding contraction in the area throughout which these migrants dispersed. Most of them had destinations in Berwick and Selkirk counties, in Dumfriesshire and N. E. England. Of the remaining 70 per cent, something like three quarters moved into Newcastleton continuing the trend started in the forties.

From 1961 to the closing of the school 80 per cent of the out-migrants left the county completely, in other words one family went to North Berwick, one to Stanford, one to Dumfries and one to Ettrick Bridge End. The one family to move, who did not leave the county, went to Newcastleton.

The maps (fig. 62) show that out-migration was over greater distances than in-migration, and that a significantly higher proportion of it was to areas outwith the three counties.

Hermitage school registers exist for the period 1937 to 1952. In-migration to Castleton parish as evidenced by these records showed three very minor periods of activity. One family entered the parish in 1937, two in 1938, four in 1939 and this dropped again to one in 1940. A second phase then started with six families moving into the parish in 1941, a peak which was not achieved again in the history of this school and dropped to one in 1943. 1945, 1946, 1947 and 1948 saw the only other years during which in-movement was in any way significant with three, two, three and two families respectively.

Table 40.

Castleton Parish	Migrating families.		
	In-migration	Out-migration	net gain/loss
1938-40	8	2	+ 6
41-50	22	18	+ 4
51 [†]	2	1	+ 1

Source: Hermitage school admission registers.

The graph (fig. 63) shows that every second year or so there was the peak of three out-migrants, and between these there was little movement.

Prior to 1940, three migrants entered the parish from outwith Roxburgh County and the other five came from places close to the school. The two out-migrants left the county for destinations in the S. W., namely Lockerbie and Dumfries.

About 60 per cent of the in-migrant families in the forties came from outside Roxburghshire, mainly from the area to the west and south. Those from within the county, as can be seen on map (fig. 64) were short distance movers from the parishes to the north and from other parts of Castleton.

In the same period 80 per cent of the out-migrants left not only the parish but the county. Destinations were first and foremost Selkirkshire and the south west; and Central Scotland and N. E. England were also represented. The 20 per cent remaining in the county went to destinations scattered throughout its whole area.

The two years of the fifties have three recorded migrants; two entering one from another part of the parish and one from Stow, and one leaving for Haddington.

This is the only school for which records exist that shows a net gain during its existence.

Riccarton school registers cover the period from 1878 to 1961, but are very incomplete prior to 1900. From 1901 to 1910 they cover in-migrants, but give no indication of out-migration. Thereafter the records are more or less complete for both in- and out-movement.

Table 41.

Castleton Parish Migrating families.

Period	In-migration	Out-migration	net gain/loss
1878-80	1	no information	
81-90	3	no information	
91-1900	0	no information	
1901-10	11	no information	
11-20	15	8	+ 7
21-30	20	18	+ 2
31-40	30	50	- 20
41-50	11	40	- 29
51-60	12	38	- 26
61 ⁺	0	1	- 1

Source: Riccarton School Admission Registers.

In-migration increased and declined from 1905 to 1915, with three families entering the parish in 1907 and 1908, four in 1911, and three in 1912 and 1914. Then followed a long period of stagnation with one in-migrant each year between 1916 and 1930, broken only by peaks of three in 1922, four in 1923, and six in 1927. 1931 was the year of maximum entry (nine) of families connected with Riccarton school. This was followed by none in 1932, one in 1933, five in 1934 and none in 1935 and 1936: and was succeeded by a phase of increase to eight in 1938 and subsequent decline to none in 1942 and

1943. Thereafter in-migration continued at a low rate with few years having more than one or two families entering the parish.

Prior to 1929 out-migration proceeded at a low and spasmodic rate. The first few years of the thirties saw another phase of increase and decline, and this was followed by the maximum peak exodus of ten in 1940. From 1943 onwards out-migration was consistently high compared with previous years and with the rates for in-migration during the same period.

From this it can be seen that the movement out is concentrated in the period from 1930 to the present day, that is beginning five or six years sooner than at Saughtree. But much more interesting than this is the fact, which is masked by the total figures that in any one school year from 1878 there is almost a one hundred per cent change in the pupils registered as attending the school i. e. few children registered in August were still there the following August. This indicates a very high "turnover" of families in the surrounding area, and means that the majority spent less than a year in the district.

Origins of those entering the parish have varied over time. 50 per cent of the in-migrating families in the 1911-20 decade had their origins outside the county. The remainder came from places all over Roxburghshire. 25 per cent of the out-migrants during the same period left the county, a further 40 per cent had unstated destinations, and the others moved to Hawick.

Within-county migrants in the twenties moved primarily from the Hawick district or from other parts of Newcastleton, and the 30 per cent who came from other parts of the country were from a wide area. At the same time 40 per cent of the out-migrants left the county, to Central Scotland and N. England; and the within-county ones showed a concentration on Hawick district and Newcastleton, as did the in-migrants (see fig. 66).

50 per cent of in-migrants in the thirties came from outside Roxburghshire and 55 per cent of the out-migrants left it. Origins and destinations for these show a concentration on East Central Scotland and N. W. England. Within county migrants were from Hawick and Newcastleton and movement out was predominantly to Hawick.

In the ten years 1941-50 90 per cent of the in-migrants crossed the county boundary, and 40 per cent of those leaving Castleton also did so. Their origins and destinations show a similar concentration to that of the thirties. Migration to other parts of Roxburghshire was dominated by movement to Newcastleton; and there was a slight distribution throughout the rest of the County.

The fifties saw a decline in the proportion coming from outwith the county to Castleton parish, from a much wider spread of places than in previous decades. There is no evidence of a concentration on Edinburgh and N. W. England. Nearly one third of those families moving away according to Riccarton records, left the county, des-

tinations showing a reasonably close approximation to those of previous decades, with E. Central Scotland and the S. W. Scotland/ N. E. England area being prominent. Within county destinations concentrated on Hawick and St. Boswells (see fig. 66).

From the maps it can be seen that the origins and destinations of migrating families connected with Riccarton school are exotic in the context of Border migration. Most of these are, for one thing, outside the three counties: while there is a tendency for the origins and destinations to be concentrated in either Central Scotland or Northern England (east and west), a much higher proportion of them come from or go to places in other parts of Britain - from Inverness-shire to Essex.

This unusual migrational pattern can only be explained in the context of Riccarton itself. This was a railway junction and marshalling yard, and as such, drew its labour force from a wide area, labour which in itself (mainly of Irish origin) was highly mobile, doing a job which necessitated movement about the countryside.

From the school records available it can be seen that the migration process is very complex, but it has the following salient features:-

- 1) in-migration last century was mainly from parishes adjacent to the one being studied
- 2) in-migration prior to 1930 was confined to parishes within the three counties
- 3) since 1940 some in-migrants have come from outwith the thesis area

- 4) in-migration has always been over shorter distances than out-migration
- 5) out-migration last century was mainly to destinations within the three counties
- 6) at the turn of the century, and for most of this century, out-migration from the parishes has been to destinations outwith the Borders completely, mainly to Central Scotland, in particular the Edinburgh district, and to N. England.

In all the preceding discussion of migration to and from parishes, within the three counties, and to other areas, it has not been possible to draw any conclusions about the types of people moving, or why they moved. What emerges clearly from this study of population "in vacuo" is that net migration figures, while valuable aids in explaining differential rates of population growth, and temporal fluctuations in these rates, conceal the complex ebb and flow of actual population movements. Additional information such as birth place data, age and sex of migrants, and the distances covered by migratory families indicated by school records, is helpful in assisting in the interpretation of migration patterns. At this point in the study it may be tentatively suggested that in these three counties we are dealing with movement of young adults of both sexes, and with family movement, that is movement including children of school age.

Such net out-migration as has been established is detrimental to the population growth of the area as the movement out of young people has its effects on the fertility of the following generation. The effects of migration make themselves felt long after the movement of people has taken place. The selectivity of migration has affected the economic and social life of the area by altering the proportion of dependants to economically active population (see previous chapter - ageing of the population): or is it the case that changing economic and social conditions have promoted selective migrations? Cause and effect are very clearly intertwined in this aspect of population research.

In a later chapter when the findings of a questionnaire survey carried out in a number of parishes in the area are considered, an appraisal of migration motivation and "cause-and-effect" factors will be made.

CHAPTER III

The economic and social aspects of change.

In this chapter emphasis will be placed on the reciprocity of relationships between population and the economic and social environment of the area between 1850 and the present time.

Population itself has been dealt with in previous sections, and before attempting to relate demographic trends to external factors a detailed study of these factors must be made. The size and distribution of the labour force, and the characteristics of its members, can provide much information about the economic and social well-being of an area at a given moment, and can reveal how the population has organised itself to earn its livelihood. Equally important and interesting are changes in the size, distribution, or composition of the labour force, because such changes reflect shifts in the level of economic activity and disclose new patterns of economic and social organisation.

It is too much to hope that the entire set of data (1851-1961) could be summarised in a neat formula representing a smooth evolution of occupation structure: certain problems had to be overcome first.

TABLE 42
SCOTLAND: MALE LABOUR FORCE

	1861	1871	1881	1891	1901	1911	1921	1931	1951	1961	
	22,040	26,285	28,747	28,273	27,451	34,390	24,673	21,585	19,671	20,040	fishing
	234,252	192,130	224,322	190,769	169,130	166,770	159,305	160,545	162,431	161,987	agriculture
	134,987	164,613	177,761	211,250	130,838	178,429	175,000	144,179	140,019	138,179	mining
	190,603	226,509	378,914	411,038	636,995	507,019	561,002	531,242	540,111	557,603	manufacture
	87,642	79,406	70,796	73,333	64,919	67,529	55,898	56,090	55,098	54,232	textiles
	51,817	47,218	48,493	46,415	45,694	60,766	25,716	18,808	16,711	15,037	clothing
	-	-	-	-	-	3,077	15,647	16,807	18,792	19,213	(water gas electricity)
	54,970	68,783	83,192	117,082	155,125	87,680	148,237	146,350	141,287	142,713	transport
	172,750	34,050	43,551	53,594	66,454	225,432	168,992	229,118	251,107	263,178	(commerce finance retail)
	44,796	45,146	65,499	75,532	67,827	50,735	132,297	151,420	162,737	164,382	(administrative defence professional)
	14,191	21,813	25,929	13,102	26,755	51,215	54,477	66,343	68,728	69,027	personal
	1,008,049	905,953	1,147,204	1,220,388	1,391,188	1,433,042	1,520,634	1,542,407	1,576,792	1,605,591	Total

Labour force concepts were first introduced into Census collection of data in 1911; before that time a more general enquiry concerning "usual occupation" had been used to obtain information about the country's working force. Because of this the "gainful workers" who were reported as a result of this questioning were not necessarily working or actively seeking work at the time of the census: these totals also included dependants. When the latter are subtracted from the totals for each occupation the number of workers according to the old and the new definitions correspond rather well. Another factor which posed problems in obtaining information about the work force was that of the classification of occupations - this problem was simplified by confining attention to major occupation groups (table 42) and overlooking the sometimes marked heterogeneity of specific pursuits subsumed within these general categories. Changes in census procedures and classifications have rendered the attainment of strict comparability impossible and the totals shown in the table embody not only errors in census compilation but also unknown errors introduced in the adjustment procedure.

Aside from the fallibility of the data as such, some more or less paradoxical findings must be expected, owing to the fact that the very meaning of the occupation categories may change substantially over time.

Apart from these sources of disturbance, the data reflect not only the hypothetical "underlying trends" or progressive evolution of the occupation structure but also the particular circumstances of the years to which the data refer.

The most conspicuous trend during the last 100 years has been the very large increase in the nation's work force (table 42). The male labour force fell from 1,008,049 in 1861 to 905,953 in 1871 but since that date, has risen steadily, the greatest rate of increase being in the decades 1871 to 1881 and 1891 to 1901. The total numbers of women in the labour force fell, as it did for men, between 1861 and 1871, the 1861 figure not being surpassed again until 1891. Thereafter the number of women employed rose steadily decade by decade.

TABLE 43

Berwick, Roxburgh and Selkirk Counties - Male Labour Force

	1861	1871	1881	1891	1901	1911	1921	1931	1951	1961	
465	586	676	637	642	730	594	421	380	220	220	fishing
12,133	11,471	10,426	10,599	9,388	9,275	9,357	8,836	7,711	6,920	6,920	agriculture
3,101	1,063	1,524	1,587	210	268	172	150	146	100	100	mining
5,446	5,942	9,190	7,658	7,542	4,650	4,952	4,721	4,691	4,800	4,800	manufacture
2,685	4,339	4,637	6,011	5,025	5,869	5,295	5,830	5,211	4,930	4,930	textiles
2,532	1,810	2,445	2,129	1,220	1,319	667	321	267	40	40	clothing
-	-	-	-	89	104	168	207	239	380	380	{ water, gas, electricity
817	866	759	1,539	2,152	1,579	1,994	1,684	1,553	1,490	1,490	transport
432	985	983	1,188	1,187	2,689	3,575	3,860	3,627	3,300	3,300	{ commerce finance retail
1,191	1,194	1,453	1,560	1,562	2,246	2,487	2,400	2,324	2,290	2,290	{ administrative defence professional
833	1,060	1,345	235	1,231	2,285	2,213	2,008	1,989	1,780	1,780	personal
29,635	30,839	33,438	33,143	30,248	31,144	31,474	30,438	28,138	26,250	26,250	Total

This trend of overall expansion in the labour force is absent when the figures of those employed within Berwick, Roxburgh and Selkirk counties are considered (table 43). Here the overall increase which has been experienced by the country has been substituted by one in which periods of decline are characteristic.

Male employment totals for the three counties had their peak in 1881 when the labour force numbered 33,438. For women the numbers rose to 1891 when 18,285 were employed. In both instances the peaks were followed by very slow decline to 1931, and a much steeper fall to 1961.

Each county exhibits trends which are different from this overall situation. In Berwickshire male employment rose very slightly between 1861 and 1881 from 10,265 to 10,447; it then entered a phase of slow decrease in numbers to 1911 when the labour force totalled 9,162. 1921, with 9,569 men working was a second peak, from which the number of men in the labour force has declined more rapidly to 6,760 in 1961. Female employment in Berwickshire declined more markedly than the male sector (see fig. 67), from 5,641 in 1861 to 4,640 in 1891, and then a sharp drop to 2,540 in 1901; this was followed by a period of recovery from then until 1931 with 3,533 women working in 1911 and 3,529 in 1921. Thereafter, as with male employment in Berwickshire, the female labour-force declined to 1961 when it totalled 2,430.

Male employment in Roxburghshire has declined slightly during the 1851 - 1961 period. 1861 to 1871 was the first phase of this trend when the male labour force total dropped from 16,464 to 13,147; a period of recovery followed with totals of 15,355 and 15,312 being recorded for 1881 and 1891 respectively. This was succeeded by a further decline in 1901 and 1911, by which time the number of men employed was 14,175; and then a slight rise to 14,483 in 1921 and 14,516 in 1931. Thereafter the work-force total went down to 13,180 by 1961. Female trends in this county are somewhat different. The total number employed declined abruptly, and then recovered between 1861 and 1891 with the female labour force totals being 7,652 in 1861, 6,436 in 1871, 7,350 in 1881 and 8,799 in 1891. This 1891 figure was the peak one for female employment in Roxburgh county, and from it the labour force declined slightly to 7,692 in 1911 and 7,734 in 1921, and then rose to 7,840 in 1931. As with all the employment figures so far considered, it then declined to 1961 when the number of women recorded as working was 7,040.

Selkirkshire's male employment totals rose rapidly from 2,916 in 1861 to the peak of 8,119 in 1891: this was followed by an abrupt drop to 6,842 in 1901, and then from the 7,807 figures for 1921 there has been a phase of decline to the 1961 total of 6,310. Female employment in the county showed the same rapid increase in numbers between 1861 and 1891, increasing from 1,496 to 4,846. As with male

employment there was a drop to 1901 when 4,357 women worked, and then a slight recovery to 4,459 in 1921. This was followed by a decrease in the numbers employed until 1931 when the female labour force numbered 4,121. The last thirty years have been a period of slight expansion for Selkirk County's female labour force, with the 1961 total being 4,400. This is the only part of the labour force of the three counties to exhibit any expansion in recent years (fig.69).

The Graphs (fig. 67, 68, 69) show the growth of population in each of the three counties and also the trends in their labour forces.

The decline in population in Berwickshire proceeded at a rate which was slower than the decrease in the female labour force. The lowering of men in active employment very closely approximates to the decreasing numbers in the population between 1861 and 1931, but from then until the present time the male labour force has contracted at a slightly faster rate than the population.

In Selkirkshire the curves for growth of population and numbers in the labour force have comparable forms. The rapid increase in employment for both men and women in the 1861 to 1871 period, continuing at a slower pace until 1891, was followed by a correspondingly large increase in population from 1871 to 1891. The fluctuations in male employment totals in the years 1901, 1911 and

and 1921 correspond to fluctuations in the total population and the overall contraction both of the population and the male labour force after 1931 parallel each other. Up until 1931 the female employment trends correspond to those for men and for the population, but the recent increase in the female labour force is not reflected in the trend of decline which the total population numbers have experienced.

The position in Roxburghshire is slightly different. Both male and female employment declined in the 1861 to 1871 period and then expanded to 1891 while the population total for the county grew throughout the thirty years. Between 1891 and 1921 the curves for male employment and population growth parallel each other, and the decline in women workers between 1901 and 1921 finds no expression in the curve of total population. After 1931 the number of men working dropped in each decennial period but the population grew until 1941 before entering a period of decline. The female labour force, like the male, contracted during this period.

It would seem from these graphs that changes in male employment and changes in the total population are connected, and that although slight fluctuations in one do not necessarily produce similar fluctuations in the other ^(Roxburgh, 1931-61) ~~(Roxb. 1931-61)~~ major changes do, as in Selkirkshire where a vast expansion in the labour force was followed by a similar expansion of the total population. This suggests

a link between the number of persons who are offering their services on the labour market (the total number of persons on the labour force) and the demand for labour services. Does a population grow naturally and by immigration to meet the demands of increasing the labour force in an area for some reason? Does a population contract, by emigration, because the demand at one point in time is less than it was previously? How do population and employment opportunity interact on each other? The remainder of this chapter will be devoted to a consideration of the economic changes which have taken place in the study area since 1861, so that an answer to these questions may be found.

Agriculture

The high proportion of persons who have been and still are employed in agriculture in the Tweed Basin justifies a brief examination of the past and present position of farming in that area. For simplicity this will be dealt with under two headings, namely structure of the farm labour force from 1861 to 1961 and the changes in farm economics for the same period

"An interesting aspect of agricultural history about which we have little information is the size and composition of the agricultural labour force. Some general impressions may be obtained from records of specific farms or estates at certain dates, but comprehensive information for an extensive area (like the three counties this thesis covers) which would allow regional comparisons within

the area to be made, is less frequently available.

It was not until 1921 that farmers were required to indicate on returns how many labourers were employed, and even this information is not so full as we would wish, for no distinction was made between different types of workers, and members of the farmer's own family were not included".¹

Sheppard states that there is one source of information concerning the agricultural labour force which can be used to give a reasonably detailed and accurate picture of conditions in the middle years of the 19th century. This is the manuscript books of the enumerators for the census of 1861 onwards. Unfortunately a close study of these books for the three counties being dealt with in this thesis has not revealed the wealth of data which Sheppard managed to extract for East Yorkshire, as in the Scottish books only the farmer himself is designated (and this only at the discretion of the enumerator) and servants are not in any way singled out as domestic or agricultural.

Thus it was necessary to use the published reports of the census, which give only a general picture of agricultural employment in each of the counties and do not give information to a smaller area

¹ Sheppard J.A., East Yorkshire agricultural labour force in the mid nineteenth century, *Agri. Hist. Review*, vol. IX, 1961, (pp.43 - 54), P. 44.

unit than the county.

In Berwick and Roxburgh counties both male and female employment in agriculture has declined throughout the period the thesis is concerned with. For Berwickshire there were no periods of recovery in this overall trend in the male sector of the population, but the period from 1901 to 1921 shows a relatively static state with regard to the number of men employed, 4,170 in 1901, 4,135 in 1911 and 4,134 in 1921. Women agricultural workers in Berwickshire declined in numbers from 2,494 in 1861 to 1,771 in 1871, and then increased to 2,080 in 1881. From 1891 when there were 1,498 women working in this activity there has been a decrease in numbers to the present day, and in 1961 only 270 women sought employment in agriculture. Roxburgh county's male agricultural population fluctuated more in numbers than Berwickshire's. In 1861 5,624 men were employed in this industry, and this total reduced at each of the two succeeding decennial periods to 4,894 in 1871 and 4,776 in 1881. It then rose again very slightly to 1891 when it numbered 4,895 and from the 4,319 figure for 1901 until the 4,107 of 1931 it changed very little. Between 1931 and 1961 there has been a further downward trend, so that by 1961 agriculture employed 3,300 men. Female employment in this industry in Roxburgh county declined steadily from 2,347 in 1861 to 2,70 in 1961 with the period 1871 to 1881 having relatively stable conditions, 1,329 and 1,350 women working in agriculture at these dates (figs. 70, 71)

In Selkirkshire the position was rather different. Male employment in agriculture increased very slightly from 923 in 1861 to 1,060 in 1871 and then dropped to 983 in 1881 only to rise once more by a small amount to total 1,084 in 1891. From then until 1931 it declined very gently to 847 and more steeply to 640 by 1961. Female employment in this industry was also very small, amounting to 259 women in 1861 and showing a fluctuating decline from it to 50 in 1961. (see fig. 71) That the total numbers involved in this industry have since 1861 been small, and the decline over the period likewise small, may indicate that for the type of farm economy practised in Selkirkshire the optimum labour force size has been attained.

TABLE 44
Number Employed in Agriculture in selected Age Groups

	MALE					FEMALE							
	Under 20	20-24	25-34	35-64	over 65	under 20	20-24	25-34	35-64	over 65		total	
1861	1,065	714	1,102	2,225	450	5,556	759	506	438	665	126	2,494	Berwick County
1871	1,393	661	993	2,111	351	5,509	662	383	341	349	39	1,774	
1881	1,086	641	2,651		289	4,667	848	481	714		37	2,080	
1891	1,083	660	2,598		279	4,620	561	343	567		27	1,498	
1901	772	564	837	1,617	280	4,170	544	327	242	319	28	1,460	
1861	1,028	642	1,034	2,364	555	5,623	655	424	425	722	121	2,347	Roxburgh County
1871	786	624	925	2,194	373	4,902	724	234	143	185	44	1,330	
1881	994	589	2,802		388	4,773	475	285	559		33	1,352	
1891	997	649	2,889		360	4,895	368	224	483		30	1,105	
1901	827	559	834	1,787	312	4,319	311	268	380	143	41	1,053	
1861	251	78	137	378	79	923	105	26	37	72	19	259	Selkirk County
1871	378	223	170	299	90	1,160	41	29	24	30	2	126	
1881	220	181	511		71	983	59	41	59		13	172	
1891	206	145	655		78	1,084	43	19	33		3	98	
1901	158	122	188	361	70	899	26	27	42	25	1	121	

9/2/50

It is possible from the census returns of last century to obtain some idea of the age-structure of the agricultural labour force. Table 44 shows the number of men and women, by county, in each of four age-groups, who were employed in this industry.

High proportional losses from the younger age groups of both sexes are characteristic, as is the decline in the numbers of women aged 65 and over who work on farms. The decline in those aged 35 to 64 has not been so great, but the fact of greater proportionate loss among young people carries implications for future years, that is for the beginning of this century. The agriculturally employed population exhibits the trend of ageing which the total population showed by the 1890's. Employment in agriculture by age-groups is not recorded after 1901 so it is not possible to take these trends any further.

TABLE 45

Berwick, Roxburgh and Selkirk Counties - Employment Types

	SELKIRK					ROXBURGH						
	Under 20	20- 24	25- 34	35- 64	Over 65	Under 20	20- 24	25- 34	35- 64	Over 65		
1861	0	2	12	66	29	5	16	81	428	159	{ farmer grazier bailiff manager worker	
	1	0	10	17	1	0	4	36	164	14		
	250	76	115	295	49	1023	618	918	1796	361		
1871	1	7	19	77	30	2	11	68	368	119	{ farmer grazier bailiff manager worker	
	0	1	8	22	2	0	3	30	138	12		
	377	215	143	200	58	784	610	827	1688	241		
1881	0	4	99	29	29	2	9	429	118	118	{ farmer grazier bailiff manager worker	
	0	0	26	7	7	0	5	143	15	15		
	220	177	386	35	35	992	575	2233	255	255		
1891	0	4	89	20	20	4	11	405	129	129	{ farmer grazier bailiff manager worker	
	0	0	24	1	1	0	0	177	10	10		
	206	141	542	57	57	993	636	2307	221	221		
1901	1	4	13	76	18	0	2	64	360	136	{ farmer grazier bailiff manager worker	
	0	0	5	21	4	0	6	32	169	16		
	157	118	170	264	8	827	551	738	1258	160		
	BERWICK											
1861	2	7	67	362	115	0	12	374	78	78	{ farmer grazier bailiff manager worker	1881
	1	3	44	157	14	0	3	178	14	14		
	1062	704	991	1706	321	1086	628	2099	197	197		
1871	1	16	74	332	107	3	7	367	91	91	{ farmer grazier bailiff manager worker	1891
	0	3	33	130	11	0	5	168	14	14		
	1392	642	886	1649	233	1080	648	2063	174	174		
						3	6	54	327	93	{ farmer grazier bailiff manager worker	1901
						0	5	36	177	17		
						769	558	747	1113	170		

The census does, however, supply one further set of information about those in agricultural employment during the 1861 - 1901 period. It divides them into several categories. Unfortunately these groupings are not constant from census to census so that for comparative purposes the only groupings which can be readily made are farmers and graziers, managers and bailiffs, and workers (see table 45). It is necessary at this point to state the meaning of each of these categories. In the first place "farmers and graziers" is synonymous with "farm operators", that is, it includes both owner - and tenant - operators. The distinction between owner and tenant is not clear in the census as the only 'owners' they list are 'land proprietor', that is those with considerable estates. These have throughout the period made up a constant 0.7, - 0.9 % of the group "farmers and graziers". The term 'workers' includes servants living in the farm house, living in tied cottages, and makes no distinction between ploughmen, cattlemen, shepherds, foresters, nursery men and so on.

The table shows that the overall decline in the numbers of people, of both sexes, working in agriculture is a result of the contraction in the employed labour force. It is also evident that within the "workers" category the main group declining are those under 25, and particularly under 20.

It is interesting to note the ages of those employed in different forms of agriculture. Information on this changed from census to census, but the two situations tabulated (46, 47) are fairly typical. The figures for male employment in Berwick in 1861, and Selkirkshire in 1871 show that although farmers ranged in age from the early twenties to the eighties, there was a preponderance in the forty to sixty-five age-group. Agricultural labourers and farm servants who make up most of the 'workers' total were somewhat different. The majority of these labourers were the heads of cottage households, and ranged in age from twenty-five to eighty, but the majority were under fifty. Apparently they entered into "yearly or half yearly engagements, coupled with an upstanding wage".²

²Pringle, R.H., The agricultural labourers of Scotland - then and now, Trans High. & Agri. Soc. Scot., 5th series, vol. VI, 1894 (pp. 238-270), P. 243.

TABLE 47
Agricultural Employment Selkirkshire (Male) 1871

0-	5-	10-	15-	20-	25-	35-	45-	55-	65-	75-	
17	22	27	14	11	9	1	1				land proprietor
											farmer/grazier
											farm bailiff
		18	51	48	87	66	70	47	25	6	agri. labourer (out)
		1	19	33	52	38	39	22	12	2	shepherd (out)
		6	59	28	15	6	10	4	1		farm servant (in)
											farmer's son
											woodman
											gardener
			3	6	15	11	10	11	6	3	nurseryman
			1	-	1	-	1	1			animals
				5	12	13	8	5	3		

Farm servants were hired and paid half yearly and received free board and lodging. Servants were unmarried, and on marriage changed their status to agricultural labourers. The average age of this class of agricultural worker was therefore low, ten to twenty.

Agricultural labourers and farm servants were the most numerous group within the farm labour force in the three counties, and as has already been indicated it was these workers who declined most in numbers in the 1861-1901 period. Having established the fact that a large proportion of this group were young people (see tables 46, 47) decline in workers implies a decline in the number of young people in the area.

TABLE 48

AGRICULTURAL EMPLOYMENTS, 1861-1961

1861		1871		1881		1891		1901		1911		1921		1931		1951		1961														
R	B	R	B	R	B	R	B	R	B	R	B	R	B	R	B	R	B	R	B													
5278	5344	855	4943	905	4230	4900	890	4137	4006	837	3554	3508	716	3434	3487	689	3805	3706	741	3517	3388	681	3124	2320	643	2873	2288	651	Farmer	Male		
2342	1492	259	1326	1770	126	1348	2078	172	1103	1730	97	1051	1459	119	857	657	88	710	838	55	483	535	40	367	381	38	351	269	47	Female		
222	178	46	244	171	69	176	58	71	419	275	185	255	169	84	249	50	78	149	64	53	140	61	64	123	52	50	103	47	51	Market	Male	
3	2	-	3	1	-	4	2	-	3	2	1	2	1	2	2	1	1	10	6	1	5	9	4	4	8	2	5	1	3	Gardener	Female	
129	64	22	101	74	11	178	92	12	133	123	38	176	131	44	165	112	33	136	116	32	32	6	-	34	2	-	28	4	-	Forestry	Male	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-3	-	-	-	-	-	-	-	-	-	Female
-	-	-	183	197	33	163	204	10	187	187	25	223	235	30	233	270	38	167	142	20	366	323	100	371	319	72	349	302	69	Management	Male	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	4	-	1	-	-	-	-	-	-1	-	-	Female		
-	-	-	46	35	-	29	13	-	19	29	-	111	127	27	166	142	55	106	77	5	52	59	2	51	49	1	29	23	2	Others	Male	
-	-	-	-	-	-	-	-	-	-	18	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Female

* B = Berwickshire

R = Roxburghshire

S = Selkirkshire

It is possible to classify agricultural employment into broad groups for the period 1861-1961 (table 48). From this the decline in the labour force in farming already indicated can be readily observed, as can a decline in the numbers employed in nurseries. Forestry employment increased until 1901 and since then has contracted; management, where the numbers employed had been falling during the 19th century has been expanding during the present century.

Most agricultural activities have therefore progressively decreased in labour-force numbers from 1861 until the present day. Those connected with farming constitute the largest section of this labour-force, and it is among them, especially the workers that declines have been greatest; the numbers aged less than 25 in the 1861-1901 period showed the greatest contraction, and if it is the case that this trend continued, then the labour force in this industry will have aged progressively during the period with which this thesis is concerned.

As has been indicated in chapter 2 the period from 1850 to the present day in Roxburgh, Berwick and Selkirk counties is one of agricultural evolution rather than revolution. During this period agricultural statistics are available from the Proceedings of the Royal Highland and Agricultural Society of Scotland, for the counties as a whole, and parish returns will be considered to give depth to the picture. Verbal descriptions of the conditions of agriculture in Berwick and Roxburgh counties for the period 1835-1860, and for

Selkirkshire for the period 1860 to 1881 are also contained in the journal. From these it is possible to obtain a fairly detailed picture of agriculture in the area during the last 120 years.

These sources indicate that Berwickshire was largely an arable county (as it still is) whereas farming activity in Roxburgh and Selkirk counties was mainly of a pastoral nature.

Apart from a few small holdings around towns, the arable farms in the three counties varied in size from 200 to 1,600 acres, with the average size being about 450 acres. Pastoral farms, on the other hand, varied in size from 600 to 3,000 acres with 1,800 acres being average. Sanderson writing on Berwick and Roxburgh counties in 1861 states that "pastoral farms are chiefly 'led' farms, or farms let to non-resident tenants. Tenants of arable farms are generally resident".³ Some idea of farm size may be obtained from the following statistics (table 49) compiled by MacDonald, describing the county of Selkirk in 1886. That there was some change in farm size over the period may be judged from the following remark made by MacDonald... "There are fewer crofts in the county than there were some 25 years ago, but there are still some to be met with. Farms vary in size up to 1,000 acres, several of the farmers occupy more than one holding"....

³ Sanderson, J., *Agriculture in Berwickshire and Roxburghshire*, *Trans. of High. & Agric. Soc. of Scot., New series*, 1861-63, (pp. 333-371), p. 352

and with reference to table 49..... "Less than 10 years previous there were some 140 farms in the first class, and fewer than at present in the second, which points to consolidation or extension of the larger holdings at the sacrifice of the smaller ones."⁴

TABLE 49

Selkirkshire 1886 : Farm Size

	50 acres and under	50-100 acres	100-300 acres	300-500 acres	500-1000 acres	Total
farms	120	24	31	11	15	201
average	1,468	1,934	5,154	4,051	10,623	23,230

Source MacDonald A., p. 108

From the available statistics on agricultural land use (table 49) in each of the three counties it can be seen that the catena that exists in terms of altitude, soil and rainfall from east to west within the area, is reflected in their agricultural practices.

During the latter part of the 19th century, the most valuable crop in the area as a whole was wheat, followed by barley. Oats occupied a larger area than any of the cereals.

⁴ MacDonald, A., The agriculture of the county of Selkirk. Trans High & Agri. Soc. Scot., 4th series, vol. XVIII, 1886 (pp. 69-123), p.108

The mode of harvesting grain was that generally adopted throughout Scotland. Sanderson has described it as follows; "On one farm is used the sickle, on another the scythe, and on a third the reaping machine. Binding the grain, so soon as cut, into well-balanced and not too tightly tied sheaves, and placing the sheaves into unhooded shocks, carrying the shocks when dry into the barn-yard, and building them into Orly-formed stacks, which usually turn out fifteen quarters of grain, embrace the more prominent harvest operations." ⁵

Turnips were the most prominent root crop, accounting for about one-sixth of the total acreage under rotation in each county.

From this description it can be seen that large amounts of labour would be required on an arable farm at the period (1861), and this is reflected in the employment statistics for the counties of Berwick and Roxburgh where this was the main form of agricultural activity (see fig. 72)

⁵ *ibid* 3, Sanderson, p. 117

TABLE 50

Berwickshire: Arable Crops

Berwickshire	1881	1901	1921	1951
Wheat	3,886	1,081	3,627	4,199
Barley	21,443	20,885	17,715	24,281
Oats	36,653	33,815	31,516	25,242
Rye	26	24	61	-
Mashlum	-	-	-	529
Beans	1,924	983	458	599
Peas	285	62	34	4
Mixed grain	-	-	1	214
Potatoes	3,033	2,205	2,714	4,265
Turnips	29,993	27,384	22,347	12,980
Mangolds	154	310	181	897
Sugar beet	-	-	-	1,180
Carrots	12	-	-	-
Cabbage	278	739	1,332	2,272
Veg. (human)	-	-	-	75
Vetches	822	614	378	345
Other green crops	-	3	-	-
Clover (rotation)	58,659	59,681	59,353	60,280
Perm. pasture	36,916	43,426	50,363	43,691
Flax	-	-	-	-*
Bare fallow	329	113	131	219
Small fruit	-	33	13	173*
Other crop	-	-	5	-

* incl. flax & others

The area of solely pastoral farms in Berwick and Roxburgh counties was confined to the Cheviots and Lammermuirs, the fells of Upper Teviot, and the Liddesdale hills. According to Sanderson, "this kind of farming has undergone little change for a long period, save that the area under it has greatly diminished, and is rapidly diminishing".

Farming in Selkirkshire was very similar, with arable on the low ground, and sheep rearing on the uplands. MacDonald describes it as follows :- "It (Selkirkshire) is largely cultivated in the lower districts, while almost every valley and glen is more or less populous. Along the valleys in the higher parts arable farming is also carried on to a considerable extent, but all above the town of Selkirk is essentially a pastoral district between Selkirk and Galashiels, and along the water of Caddow, a large breadth of hill-side has from time to time been brought under the plough".⁷

Selkirk has had a greater proportion of its total cultivated area under pasture than either of the other counties at all periods (fig. 72). For all three counties 1901 seems to have been a turning point, with the acreage under grass crops increasing to that date, while grain crops occupied a continually declining area in both Berwick and Roxburgh counties and remained almost stationary in Selkirkshire. Thereafter there was a levelling out in grass production, and a decline in the grain acreage, a decline which continued until after world war I.

7. *ibid* 4, MacDonald, p.74.

TABLE 51Roxburghshire: Arable Crops

Roxburghshire	1881	1901	1921	1951
wheat	1,448	289	583	3,050
barley	15,533	12,883	10,595	13,646
oats	33,684	28,414	27,728	24,765
rye	91	1	18	37
beans	645	256	137	403
peas	85	10	4	-
mashlum	-	-	-	271
mixed grain	-	-	3	93
potatoes	2,238	1,236	1,280	2,195
turnips	26,015	21,445	18,564	11,845
mangolds	56	49	44	659
sugar beet	-	-	-	737
carrots	4	-	-	-
cabbage	452	809	1,065	1,858
vetches	537	238	138	309
veg.(human)	-	-	-	74
rotm.(clover)	56,403	53,822	54,062	60,750
permanent pasture	43,720	62,514	62,326	50,022
flax etc.	-	56	57	293
bare fallow	697	60	17	150

The general trends in grain production are echoed when one looks at individual crops. The most striking change in the period up to 1901 is the fall, by over one-half, in the area under wheat. That this decline was rather less than for Scotland as a whole (60 - 70% Wetham⁸) in this crop may be ascribed to the fact that the south eastern counties had the most suitable climate for growing wheat. By the end of the 1870's however, wheat occupied less than 4% of the arable

8. Wetham, E. H.,

Prices and production in Scottish Farming, Scottish J. of Pol. Econ., vol. 9, 1962 (pp. 1 - 36), p. 23.

area, and only 10% of the area devoted to barley and oats in Scotland; in the area which this thesis covers the percentages were 3 and 4 respectively. Thus it was that the Scottish farmers were much less affected by the fall in prices in wheat from 1875 on than the English arable farmers who grew in the aggregate almost as much wheat as the other two grain crops combined. Despite the fact that the farmers in Berwick, Roxburgh and Selkirk counties were not so affected by this economic factor the acreage under wheat in each dropped by 80, 70 and 100 per cent respectively, between 1881 and 1901, so that by the turn of the century this crop no longer figured greatly in the rotation practised in these counties (see tables 50, 51, and 52). In each county the land lost to wheat was not used for more oats, more roots and more potatoes as Wetham claims is the case in Scotland as a whole, but seems to have been absorbed, at least in part, by an increasing acreage of permanent pasture, and in Selkirkshire and Berwickshire by an increase in the area under clover and rotation grasses also.

TABLE 52

Selkirkshire: Arable Crops

Selkirkshire	1881	1901	1921	1951
wheat	11	-	26	20
barley	587	334	272	599
oats	4,521	4,821	4,141	3,948
rye	4	-	-	16
beans	9	-	-	21
peas	-	10	1	-
mashlum	-	-	-	13
mixed grain	-	-	-	-
potatoes	224	184	181	162
turnips	2,859	2,695	2,275	1,765
mangolds	3	1	1	8
sugar beet	-	-	-	-
carrots	-	-	-	-
cabbage	139	150	281	362
vetches	49	45	52	52
veg. (human)	-	-	-	15
rotn. (clover)	7,765	8,765	8,119	10,219
perm. pasture	7,022	13,204	14,442	10,685
flax etc.	-	17	7	38
bare fallow	30	4	19	2

Such changes in the arable sector of the farm economy of the three counties prior to 1901 go far towards explaining the decline in the number of employees in this industry, as with a declining acreage under grain crops requiring at that stage in technology much hand labour there would be fewer opportunities for agricultural labourers to find employment in the area. This is coupled with two other factors. The first of these is that an annual immigration of Irish labour from May to November was a feature of the area's economy, and as these were able-bodied men, who were only paid for working during the busiest part of the agricultural year, their presence meant that many Scottish labourers and their families, who would have required full-time

employment, could be dispensed with. The second factor is one which may account for much of the decline in the female farm labour force - desire for less physically exacting work. Pringle writes "About female labour there are a few changes worthy of note. Before the date of the first Commission (1867), women willing to work out of doors were in good supply. Not only did the 'bondage' system⁹ prevail in the south east counties - notably Haddington, Berwick and Roxburgh - but female-bothies were numerous in the reports to the Labour Commission of last year we have it that females are 'very scarce' everywhere"¹⁰.

The decline in numbers in the population in the two most arable counties of the area, Berwick and Roxburgh, paralleling as it does the contraction in numbers in this industry can therefore in part be attributed to changes in farm economics.

During the present century wheat acreage continued to decline until after the first world war, and barley until after world war two. The acreage devoted to oats has declined throughout the 20th century, and the present acreage under grass is about 12% less than it was 100 years ago.

In comparison with, and a possible corollary to, these trends, is the fact that the number of cattle and sheep in each county rose steadily from 1851 to 1901. Cattle numbers then fell off slightly until 1921 after which they rallied and have increased progressively to the

9. Footnote: This is the system whereby a female worker was paid by a farm servant or cottar to render certain services on his behalf to a farmer.

10. *ibid.* 2, Pringle, p. 246.

present day. The trends in the numbers of sheep in the area are somewhat different. The peak year was 1901 for Roxburgh and Selkirk counties, and 1921 for Berwickshire; but in all instances the total number of sheep kept has declined steadily from the peak year to the present time. The fall in sheep numbers about the turn of the century may be attributable to the declining prices being obtained by both black-face and Cheviot sheep during the 1890's. (appendix 2).

When considering the number of animals in the area at any one time one must remember that it is unwise to take the recorded figures for cattle and sheep too precisely. A census taken in June, as all these agricultural ones are, does not show on the arable farms the cattle and sheep bought every autumn for fattening and sold at intervals throughout the winter and spring.

Most change took place in the period 1870 to 1930 (see fig. 73) and it is interesting to note the very marked variations which occurred in the areas under crops and in the numbers and characteristics of the flocks and herds in the area. Between 1871 - 5 and 1924 - 8 the area under corn crops has diminished, in Berwickshire by more than 21,000 acres (33%), in Roxburghshire by 19,300 acres (37%), and in Selkirk county by 1,300 acres (26%). Green crops for forage have also been reduced in similar proportions, viz. by 10,000 acres in Berwick county, 10,000 acres in Roxburgh county and 900 acres in Selkirkshire. The area under clover and rotation grasses has been increased by approximately 10 - 16% in the three counties, in Berwickshire by 6,400 acres, in Roxburghshire by 5,200 acres, and in Selkirkshire by 1,200 acres; but it is the area under permanent grass that has been

most considerably extended - in Berwick county by 24,800 acres (68%), in Roxburgh county by 28,500 acres (78%), and in Selkirk county by 8,400 acres (131%). Thus the capacity of the area for grazing was extended at the expense of both corn crops for sale, and of forage for winter fattening during the period. This is reflected in the changes in the livestock carried. In Berwickshire the estimated increase in ewes and rams is as much as 60,000 (75%), in Roxburghshire nearly 50,000 (25%) and in Selkirkshire 12,500 (16½%), with a corresponding increase for the three counties of about 145,000 lambs on the grass in June. Against these gains must be set a reduction of about 75,000 other sheep over a year old, but the aggregate increase in sheep on the grass lands and hill grazings is nearly 200,000 head.

In the numbers of cattle also there have been significant changes. There are 2,500 more cows and heifers in the three counties in 1930 than in 1870, the proportional increase being greater in Selkirk and Roxburgh counties than in Berwickshire. But it is in the number of grazing cattle that more important gains are recorded. There are in Berwickshire 3,150 more feeding cattle under two years old, and 3,500 more older cattle than in the earlier period, the greater proportional gain being in older cattle, viz. 77% increase compared -with 39% increase in the younger stock. In ^{Roxburghshire}~~Roxburghshire~~ it is the younger cattle that have increased in the greater ratio, viz. by 7,000 head, representing a gain of 90% in this class, the increase of older cattle being approximately 2,250 head, or 42%. Selkirkshire has 800 more younger grazing cattle a gain of 78%, but carries rather fewer of the other class. Some of the additional cows are dairy stock, and the Borders by 1930 made considerable drafts upon the supplies of Irish cattle for finishing as well as upon stores

from the north of England.

TABLE 53

Berwick, Roxburgh & Selkirk Counties:

Cattle Totals

Berwickshire	1881	1901	1921	1951
horses	5,425	5,167	5,203	1,214
cattle (total)	14,042	16,905	15,167	34,902
cows in milk	3,286	2,861	2,610	8,216
ewes	?	?	114,882	112,751
sheep (total)	263,961	325,324	338,192	309,735
pigs	3,532	3,365	4,320	9,417
poultry	?	?	?	?
Irish cattle	?	?	?	?
Roxburghshire				
horses	4,482	4,150	4,674	1,744
cattle (total)	16,488	17,859	17,563	35,669
cows in milk	4,592	4,625	3,901	9,675
ewes	?	?	209,101	192,117
sheep (total)	468,075	539,486	518,722	470,695
pigs	3,344	2,664	3,316	6,169
poultry	?	?	?	?
Irish cattle	?	?	?	?
Selkirkshire				
horses	556	704	713	319
cattle (total)	2,656	3,084	3,089	6,141
cows in milk	962	1,197	949	2,139
ewes	?	?	81,141	77,033
sheep (total)	159,036	183,796	182,187	158,984
pigs	326	367	665	461
poultry	?	?	?	?
Irish cattle	?	?	?	?

These changes have not proceeded at an equal rate during the whole of the 1870 - 1930 period. In Berwickshire, for example, the falling off of the corn crops and of winter forage crops has been more rapid since the beginning of this century than in the previous twenty-five years. In the case of sheep, ewe flocks increased at a greater rate during the earlier period. On the other hand, cows and heifers were considerably lower in 1895 - 9 than 25 years earlier, and the subsequent increase has been proportionally large. The major addition to feeding cattle has been made since 1900. In the aggregate, these developments have altered the point of major emphasis from crops to stock - mainly sheep, even on the lowland farms of the area.

Since the twenties the numbers of cattle in the area have increased very rapidly, but sheep totals have gone down. "The Agricultural Statistics," published by the Department of Agriculture for Scotland for the year 1927¹¹, indicated that, in that year the total farmed area in these three Border counties, on holdings of more than one acre in extent, including mountain and heath land used for grazing, amounted to 831,699 acres. Of this less than one-third was returned as arable land, including crops and rotation grass; about one-sixth - as permanent grass; and rather more than one-half - 438,889 acres - as mountain and heath land used for grazing. Of the arable land rather more than one-half, were under clover and rotation grasses, and the remainder under crops, including a small acreage of bare fallow. Only 84 $\frac{3}{4}$ acres were under small fruit and orchards. About five-sixths of the land under clover and rotation grasses were used entirely for grazing, the remainder

11. Agricultural Statistics, Dept. of Agri. for Scot., vol. XVI, pt. I, 1927

being mown for hay. The greater part of the land returned as permanent grass is maintained solely for grazing. The use of so large a percentage of the rotation grasses for grazing purposes is an important characteristic of the farming practised on much of the lower land in the area. The economical feeding of early maturing lambs requires the provision of succulent grass, and the rotation of crops will frequently be arranged with a view primarily to assuring the availability of adequate temporary pasture..... Live stock, of which details are given under various sub-heads, include 53,295 cattle, 1,151,906 sheep, 9,189 pigs and 243,151 head of poultry..... These figures give, as a series of totals, the contribution of the Counties of Berwick, Roxburgh and Selkirk to the general statistics of Scottish agriculture. They indicate that, taking the area as a whole, its agriculture is based mainly on the use of grass for pasturage, and that, in making use of that pasturage, sheep are of the chief importance."¹²

Since the twenties the acreage of pasture has remained fairly constant in each county, and marginal increases in the area devoted to crops have been recorded. It is the case then that, despite the declining numbers of sheep, and the marked gains in head of cattle, the area is still as it was in 1927, one in which sheep rearing dominates agricultural activities.

The changes in the farm economy of the area over the last 100 years, together with the changes in the structure of the labour force prior to 1901, provide the necessary basis for explaining the exodus of 'farm' people from the area. It should be emphasised here that such 'explanations' are only a rationalization of the parallel trends to be

12. H.M.S.O., The profitability of farming in Scotland, 1931, pp.124-125

found in this industry and its employment structure, and the decline and change in the population structure. No conclusive proof can be given, as for periods in the past explanations of the reasons governing migration can only be reached by inference, except where there may be written evidence to state why people have moved from an area. Such evidence does not appear to be available for the agricultural population of the three counties.

It does seem, however, that the fall in prices for grain production just before the turn of the century meant that many rural workers emigrated or sought work off the land. Labour has also declined in the agricultural community because of mechanisation on both arable and stock farms alike, over a long period. That this is less so in hill country may be deduced from the semi-static total employed in this industry in Selkirkshire. The shift from arable to grassland farming has meant a lower labour demand, and more recently the rearing of fat cattle and suckler herds has had a similar effect. For Roxburgh and Selkirk lower returns, and less amenable work conditions, for women employed on the land compares unfavourably with the alternative female employer of labour, the textile industry (to be discussed later in this section), and accounts for some of the lack of women willing to work in agriculture at the end of last century.

Housing conditions seem to be a further reason for leaving farming areas. Prior to 1900 there was little problem . . . "The admirable equipment of Berwick and Roxburgh farms with cottages superior in quality, character, and number to any other part of the United Kingdom that I have any knowledge of"¹³, testifies to this, but the Mears Report

13. *ibid.* 2, Pringle, p. 253

states that "Investigations already carried out point clearly to the fact that both in the arable and hill farming areas the shortage not merely of good houses, but good houses in the right places is a factor of prime importance and one of the major causes of decline in rural population.¹⁴

It is difficult to separate cause and effect in the field of changes in agriculture versus changes in the number employed in the industry. Why, for instance, are there a declining number of sheep, when the area's sheep industry is so important to the Scottish economy? Is it perhaps the case that lack of available labour has brought about this situation, rather than that natural decline in the industry has meant a contraction in the numbers of those employed? Similarly is the decline in total acreage cultivated a cause of declines in the size of the labour force or a result of it? Probably modifications in either agriculture or the labour force produced changes in the other, and these in turn further altered the balance, but it is impossible to state with any certainty the exact chain of events.

On the other hand the inevitable process of mechanisation would, of necessity, result in a declining labour force; (and this in turn may have resulted in greater mechanisation) and there is no doubt that poor housing and the prevalence of tied housing was a factor contributing to the exodus of people from rural areas.¹⁵

14. Mears, F. C., Interim report on population trends in relation to industrial development and housing needs, Central and South-east Scotland Regional Planning Advisory Committee, 1945, p. 21

15. Mears op. cit., see p. 22

The availability of more lucrative and less onerous employment, especially for women, within the area, is a further factor contributing to the declining numbers working on the land.

To sum up then, economic trends in agriculture may, or may not, be reasons for declining numbers employed, but mechanisation, poor housing, and alternative work appear to be.

There is a parallel between the decreasing number employed in agriculture in Berwickshire and the decline of the total population of the county; therefore there is a close dependence between what happens in this sector of the economy and what happens to the population numbers. Such closely correlated trends do not exist for Selkirkshire's agricultural labour force and total population, and it would therefore seem that in this county fluctuations in the population are less dependent on fluctuations in this industry than in Berwickshire. The period prior to 1850 had already seen the out-migration of farm labourers and during the last 120 years little change has occurred in the numbers employed in this industry, although the total population has changed considerably. It is necessary to look elsewhere to find an explanation of the fluctuating growth of population in this country. "It is no difficult task to account for the paucity of farm labourers in Selkirkshire, and the consequent advances in wages during the past 25 years. The many factories that have grown up within that time in the county have supplied employment to many people formerly engaged in agriculture, and more remunerative employment than farmers could afford to give. This has been the great cause of the scarcity of casual labour, which has occasioned so much inconvenience to

farmers for some time past. The factory attractions have more noticeably affected the supply of female workers than that of male servants."¹⁶ This substantiates the idea that modifications of agriculture in Selkirkshire do not account for the vast changes in the county's population since 1850. The rural parishes of Roxburghshire on aggregate have the same trends as changes in the numbers in the agricultural labour force, but the total population of the county fluctuates differently from the overall decline in the agricultural labour force. Evolutionary adjustments within this sector of the county's economy therefore only go part of the way towards explaining the changes which have taken place in its total population between 1850 and the present day.

Extractive Industry.

Attention will focus only on the numbers of men employed in this industry as at no period have women made up a significant part of the labour force.

Until 1921 Roxburghshire, of the three counties, employed the largest number in this activity (fig. 75), and since that date it has been fractionally exceeded by Berwickshire's labour force in this industry. Between 1861 and 1871 the numbers so employed in Roxburghshire more than halved, and a similar decline in the labour force in the extractive industries occurred in all three

16. *ibid* 4, MacDonald, p. 119

counties between 1891 and 1901. Since that date only a very small proportion of these employed in the three counties have been in this activity.

Mining has been of little importance in these counties, in fact the only record which mentions any at all is the 2nd Statistical Account for Roxburghshire, where in the description of Castleton parish one finds the following remark, "Coal in wrought to a diminishing extent on the estate of Liddlebank!"¹⁷ According to the writer there was also a great abundance of limestone in the parish. Quarrying was in fact the main extractive industry practised in the three counties, and at the present time is the only one. Sandstone from Jedburgh and Southdean, and limestone from the parishes of Roxburghshire were the most important commodities. In recent years several sand and gravel sites have been worked in Melrose and Earlston parishes; road metal is quarried in Bedrule; together these account for most of the people employed in the extractive industries.

This industry, declining largely as it did at the turn of the century, was no alternative provider of employment to those moving from agricultural pursuits. While the number of men involved in the contraction of the extractive industry was small, it helped to aggravate the area's employment problem because it released men

17. The New Statistical Account of Scotland, vol. III, Roxburgh-Peebles - Selkirk, Wm. Blackwood & Son, 1845
p. 116

from work at the same time as an important phase of declining employment in agriculture.

Manufacturing, (excluding textiles)

As in the previous instance only male employees will be considered as the number of women employed in the manufacturing industries represents less than 2% of the total female labour force at all times during the 1850 to 1967 period.

Table 54.

Kelso, 1855-56:

Number of premises devoted to the manufacturing activities (excluding textiles)

blacksmith	2
builder	3
cabinet maker	3
carver: gilder	1
coachbuilder	2
carrier	1
flour mill	6
gunsmith	1
iron foundry	1
joiner	1
leather manufacturer	1
mill wright	1
printing office	1
roper	1
saddler	3
shoemaker	7
skinnery	1
tanner	1
tin smith	1
watchmaker	1

source: Roxburgh County Valuation Rolls.

At the beginning of the period that this thesis is concerned with manufacturing was not solely an urban function. In rural areas industry was widespread with most farm hamlets containing saw mills and blacksmiths; villages appear to have had shoemakers, bakers, all types of construction workers (masons etc.) and the larger centres had the full range of manufacturing activity. (see table 54) The small scale and proliferation of these units allowed the number employed in them to come to nearly 5,500 men in 1861. This rose to over 9,000 in 1881, and from then has declined until the 1911 period, and remained relatively constant since then, with between $4\frac{1}{2}$ and 5 thousand men in the manufacturing labour force.

In the expansion period 1861 to 1881 when an overall increase in the numbers of men employed in this activity in each county was recorded, the industry itself was developing rapidly. Tanneries, textile machine manufacturers and all types of construction workers were increasing in numbers in the towns of Roxburgh and Selkirk to meet the increasing demands for housing, and in particular to aid the development of the woollen industry. In Berwickshire also engineering firms were starting up, to produce elementary agricultural equipment, and these joined the older established paper industry at Chirnside and the small scale cottage industries. But manufacturing of this type cannot continue for long to be economic in small units, and if the units are to be larger, then rural situations are no longer suitable as they do not provide a large pool of labour, and are faced with problems of marketing to a

widely dispersed number of consumers. Thus one finds at the present day that the type of manufacture, and the location of such activities is different from the mid 19th century. With the development of national firms in shoes, bakery, cabinet making, and watch and clock production small enterprises have gone out of business. Similarly only large textile or agricultural machine makers can continue to be viable units in face of competition, from other parts of the country and from overseas. Manufacturing now is located in the towns of the area, paper making at Chirnside (150-200 employees), building at Greenlaw (100), agricultural engineering in Galashiels (84 employees) and precision tool-making in Jedburgh (250) being the main ones. "Valuable as some of the other larger undertakings (none employing over 200 people) are to their localities, their contribution to the general widening of employment opportunity in the Borders as a whole is limited."¹⁸ The extremely small nature of the enterprises within the manufacturing sector of the economy of the area, and the little employment opportunity which they offer to the population has been a feature of all of this century, and it is a side of the economy which the labour force figures indicate is still contracting. Like agriculture and production its main phase of decline was at the turn of the century probably as a result of the

18. H.M.S.O., *The Scottish Economy, 1965-1970: a plan for expansion*, cmnd. 2864, 1966, p. 98.

general chain of events. Small manufacturers depended on a local consumer market, and with the rural consumers on the decline many of these went out of business, thus aggravating the employment position.

Textiles and Clothing.

Employment in the clothing industry was highest in Roxburghshire in the 1860's. with 1,262 women and 1,798 men working in this activity in 1861, as opposed to 703 women and 567 men in Berwickshire and 167 women and 167 men in Selkirk County. This type of employment declined slightly in both Berwick and Roxburgh counties until the turn of the century, and then very rapidly between 1911 and 1921. In Selkirkshire, on the other hand, male employment increased until 1850, remained almost constant for the remainder of the 19th century, and rose to 1911. Female employment increased steadily until 1911. Between 1911 and 1921, as in the other two counties, the labour force in clothing manufacture markedly contracted, and in all three counties employed only a very small number of people for the remainder of the period with which this thesis is concerned, so that by 1961 40 men and 150 women worked in this industry in the area as a whole (fig. 77 & 78).

TABLE 55

Berwick, Roxburgh & Selkirk Counties: Number employed in
the Textile Industry

	1861	1871	1881	1891	1901	1911	1921	1931	1951	1961	
Berwickshire	254	299	196	192	197	174	191	206	111	123	Male
	84	117	103	171	198	242	236	251	248	198	Female
Roxburghshire	1589	1830	1717	2385	2376	2480	2427	2922	2900	2906	Male
	1,074	1,017	1,770	2,523	2,984	2,946	2,932	3,123	3,409	3,510	Female
Selkirkshire	842	2,210	2,124	3,434	2,452	3,215	2,677	2,702	2,200	1,901	Male
	518	1,893	2,632	3,048	2,506	2,702	2,507	2,245	2,149	2,096	Female

Textile production was a significant employer of labour throughout the period in Roxburgh and Selkirk counties; but in Berwickshire it was not so important (see table 55 and figs. 79 & 80).

In Roxburghshire male employment in textiles is, and has always been, second to employment in agriculture, and during last century was less important than other branches of the manufacturing industries. (see fig. 79). Selkirkshire has always had a greater proportion of its male employees in this industry than in any other (except in 1861 when the agricultural labour force exceeded it by a very small amount.), and the number rose from 842 (25%) to 3,434 in 1891 (42%). Between 1891 and 1901 the number in the labour force dropped to 2,452 (35%) and then rose again to 3,215 (40%) in

1911. Since then the labour force has contracted, and by 1961 numbered 1920 or 30% of the total number of males working in the county.

In Roxburghshire the numbers working in textiles have increased during the 1861-1961 period (see figs. 79 & 80 and table 55) from 1,589 in 1861 to 2,910 in 1961. The first phase of expansion of the labour force was 1861-71 when it increased by 241 to 1,530 (13% of the total male labour force of the county); it fell slightly to 1,717 in 1881, and then exhibited a period of marked expansion to the 1891 total of 2,385 (15%). It remained steady at this figure for the next 30 years and then again expanded from 2,427 (17%) in 1921 to 2,922 (20%) in 1931: since then there has been little change in the numbers employed in textiles in Roxburgh County.

Female employment in this industry has constituted a major sector of those employed in textile manufacture, and a major proportion of all those women employed in Roxburgh and Selkirk counties since 1861.

As was the case in the male labour force, Roxburghshire's female employment in textiles has shown a continuous increase both proportionally and absolutely from 1861 to the present day.

From 1881 onwards there were more women than men employed in textiles in Roxburghshire, and the growth trends for the two sexes differ slightly. 1871 to 1901 was the major phase of expansion for women, and 1861-71 and 1881-1891 for men. Only

the female labour force has shown a recent increase in numbers.

In Selkirkshire, except in 1901 and 1961, male employment in the textile industry has always been greater than female. The curves of growth in employment in this industry for each sex parallel one another; rapid increase from 1861 to 1871, and continued growth at a slower rate until 1891 (figs. 79 & 80). Then a cycle of decline, followed by growth and subsequent decline set in until 1921, with the first phase of contraction in numbers employed being the most marked. Although 1901-11 marked a further period of growth, growth which for the male sector of those employed was as rapid as that experienced between 1871-1891, the numbers of men and women in the textile labour force never reached the peak they had achieved in 1891. Since 1911 female employment in textiles has slowly declined, and male employment which declined between 1911 and 1921 and then remained steady to 1931, has since declined each decade to 1961 to number 1,920 as against the female total of 2,070.

There is a close correlation between Selkirk County's total growth of population graph, and the graphs of male and female employment in textiles. Peaks and troughs occur at the same decade in each instance. Closer study of these graphs, however, reveals a number of points. 1861-71 was the period with the highest rate of increase in both male and female employment in textiles, with employment continuing to increase until 1891 at a slightly slower rate - total population for the county, on the other hand, while greatly increasing between 1861 and 1891 had its largest

increase between 1871 and 1881, that is ten years after the most rapid increase in employment. Subsequent growth and decline phase in terms of total and employed population coincide with each other in all instances.

Such correspondence between population growth, and the changing numbers employed in textiles, does not exist for Roxburghshire. 1861-1891 for men and 1901 for women were periods of expansion in employment within the industry, but the population itself remained relatively static in size between 1861 and 1891; from 1891 to 1921 the population declined in total numbers, and male employment maintained its 1891 total. Female employment in the textile industry showed an interrupted decline during the period 1901 to 1921.

It would seem therefore, from the last two paragraphs, that the growth or decline of the population of Selkirkshire was closely tied to developments in the textile trade - in Roxburghshire this close tie is not apparent.

Is it possible to determine if declining employment in the textile industry of Roxburgh and Selkirk counties is due to the fact that people suddenly moved away from the area and therefore there were less to be employed, or that the industry changed and less could be employed, therefore people moved?

An examination of the development of the industry in the Borders, and in particular in specific towns, should help to clarify the points raised by this question.

Prior to the late 18th century spinning and weaving were mainly domestic industries - in fact there appear to be traces of the existence of a domestic weaving industry in the area sponsored at an early date by Monks skilled in sheep husbandry.¹⁹ In some burghs, websters were an incorporated body by the 16th century, but the bigger developments in woollen manufacture did not begin until at the end of the 18th century, the weavers of Galashiels and Hawick turned their attention to machinery. With machinery the advantages of the valleys of the Tweed, for the development of spinning and weaving on a modern basis were quickly utilized. Initially an abundance of local wool from the surrounding sheep farms, and plenty of water, not only for power but of a quality soft enough for wool washing and dyeing provided the raw materials and necessary facilities for manufacture.

Water in particular, influenced the location of the first mills on isolated sites in the narrow river valleys, a physical factor which has had an important influence on the development and distribution of the industry in comparatively small centres.

Machinery was introduced into the textile industry in this part of Scotland fairly early: the hand-worked jenny in 1791, the mule in 1814, and the power loom at Hawick in 1830. By 1840 the hand-loom weavers were mostly in factories and the transition to power weaving was thereby facilitated.

19. See "Liber S. Marie de Melros" Bannatyne Club, 1837.

As a result of rapid growth the demand for power exceeded the capacity of available water resources and the industry came to depend on coal, a handicap in comparison with the situation of the Yorkshire woollen manufacturers - the Borders' chief rivals - owing to the distance of the coalfields from the Border towns. In another respect, too, the Yorkshire manufacturers enjoyed an advantage, for they were located in an area with a rich variety of industrial employment, providing a large reservoir of labour.

Faced with the economic and physical disadvantages that emerged as the industry expanded, Border tweed and hosiery manufacturers had more and more to specialise in goods of fine quality, in order to avoid fruitless competition with the mills of the English Midlands. But for fine goods, fine wools are required. This led first to an increase of Cheviot sheep in the district, since the coarse wool of the black-face serves only for rough cloths and for carpets. Even then fine enough wool was not provided in the area to meet the demands of even greater specialization and so the second step of importing great quantities of foreign wool had to be made. Before the first world war "about 80% of Border production was exported and, although much of this trade was recovered after 1918, overseas trade never reached the 1914 figure again. At the same time the character of the home market began to change rapidly. Multiple tailors and wholesale clothiers have in recent years greatly reduced the activities of medium bespoke tailoring. When therefore, Scottish tweed manufacture turned from overseas trade to the home market, they found the trade situation seriously influenced by price

considerations. English manufacturers with large-scale methods of production could easily compete with their Scottish rivals²⁰. This situation corresponds to the end of the period of decline in employment in the clothing side of the textile industry.

The industry met this problem by continuing to work at a similar scale of production unit, but with even greater specialization than previously, presumably working on the assumption that a market for goods of high quality and marked individuality would be available, both at home and abroad. And this has proved to be the case. Before 1914 the most important overseas market was Germany; after the war it was surpassed by the U.S. and new Continental markets, until by 1928 the U.S. absorbed 36% of all direct exports of Scottish Tweeds.²¹ Ironically, such specialization and such success made the woollen industry more vulnerable than other branches of textile production to tariff changes, and, chiefly for that reason, the 1930's were less prosperous than the 1920's. Though foreign markets, especially those in Italy, Holland and Austria, were lost, the woollen industry provided relatively stable employment for its workers in both decades. In fact, the thirties saw a further development of the textile industry in the opening of a factory for the North British Rayon Company in Jedburgh.

20. *ibid.* 14, Mears, p. 28.

21. Campbell, R.H., *Scotland since 1707: the rise of an industrial society*, Oxford, 1965, p. 166.

The trends for the two counties after the second world war are slightly different. Roxburghshire's labour force has remained static in terms of male employment, and increased the numbers of women working in it whereas Selkirkshire shows a decline in numbers of both male and female labour in this industry. This is explainable by the fact that the hosiery industry which has its centre in Hawick has been expanding whilst the woollen industry, the basic one in Selkirk county, has declined.²²

A feature of this difference in emphasis in the two counties is that the industry in Roxburghshire has become more and more dependent on female employees. Hosiery manufacture is much better suited to female workers than is woollen manufacture. In Selkirkshire, on the other hand, men and women are employed in more or less equal numbers.

The fact that all branches of the textile industry, at all times, have employed a high proportion of women has meant that in this area where the only other major source of employment is agriculture (which, as has been already seen, is a declining industry in terms of its labour force requirements), men have been faced with competition for jobs. As female labour is very suited to work in textiles, and there has been very little alternative employment for males, men have tended to leave the area, and of course when married, have taken their families with them.

22. *ibid.* 18, H. M. S. O., see pp. 102-104

An examination of the two counties separately will now be made in light of this general history of the textile industry in S. E. Scotland, to see how far it is possible to draw parallels between what has happened in the industry, and how the population has changed over time.

The main centres of the textile industry in Selkirk county are, and have always been, Galashiels and Selkirk. It has been recorded by MacDonald, writing in 1886 that "Galashiels was one of the first towns in Scotland to engage in the manufacture of wool. It does not seem to have made much progress, however, previous to the first part of this century. A charter, dated 1622, makes reference to certain waulk-mills, but in 1774 only some 170 cwt. wool was used in Galashiels. It then contained three waulk-mills. In 1790 the first carding machine in Scotland was erected at Galashiels. Several new mills were built during the following 10 years, and the present century brought new life and prosperity to the town and trade."²³ In 1793, according to Hall, "there were 13 employers in the village, giving employment to 50 persons".²⁴ "Gradual progress was thereafter made, increasing in speed as time rolled on".²⁵ Before 1830 the chief fabrics produced were blankets and cloth made from the wool of the local sheep. Knitting yarns and flannels were also manufactured.

23. *ibid.* 4, MacDonald, p. 123

24. Hall, R., *History of Galashiels*, Alex. Walker & Sons, 1898, p. 306.

25. *ibid.* 4, MacDonald, p. 124.

"But about 1829 the grey, drab, and blue clothes hitherto produced, together with knitting yarns and flannels, having become unmarketable, various efforts had to be made to establish new branches of industry. These resulted in the substitution of tartans, trouserings, and tweeds for the discredited manufactures. In 1838 the number of looms employed in the town was 265, and from this time trade continued to increase, machine-working being substituted for hand-labour in almost every department, and foreign for home grown wool"²⁶ By 1886 MacDonald was stating that "there are now upwards of 20 woollen factories in the town which afford employment to several thousand of the inhabitants."²⁷ Thus the industry went from strength to strength during the first 80 years of the 19th century, and the increasing numbers of both men and women employed in it bear witness to this factor.

The history of textile growth in Selkirk was similar.

The industry was later in starting here, but again relying on MacDonald's observations, developed rapidly from its beginnings in 1836. "It is estimated that, less than 20 years ago the number of persons employed was 1032. Besides six large tweed factories in full work at present, there are four mills engaged in spinning woollen yarns. These factories, like those of Calashiels, employ a large number of the inhabitants of the town"²⁸. Population figures during this same

26. Douglas, G., Roxburgh, Berwick and Selkirk, Blackwood and Sons, 1899, p. 422

27. *ibid.* 4, MacDonald, p. 124

28. *ibid.* 4, MacDonald, p. 124

period 1860 - 1886 show a dramatic increase. A study of the age-sex structure of the county at the beginning of the period (see chapter 1, & fig. 36) reveals that this increase could not have come from within the population itself. The sheer numbers who entered the labour force were far greater than the numbers who would have become of age to work during the period. There must also have been a movement from rural areas into the towns. That this conclusion is justified is substantiated by the following remark, already quoted (p 234) of MacDonald, "The many factories that have grown up within that (previous 25 years) time in the county have supplied employment to many people formerly engaged in agriculture, and more remunerative employment than farmers could afford to give.....the factory attractions have more noticeably affected the supply of female workers than that of male servants"²⁹. This correlates with the fact that while population for the county as a whole rose at this time, only the numbers in Galashiels and Selkirk parishes actually increased - the rural parishes of Selkirkshire show an absolute decline in the number employed in the industry (both male and female) and also marks the most significant phase of decline in population numbers. Hall describing an earlier exodus of people from Galashiels says "the people had become afflicted with a mania for emigration, such as has been witnessed within comparatively recent years"³⁰. The slight rally the industry made from then to 1911 by opening up overseas markets, and specializing to an even greater extent, is reflected in a slight increase in population numbers as work became available.

29. *ibid.* 4, MacDonald, p. 119

30. *ibid.* 24, Hall, p. 116

After world war I the industry in this county, with its specialization on woollens was not able to offer the same amount of employment as it had previously, a situation which has continued to be the case. The labour force in the woollen industry has fallen by about 1,000 between 1931 and 1961 and there has been a continuing decline in population over the same period.

Many men have had to seek employment elsewhere as there is no alternative industry in Selkirkshire which could absorb those no longer working for the textile firms. Their wives and families have moved with them. Young men leaving school cannot find employment and they also leave. And so a self-perpetuating cycle has been set up - labour has left in times of recession in the industry, and is therefore not available when conditions improve.

In the mid-sixties according to the White Paper demand for tweed is high "but the expansion of many firms is prevented by lack of weavers; some have spare capacity, and even idle looms"³¹. But the supply of 'young' skilled workers in the labour force is now acute: now when the industry could be expanding and employing more, because the markets are opening up for them, the labour force has gone.

The textile industry in Roxburghshire has experienced a slightly different development. During the 18th and 19th centuries Jedburgh and Hawick, along with several smaller communities were centres of small weaving enterprises. "The village (Newcastleton) is modern and was founded on the 4th March 1793"³²

31. *ibid.* 18, H.M.S.O., p. 103

32. Byers, J., Liddesdale, historical and descriptive, Galashiels Press, 1952, p. 21

The circumstances of Newcastleton are singular and I know of no other place like it. It was laid out for a hand-loom weaving village³³ Weaving by hand was at this time a common rural industry, and this, implemented by farming on a very modest and laborious scale, assured the inhabitants an income³⁴". It would seem from Byers that weaving was fairly widespread, and that by this period landowners, in this instance the 3rd Duke of Buccleuch, were active in encouraging its development. His predecessor, however, "attempted to strangle Hawick by refusing to lease any mill-sites on the weirs and waterfalls round the town, and since he owned four-fifths of the neighbourhood, this was an effective restriction on its development"³⁵. When these restrictions were removed the town and the industry expanded rapidly. "In 1793 Hawick had twelve knitting frames, by 1844 it had about twelve hundred"³⁶ According to Douglas "In 1869 the number of sets of machines in Hawick is 68; the weight of wool carded by them, at a moderate computation, amounts to 1,801,796 lb. annually. There are 52,864 spinning spindles, of which 12,564 are self-acting, including spinning frames, and 5,894 turning spindles, half of which are self-acting. There are 270 power looms, and from 100 to 150 looms. The number of hosiery frames is 900"³⁷.

33. Byers, *op.cit.*, p. 151

34. Byers, *op.cit.*, pp. 151 - 152

35. Smout, T.E., *Scottish landowners and economic growth, 1650 - 1850, Scottish J. Pol. Econ.*, vol. II 1964, (pp. 218 - 234), p. 233.

36. *ibid.* 21, Campbell, p. 148

37. *ibid.* 26, Douglas, p. 420

Jedburgh also developed early. Between 300 and 400 people were employed in the industry in 1834,³⁸ and blankets, flannels, tartans, shawls, hosiery, lambswool yarn and carpets were made. By 1857 Jeffrey was writing "there are three woollen manufactures carried on within the parliamentary bounds of the burgh"³⁹. Expansion continued, gathering momentum in both towns, as new markets opened up and specialization increased. The manufacture of tweeds and blankets became the dominant function of Jedburgh, and the hosiery side of the industry became firmly fixed in Hawick. These branches flourished until the 1881 - 91 decade, and it is at this stage that the burgh populations from increasing steadily enter a phase of decline, starting in 1881 for Jedburgh and 1891 for Hawick. There is therefore a very close correlation between the fortunes of the textile industry in these two towns, and the development of the population within them.

The increase in population experienced by these two towns during the period of expansion in the textile industry could not have been solely brought about by natural processes. There had to be movement into these towns, and this movement was, as in Selkirkshire, mainly from the surrounding rural areas. Both Jedburgh and Hawick parishes had a declining number of people returned as being rural domiciled from the early decades of the period this thesis is dealing with, and there was a decline in the number of people in the adjacent parishes of Cavers, Hobkirk, Ancrum, Crailing and, slightly later, Bedrule (see fig. 36)

38. *ibid.* 17, Statistical Account, p. 197

39. Jeffrey, A., The history and antiquities of Roxburghshire, and adjacent districts from the most remote period to the present time, (4 vols), Edin. 1858 - 1864, vol. 2, p. 212.

Thus for the build-up in population, many people came from the surrounding rural areas. The fact that the population for the county was, by and large static at this period (1861 - 91) indicates that the problem of unravelling the intricacies of Roxburghshire's growth is not to be found simply. As has already been seen agricultural employment declined and people moved from the rural areas; yet the overall population numbers did not decrease; some of these people were absorbed in the expanding textile industry; but some must have migrated from the county or the total population would have increased (at least through regeneration if not by in-migration); so one must conclude that textiles provided an alternative source of employment to agriculture, therefore lowering the rate of movement out of the county but not completely doing away with it. Thus, when at the turn of the century the prosperity of the industry was varying rapidly with the state of the market, the population of this county, as of Selkirkshire, was badly hit, and declined sharply. Decreases in the numbers employed in textiles in both burghs went hand in hand with decreases in the population of these burghs, and of the county as a whole until after 1921. The depression which followed the first world war, with its accompanying lack of real demand for the costly, high-quality products, had a markedly adverse effect on the industry. Only Jedburgh survived the period, and increased its population as sharply as it had previously lost it. This expansion in the population was undoubtedly due to the establishment of a male employing branch of the textile trade in the town: the arrival of the British Rayon Company had such a profound effect that the population not only of the burgh but of the county increased. The increase in numbers in the burgh has

continued to the present day, because after the British Rayon closure in Jedburgh, another male employing industry was established, Starret's precision tools, which took advantage, among other things⁴⁰, of the pool of labour available in the town at the time (mid-fifties). This increase in Jedburgh's population would seem to have more than offset the decline in Hawick's, as the county population has been on the increase since 1921.

The hosiery industry in the two centres has expanded its labour force in the same period, and several reasons may be put forward to account for this fact.

Unlike the woollen industry which makes cloth only, the hosiery industry is both a textile and a garment industry, whose products range from dresses to socks and underwear. It produces medium to high quality garments mainly in wool, and specialises in the use of cashmere. The beautiful, expensive garments made have become increasingly popular both in the home market and overseas.

The fact that there has been some alternative male employment in the county has meant that the population has not been undermined quite as much as Selkirkshire's by out-migration.

But female labour is scarce. The industry is concentrated in Hawick (where there is a shortage of male employing industries) with only a small number of people employed in it in Jedburgh. Lack of a

40. Oral discussion with Mr. McKie of Starret's.

- (1) Large site available
- (2) Approached in U. S. by Mayor & Council of Jedburgh backed by county which in this instance willing to make use of its powers to build a factory for a firm which pays back the loan over a period of time.
- (3) Plenty of housing in burgh.
- (4) Labour supply outweighed the financial advantages of setting up in a development area.

female labour pool is epitomized by the daily importation of women over great distances, from such places as Dalkeith, Newtongrange and Gorebridge.

This brief resume of the textile industry in Roxburgh and Selkirk counties brings out the ties which exist between the fortunes of the industry and the expansion or otherwise of the population in them.

While the textile industry was expanding there was a parallel increase in the population of Selkirkshire: and in Roxburgh county those whom, as we have already seen, agriculture could no longer employ, were absorbed by the industry of its towns.

Recessions in the industry resulted in contractions of the labour force, and to declining number in the population. Lack of male employment promoted migration, and this resulted in declines in the population. Now therefore, because of long continued migration and decline, there is a dearth of female labour, and it is on females that the industry depends.

At the present time Selkirkshire is worse off than Roxburgh County because some stabilising of the population has occurred in Roxburghshire. The textile industry provided an alternative source of employment to agriculture when this was necessary, and male employing industry helped to hold females in the county, therefore now it is possible almost to supply all of the necessary labour force for the hosiery industry, from within the county, although much of it has to be brought from parishes some distance from the factories.

Tertiary Activity

One of the groups of economic activity on which Border towns depend has already been dealt with, namely textiles. The other, broadly speaking, arises out of ^{their} ~~this~~ functions, common in some degree to all, as service centres for the surrounding countryside. All tertiary activity

with the exception of general stores and garages is now concentrated in the towns of the area.

Employment in transport in the three counties varied in the second half of the 19th century. In Berwickshire in 1861, 1871, and 1881 nearly 300 men were employed in this activity, and this dropped by two-thirds in the 1881 - 91 decade to 97 in 1891. Thereafter it increased markedly to 599 in 1901, dropped to 401 in 1911 and rose again to 489 in 1921. Since then it has declined very slightly to 393 by 1931 and 350 in 1961. In Roxburgh and Selkirk Counties employment in transport is slightly different. It increased greatly between 1881 and 1891 from 294 to 1,003 male employees in Roxburghshire and from 171 to 439 in Selkirkshire. High figures were maintained to 1901 and then dropped to 310 in Selkirk County and 868 in Roxburgh County in 1911. They rose again to 1921 and since that date have shown a continuous slow decline, as was the case in Berwickshire.

In 1866 much of the area was served by the railway, as most lines and branch lines had been opened in the 1850's and early sixties⁴¹. The interstitial areas between the lines had public transport in the form of carriers and carts, and few areas were over two miles from a daily service of these, and as far as can be judged from the 1835 Statistical Accounts of the area, nowhere was inaccessible to at least weekly

41. Rail-openings.

Peebles - Innerleithen 1864	Innerleithen - Galashiels 1866
Leadburn - Dolphinton 1866	St. Boswells - Duns 1863 - 65
St. Boswells - Sprouston- Tweedmouth 1851	
St. Boswells - Jedburgh 1856	
Newcastle - Hexham - Riccarton 1858-62	

(Information from British Railway History Records Dept.)

transport to one of the main centres. These forms of transport were the main means of communication in the second half of the 19th century.

TABLE 56

No. of Passengers booked, 1911 to 1955 (selected stations)

Station	1911	1921	1938	1955	Difference 1911-55	% loss
Berwick on Tweed	56,131	46,412	51,178	45,192	-10,939	19%
Coldstream	22,341	15,638	3,742	904	-21,437	96%
Kelso	20,186	13,364	30,054	4,745	-15,441	76%

During the second decade of the 20th century a further type of transport was added to those available in the three counties - the 'bus'. Two private companies operated services between Selkirk, Hawick and Melrose and in the early twenties the S. M. T. Company started to run buses within the area. At the same time use of the railway started to decline, and this has continued to be a feature of the area. (see table 56): increasing use was made of road transport, and at the present time this is the most important means of communication in the area. Since the second world war emphasis has changed from public to private transport, and the increasing number of cars licensed in the area is a reflection of this (table 57)

TABLE 57

Growth in the number of private Cars

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	Percentage change
Roxburgh- shire	2,487*	2,606	2,810	3,046	3,256	3,527	3,735	3,813	4,311	4,729	+ 90
Berwick- shire	1,997	2,072	2,208	2,357	2,507	2,735	2,897	3,011	3,185	3,332	+ 67
Great Britain	2,257,873	2,380,343	2,508,102	2,761,654	3,099,547	3,525,858	3,887,906	4,186,631	4,548,530	4,965,774	+ 55

* current licences.

Bus frequencies emphasise the importance of the main towns of the area as employment and service centres, and as in 1866, few parts of the three counties are not within easy access of a weekly service: many however are not served by a daily bus⁴². Employment in transport was high during the period of greatest use of the railway, and again when public transport by road was an important means of communication. The advent of the private car, and the increasing numbers owning their own means of transport, has seen a progressive decline in the numbers working in this activity.

Transport by road has also resulted in rail closures throughout the area, and at present only two lines are used for passenger traffic, the east coast line from Edinburgh to Newcastle and London, via Berwick-upon-Tweed, and the 'Waverley' route from Edinburgh to Carlisle, the Midlands and London via Galashiels, St. Boswell's and Hawick. The value of local railway services to the sparse and private transport owning agricultural population of Berwickshire has declined, and the costs of running services which were little patronised has resulted in there being no main passenger station within the county - Berwick-upon-Tweed is the nearest. East-west services are now all closed, and the 'Waverley' route is scheduled for closure, but this has not yet happened.⁴³

42. see Appendix III - bus services from selected centres.

43. Rail Closures:-

Peebles - Galashiels 1962	Leadburn - Dolphinton 1933
Fountain-hall-Lauder 1932	St. Boswells - Duns 1951
Jedburgh Branch 1948	Riccarton - Hexham 1956

(Information from British Railway History Records Dept.)

As has been already noted, in the last intercensal period car ownership has increased rapidly, more rapidly than in Great Britain as a whole, and this may be attributed to two possible factors, namely that incomes are higher here than elsewhere, or that public transport is inadequate.

From the preceding discussion the latter would seem to be more likely, as the use of services reached such a low ebb that they were uneconomic to provide - thus those living in the area must provide their own means of transport.

Commercial, financial and retail occupations have employed fluctuating numbers of people between 1851 and 1967. The male and female sectors of the population in each county exhibit different trends in the numbers employed in these activities. In Berwickshire male employment in this category changed decade by decade in the second half of the 19th century (fig. 81), with 133 in 1861, 586 in 1871, 208 in 1881 and 569 in 1891. In 1901 the total was 166 and from then until 1921 the numbers employed in these activities increased substantially, 695 in 1911 and 966 in 1921. Overall decline then set in until 1961 when 630 men were recorded in this group, a figure which roughly corresponds to that achieved in 1911, but is higher than in any of the decades of last century. Female employment in these activities number^{ed} 69 in 1861 and had declined to 1 by 1891. It is only in this century that women have been present in any significant numbers in this type of work, with the female labour force, like the male, expanding until 1921, when it totalled 323. It dropped to 248 in 1931, and since then has been on the increase, so that by 1961 it numbered 360.

In Roxburghshire the general trend for both sexes is an increase in the numbers employed in these activities, with but a few years of decline. Male employment rose to 1881 from 249 in 1861 to 521, and dropped during the next decade to number 374 in 1891. Thereafter it expanded rapidly to 1931 and the decade to 1961 mark a further phase of contraction in the number of men in this sector of the county's labour force. Like Berwickshire, women in Roxburghshire employed in these activities were few in number in the 19th century (see table) but from 27 in 1881 the total working in this category rose steadily to 1,020 in 1961, with 1921-31 being a period of relative stability.

In Selkirkshire growth has been continuous in terms of the number of men employed in commercial, financial and retail activities, with 1861 - 81 being a period of slow expansion (50 to 254 men) and 1901-31 the most marked period of growth (256 to 1,083), stable conditions prevailing from then until the present day. Female employment in these activities exhibits the same trends as to be found in Roxburghshire, few employed in the 19th century, and continued expansion of the labour force from 9 in 1891 to 800 in 1961.

From the fig. 81 it is evident that these activities were of little importance as employers of labour in Berwickshire, except for women in recent decades. This is probably due to the fact that the main service centre for the county, Berwick-on-Tweed, lies outside the county boundary. The towns within the county provide only a minimum of shopping and other commercial facilities, and no entertainment ones, so that employment in this sector of Berwickshire's economy is, of necessity, very limited. Only in Selkirk and Roxburgh counties have such activities

expanded to any extent, and even here the smallish numbers employed compared with the total populations of the counties suggest that the area has always been poorly served with these activities "with the possible exception of Galashiels the Border towns reveal rather limited shopping... facilities for places of their size.....and prices tend to be high compared to the cities." ⁴⁴

The 1967 map of communications within the area reveals one of the underlying reasons for the gradation in the provision of such facilities from Selkirk County to Berwick County, with Roxburghshire occupying the intermediate position. The towns of Galashiels and Selkirk are among the best served in the area, and have therefore been in a better position to retain their service function. Hawick is the only other centre to be well served by public transport, followed by Jedburgh and Kelso. The communications links between Berwickshire's burghs and their hinterlands are much poorer. It is not surprising therefore to find that commercial, financial and retail activities have developed most, and held this position as employers of labour best in Selkirkshire and worst in Berwickshire. "Distribution and transport become canalized to a few main routes, and ultimately towns that once served a productive landward area become declining satellites of some larger town which has better profited for a period by this process but which will also become its victim unless the trends can be reversed" ⁴⁵

44. *ibid.* 18., H. M. S. O., p. 100

45. Report of the committee on the social and economic problems of the Scottish Border counties, the Scottish Council (Devel. & Ind.), 1953, p. 2.

That the role of the towns of the area as service centres has declined in importance is further emphasised in the recent White Paper "..... as car ownership increases, more people tend to shop in Edinburgh or Newcastle"⁴⁶.

The category administration, defence and professions has increased in terms of male and female employees in all counties until 1921; and male employment has since continued to expand in Selkirkshire, has remained relatively static in total numbers in Roxburghshire and declined in Berwickshire (figs. 81, 82, and 83); female employment, on the other hand, has continued to increase since 1921.

Employment in hotels, catering and domestic service increased for men in each county to 1881, and then in all instances dropped sharply to 1891: it then rose to a peak in the 1911 - 21 period with 811 being employed in Berwickshire in these activities, 1,155 in Roxburghshire and 586 in Selkirkshire. Thereafter the labour force in personal service declined.

The number of women employed in these activities has changed considerably between 1857 and 1967. In Berwick and Roxburgh counties it rose during the second half of the 19th century and reached a peak in Berwickshire in 1891, in Roxburghshire in 1901, of 1,843 and 3,3039 respectively, and from these figures it has progressively declined to 720 and 1,060 in 1961. In Selkirkshire female employment in personal service increased from 462 in 1861 to 950 in 1891, and thereafter declined to 460 in 1961.

46. *ibid.* 18, H.M.S.O., p. 100.

The decline in the numbers employed in service activities of all types is a symptom of the generally declining population, but as well as being a result it is also a promotor of further decline, because the lack of an adequate supply of such facilities limits employment opportunities in these fields, and the lack of services themselves make the environment less attractive to live in. And yet even at the low level that these activities exist there "is the wastage of assets, and especially service facilities, which occurs in a shrinking community"⁴⁷.

The three counties present a depressing picture in terms of employment. Both agriculture and textiles have had declining numbers in their labour forces, especially in the last 20 years. Their individual histories have already been dealt with at some length, as these are the twin bases on which the economy of the area is founded. Nevertheless a few further remarks must be made.

There is "a growing shortage of farm labour, sufficient to prevent that full utilization of land which is commonly regarded as a national necessity. . . . there was absolute agreement that labour shortage is the main obstacle to tillage increase in the Borders. There is also a grave shortage of casual labour for root and cereal crops. Labour shortage is worst, however, on upland and hill farms, among stockmen and especially among shepherds. Productivity on upland farms especially is also hampered by a shortage of labour for such supplementary purposes as fencing, dyking, draining, river banking, bracken cutting, road making,

47. *ibid.* 45, Border counties p. 2

forestry and improvement schemes in general."⁴⁸. As yet the decline in employment has not had any noticeable effect on production, and the output of crops and livestock has been increasing. Nevertheless it would seem that the point has been reached, at least in marginal areas, where the population trends have brought about an acute shortage of labour which must have adverse effects on the agricultural economy of the area.

In the textile industry there is a shortage of female labour, and this prevents full advantage being taken of prosperous periods. Again this has been brought about by the overall trends in employment and population growth within the area.

The lack of balancing industries, male employing ones, would seem to be the basic problem of the area, and without it, if the present parallels between changes in the two basic industries of the area, and the population totals continue, the whole economy will decline.

The emphasis in this chapter has been on the influence of social and economic trends on the development of the population in the study area. The arrangement of the material implies no failure to appreciate the fact, emphasized in so many studies, that demographic, economic and social factors are mutually interdependent, and therefore emphasis will now be placed upon this reciprocity.

The population decline in Berwickshire has gone hand in hand with changes in the economic structure of agriculture, the main industry of the county. Rural population density was high in this county in the mid 19th century, and there were a significant number of village agglomerations,

48. *Ibid.* 45, Border counties p.p. 2 - 3.

each containing in addition to an agricultural labour force, a number of craft and service activities. Higher order services were provided by the Burghs of the county which acted as marketing centres and distribution points for their subsidiary rural areas. All parishes contained at least one church, and school situated at a convenient point within them and these were the focus of much of the social life of the area. Communication by the standards of the time, would seem to have been easy, and no area in the county was isolated, or cut off from the facilities provided by the towns. Housing, as we have seen earlier in the chapter, was considered to be adequate both for farmers and workers alike. It would seem therefore that in this rural county people were well provided with the normal services of the period, adequate housing, schools, medical services, entertainment, shops, libraries (through the schools), churches, and last, but by no means least, with neighbours.

It is not necessary to detail again the agricultural, employment and population trends of the last 100 years, but emphasis must be placed on the slow change in techniques and practices and the inevitable decline in the population, which resulted from them. This was not merely a reduction in absolute numbers, but produced also a change in the composition of the population so that, as younger people sought employment elsewhere, the proportion of dependent population in the upper age groups increased. Declines in the size of the population and changes in its composition meant a cessation in the provision of some of the facilities it had previously enjoyed. Schools closed down, ^{churches} ~~churches~~ amalgamated, the transport provision became less adequate, and despite the increase in the number of inhabited houses, (the number uninhabited also increased)

the Mears Report in 1945 was stating "the result of this shortage (of houses) was that many people were driven to occupy surplus houses on farms which were often unfit for habitation"⁴⁹. Decreases in the size of the consumer market and because of ageing even greater declines in buying power, together with the widespread 20th century phenomenon of increasing centralisation of retail and other service activities has meant that the villages and hamlets of the county are now purely small residential groupings of houses, with no provision within them for the day-to-day needs of the inhabitants. Even the towns of the area have been affected by these factors, and increasing mobility in the last two decades, is hastening their decline as people travel greater distances than was previously considered feasible to shop and for entertainment. The complete lack of employment outwith agriculture, except along the coast (the Eyemouth fishing industry) meant that at no time has it been possible to alleviate the problems of declining use of labour on farms.

Roxburghshire has been a little more fortunate than Berwickshire in that two industries have had important places in its economy in the last hundred years - agriculture and textiles. The low lying arable area in the Tweed Valley has had the same history as Berwickshire to the east, with its population now considerably reduced in size, and markedly aged when compared with the mid 19th century, and with the villages in it being but huddles of houses with few social or retail provisions in them. The upland sheep farming areas and the narrow valleys of the county have never contained significant agglomerations

49. *ibid.* 14, Mears, p. 22

in any number, one village with rudimentary services being characteristic of each valley. Again agricultural changes have had the effect of reducing the size of the population, and altering its composition, and the villages marked on the 1861 map at the beginning of this thesis have become much smaller, and are no longer service centres in any sense of the word. As in all rural areas social provision had declined, in terms of schools, churches, transport services, and day-to-day shopping facilities - and many parts which were well-served with roads seem somewhat isolated to older people living in them who are unable or unfit to drive cars. The population lost to agriculture in this county had, however an alternative source of employment to turn to - textiles and this, as has already been discussed, appears to have reduced the pace of out-migration. The population decline in terms of size is not so great here as in the very rural county of Berwickshire.

The presence of the textile industry has had another effect on the area. By concentrating people in a few centres it has meant that the functions of these towns as collecting and distributing points for the county have not been curtailed as much as in Berwickshire's burghs. Although their hinterland consumer market has suffered the same fate as their Berwickshire counterparts, the buying power of the population within the towns has not been so reduced. These centres, by their very nature, provide a little diversification to employment (not much) in that retail, commercial and professional activities are focussed on them. Nevertheless, despite the slight degree of diversification in employment opportunity in this county, people have left it, and the composition of the population has steadily aged during the last 70 years.

In the valleys of upland Selkirkshire settlement units have always been smaller than anywhere else in the area being studied, and even in 1861 the villages were rudimentary, and contained few services. These sheep rearing districts have lost population, but the agricultural labour force of the county has not greatly declined in numbers during the 1851 to 1967 period. The unfocussed and remote scattering of houses that exists today in these upland areas are lacking in day-to-day service provision, (except in certain instances, as in Ettrick valley where there are travelling vans from Selkirk - but not every day), and schools are usually some distance and some time away from the children's homes. Within the parishes there is little community life, even churches being few in number; transport provision also is inadequate, and most people use their own. It is difficult to assess in this latter instance what is cause and what effect, but it would seem that the declining population made regular services to the main centres within the county unprofitable, and so these were reduced in number; the resulting inconvenience to those still living in the area increased the incidence of private transport use, and this in turn has resulted in an even less efficient bus service.....

very much the same set of events as has occurred in all the rural parts of the three counties. A further problem in these sparsely settled upland areas is the poor provision of medical facilities - most doctors living either in the towns, or villages in the lowland areas. Along with the decline in population, its characteristic of ageing, and the decrease in visible services^c have gone other factors. The 1966 Census (sample survey) reveals that housing conditions in Selkirkshire were worse than in the

other two counties: 15.8% of the houses had no hot water tap, and 31.5% no fixed bath. In Berwickshire the figures were 7.5% and 11.8% respectively and in Roxburghshire 10.1% and 17.9%. The main changes in the total population of the county are associated with conditions in the textile industry, and as this is concentrated in the burghs of Selkirk and Galashiels it is in these places that greatest changes in the population and its composition have occurred. With the development of the woollen industry in this county has been seen an unbalancing of the sex structure, men and women being employed in roughly equal numbers in this branch of the industry - this imbalance is not as great as in Roxburghshire because the hosiery trade is predominantly female employing. The fact that so many men are dependent on the industry for employment has meant that the population has been very susceptible to recessions in the trade - here both husband and wife work in the same type of job: in Roxburghshire more husbands have another type of work and therefore in fewer families would all the earners be affected by changes in textiles at one time. Thus the lack of alternative industry for men in this county - not even agriculture - has meant that in times of depression the county's population has dropped.

The main industrial centre of the county, Galashiels is the only one, to have some thing approaching a normal employment structure, of all the Border towns. Shopping entertainment and banking facilities are reasonable, but prices tend to be high - despite the fact that it is the best service centre in the area, its facilities are low for a town of its size in Scotland.⁵⁰

50. *ibid.* 14, Mears, p. 100

From these last few paragraphs it is possible to see the close relationship between cause and effect between demographic, economic and social trends. Roxburghshire of the three counties has been best endowed to "ride" the economic and social changes of the last 100 years, as expanding opportunities in textiles opened up when agriculture was declining, and hosiery has in the last 30 years fared rather better than woollen manufacture. Greater diversification, such as the Rayon Factory and later the precision tool one in Jedburgh, have been important.

Decline in each county was to be expected, as in both Berwick and Roxburgh agriculture evolved to its present semi-mechanised state; and for Roxburgh and Selkirk the dependence on textiles was obviously an unsound one on which to hope that the population could continually expand.

CHAPTER IV

Parish Case Studies

Correlation between population growth, and social, economic, and demographic factors has been made in general terms in previous sections of this thesis, and it has been clearly established that migration has been an important factor in the changing population structure of the three counties. By using the Census, the survival technique, and school records some indication of the complexity of this phenomenon has been obtained. But so far no attempt has been made to test the conclusions which have been drawn in previous chapters. In order to do this it was decided to make a detailed study of the past and particularly present population characteristics of several parishes in the area, to attempt to assess the social and economic changes which have taken place in them during the past hundred years, and to find out why people live where they live, why others have moved and so on.

This chapter is an account of research into the demographic regions outlined in fig. 37 of this thesis. In an attempt to arrive at a clear understanding of why there should be out-migration from the three counties, and to see how far the tentative conclusions regarding cause and effect in this matter were valid, parishes from each region were selected, one with normal group characteristics, and one with slight deviations from these, for further study. The case studies deal with the characteristics of the population in each

pair of parishes, the migrational factor (where possible) and the employment and social provision within each as far as these could be ascertained. Much of the latter was done by inference, in particular from agricultural records and written accounts, as there is no source which gives employment to the parish level. Field research was carried out to ascertain from those at present living in the parish their reasons for doing so, and if they had close relatives who had moved from it, why they had done so. In this way it was hoped that the motivating factors behind migration, at least in the recent past, might be understood.

The form of the field questionnaire (see Appendix IV) was aimed at finding out as much as possible about migration. The questions on household composition, age and employment allowed the sample to be checked against the 1961 census enumeration district material thus allowing an assessment of how representative the sample is to be made. Place of work and mode of transport, in conjunction with employment and reasons for living in the parish indicate how adequate social provision in terms of housing and transport is; and when considered along with a desire or non-desire to move from the parish indicate which occupation groups are most mobile. The questions 'how long have you lived in the parish', 'where did you live before', 'why do you live here' and 'do you want to move' all give greater insight into migrational movements and the reasons for them: they also throw light on the attitudes of

people to the parish they live in.

The section on members of the immediate family who had left the parish enquired about their age when they moved, and their educational status as these may indicate motivation, and gives added depth to the information received in answer to the question 'why did they leave?' The destination of the migrant was obtained; and whether or not they were likely to return to the parish, so that it could be ascertained how many were absolute losses to the parish community, and to the Border area in general.

The forms were completed by the researcher and in all instances each question was covered. The sample was to have been a 50% one to cover every second household, but once in the field this proved impracticable for several reasons. The main one of these was, in a rural area which house constitutes the second one? In some instances this would have necessitated questioning only farm labourers and not the farmer and vice versa. Equally it was impracticable to choose every second farm because these with their associated cottages vary so much in size that on one, ten households may be present, on another only two, and so on. In the rural parts of the parish therefore the 50% survey was completely random, large farms being included to balance large ones excluded. In the villages on the other hand sampling was much stricter, and every second household was examined.

In all instances the resulting sample was approximately 50% or more of the households in a parish. Because such a relatively large number of households were chosen at random from each parish, such households are on average almost sure to have the same characteristics as the parish as a whole. Hence, the data so obtained can be safely used as a basis for comparison with all other examples of the same kind.¹ How close to the real situation in the parish each sample is may be ascertained by comparing its age-sex structure with that of the parish as a whole. (1961 census).

As will be readily appreciated these interviews constitute the only concrete evidence available on migration motivating factors; and even these are suspect as the reasons which an informant gives are not necessarily the true ones, or the most important ones.

The parishes chosen for study were :

demographic region type (1)

Ettrick and Channelkirk

Gordon and Greenlaw

demographic region type (2)

Ancrum and Bedrule

Ednam and Eccles

demographic region type (3)

Abbey St. Bathans and Bunkle and Preston

Cavers and Hobkirk

1. See Grohmann, C. J., Principles and practice of statistics, Harrap & Co. Ltd. 1964, p. 16

Ettrick and Channelkirk.

Ettrick, in south west Selkirkshire, is a typical parish of its demographic region. It has had an overall steady decline in population from an early maximum of 1851 of 477; both the female and male components of the population have shown a progressive ageing during the period 1851 to 1967, and parallel to this a declining number of children and young adults.

Channelkirk in general exhibits the same characteristics, but here the curve of decline in population has not been quite so regular. (see fig. 36, and table 60). Of all the case studies, this is the only pair of parishes which are not adjacent but they were deliberately selected to be studied together because while they exhibit common demographic features, and are both peripheral in the area being studied, Ettrick is and has always been isolated, whereas Channelkirk straddles the main road south from Edinburgh across the Lammermuirs to the Border crossing at Carters Bar.

Table 58.

Trades and Services 1866 *ChannelkirkEttrick

<u>carrier</u> 1 per week to Hawick	<u>carrier</u> 2 per week to Edinburgh
1 " " " Eskdalemuir	(St. Boswells, Lauder,
3 " " " Selkirk	Jedburgh)
1 " fortnight to Edinburgh	

baker	1	-
grocer	5	1
bootmaker	2	1
tailor)		
milliner)		
dressmaker)	5	2
blacksmith	2	1
cartwright	3	-
joiner	-	1
dyker	-	1
farmer	17	20

* Rutherford, J. & J.H. Southern Counties Register and Directory (Kelso 1866) pp. 418-418, and 531-532

In the mid 19th century the two parishes present a picture of rural life in upland agricultural areas. Sheep rearing dominated the scene, and in Channelkirk some diversification of the economy was provided by cropping, and keeping livestock. Both were self-

sufficient in terms of the everyday needs of their populations and both were adequately supplied with the social provisions of that period, schools, churches and carrier transport to nearby market centres. Weekly transport to Dumfriesshire, Roxburghshire and the main centres further north in Selkirkshire ran from Ettrick, and Channelkirk had twice as much communication with two carriers a week north to Edinburgh, and the same number south to the main centres of Lauder/Earlston, St. Boswells/Melrose, and Jedburgh. The presence of a substantial village community in Channelkirk, together with these carrier services, mean that the parish was better placed to supply all the demands of its population than the more isolated Ettrick.

The agricultural trends of the two parishes from 1861 to 1966 can be seen in Table 59. These indicate the growing importance of sheep rearing and cattle breeding, especially during the twentieth century in both parishes. Arable cultivation has played a small role in Channelkirk's economy throughout the period, and has been unimportant in Ettrick. The labour requirements of the agriculture practised in each parish have at all times been small, and have declined in Channelkirk with the reduction in acreage of turnips (requiring hand labour) and the introduction of machinery in arable farms.

Table 59.

Trends in Agriculture*

	1861	1891	1928	1966	Ettrick	1861	1891	1928	1966
Channelkirk									
wheat	-	-	-	-	wheat	22	-	-	-
barley	378	280	98	353	barley	1	1	-	-
oats	1,042	1,272	845	580	oats	89.5	75	31	31
turnips	999	794	547	441	turnips	58	32	17	14
rotation grasses	2,712	3,153	2,910	3,416	rotation grasses	84	70	56	359
permanent grass	1,478	1,750	2,543	1,496	permanent grass	384	747	811	2,615
rough grazing	?	6,916	6,961	7,524	rough grazing	?	38,790	45,385	40,140
horses (total)	?	147	97	0	horses (total)	?	41	34	0
cattle (total)	405	495	541	1,596	cattle (total)	205	470	294	988
ewes	?	?	7,466	8,478	ewes	?	?	22,788	21,048
sheep (total)	9,285	20,176	18,519	21,713	sheep (total)	23,900	41,745	48,043	42,126
pigs (total)	105	124	102	93	pigs (total)	31	40	42	9
poultry (total)	?	?	2,896	926	poultry (total)	?	?	2,151	1,014

Source: Parish Agricultural Returns

TABLE 60 Demographic Characteristics

<u>Channelkirk</u>					<u>Ettrick</u>						
	Male	Female				Male	Female				
		0-14	15-34	35-64	65+		0-14	15-34	35-64	65+	
1861	344					1861	216				
1891	282					1891	202				
1921	251					1921	161				
1951	204					1951	145				
1961	181					1961	115				
1861	(Male	134	119	75	16	1861	(Male	75	71	60	10
	(Female	117	117	79	14		(Female	90	89	49	10
1891	(Male	124	85	58	15	1891	(Male	66	63	62	11
	(Female	99	90	71	13		(Female	83	63	59	6
1921	(Male	62	79	89	21	1921	(Male	35	54	63	11
	(Female	74	66	87	21		(Female	34	47	57	7
1961	(Male	48	42	72	19	1961	(Male	28	36	43	8
	(Female	38	44	70	24		(Female	32	21	41	9
Fertility Ratio					Fertility Ratio						
1861	632					1861	513				
1891	568					1891	480				
1961	350					1961	500				

In 1861 there were 344 men and 327 women in Channelkirk, and 216 men and 238 women in Ettrick. The proportions in each age group, by sex are very similar in both parishes (see Table 60): and from this comparable situation in Ettrick and Channelkirk, the populations have declined. These declines have not been at the same rate (see fig. 36) or of equal magnitude in each decennial period. Equally the male and female sectors of the population of each parish have not exhibited the same rate of decline in total numbers: in Channelkirk, male and female totals have paralleled each other, but in Ettrick the female population had a faster rate of

decline than the male in the period 1891-1921, and then while the male population of the parish continued to decline from then until 1951 and 1961, the female sector grew in numbers to 1951, before entering a decade of accelerated decline to 1961.

In addition to this overall decline in numbers, these two parishes have both experienced a change in age composition. By 1921 those under 14 no longer formed the largest proportion of the population, and those in the 15-34 age group had also declined absolutely and relatively. As a direct result of this the populations of both have aged considerably. This together with a declining fertility ration in Channelkirk means that the present day population will be unlikely even to regenerate itself in future decades, and further decline would therefore seem inevitable. The fertility ratio in Ettrick, on the other hand, does not exhibit this progressive decline, due perhaps to the fact that in this parish the population has not aged to the marked extent evident in Channelkirk. Ageing in Channelkirk may be a result of declining rural service employment in Oxton village which forced young people to look for work outside the parish, particularly in the mills at Lauder and Earlston which are easily accessible via the main road through the parish.

TABLE 61

Ettrick (45 households interviewed)

age	Males		Females		Males survey				Females (survey)					
	E.D.*	Survey	E.D.	Survey	No. years in parish				No. of years in Parish					
					less	over		all	less	over		all		
					than	1-5	6-10	10	than	1-5	6-10	10	all	
					1				1					
0-14	28	14	32	19	-	2	-	-	12	-	3	-	-	16
15-24	17	8	8	12	-	1	-	-	7	-	-	-	-	12
25-34	19	7	13	5	-	-	-	3	-	-	1	1	1	2
35-64	43	35	41	33	-	-	-	8	-	-	2	4	13	14
65+	8	5	9	1	12	7	5	2	34	-	-	-	-	1

TABLE 62

Channelkirk (64 households interviewed)

Age	Males		Females		Males survey				Female (survey)					
	E.D.*	Survey	E.D.	Survey	No. years in parish				No. years in parish					
					less	over		all	less	over		all		
					than	1-5	6-10	10	than	1-5	6-10	10	all	
					1				1					
0-14	48	34	38	23	1	-	4	-	29	-	-	1	-	22
15-24	25	7	28	7	-	-	-	1	6	-	1	-	-	6
25-34	17	12	16	14	-	-	1	1	10	1	1	4	3	5
35-64	72	41	70	36	1	1	3	13	23	-	1	1	24	10
65+	19	5	24	6	-	-	-	1	4	1	-	1	2	2

* E.D. census enumeration district information, 1961.
 Ettrick and Kirkhope parishes contain 136 households
 Channelkirk contains 119 households
 (according to the 1961 census.)

The questionnaire survey taken in 1967 revealed that most people living in the parishes at that time had been there all their lives. 15% of those residing in Ettrick had been there for under ten years, and of these none had been there for less than one year; in Channelkirk 12% of those interviewed had lived less than ten years in the parish, and 2% for less than one year. The major

group of incomers are those now aged 35-64, those under 25 are hardly represented at all as in-migrants. On the other hand the question about relatives who had left the parish revealed that in almost all instances, they were under 25 when they had moved. This may be biased however as in all instances it was sons or daughters of those interviewed who had moved, and there were no examples of brothers and sisters who would have been of an older age group, - older people with no relations still in the parish who had moved could not be traced in any way. Out-migration with regard to Ettrick parish exceeded in-migration by one in the period since the 1951 census, but in Channelkirk more than twice as many people moved into the parish as moved out. In both parishes the numbers moving out since 1961 are in excess of those who left between 1951 and 1961, so that the exodus from them would appear to be proceeding at a faster rate now, than previously.

The situation, therefore, at the present time, is one of two parishes with the common feature of out-migration of young adults, and while there is compensating in-migration this tends to be of people in the older age groups.

TABLE 63

Ettrick: Outmigrants		(Males)				(surveyed households)		
percentage	how long away				age when left	period of moving		
	1 year	5	10	over 10		1951-61	1961+	
0-14	-	-	-	-	0-14	-	-	
15-24	-	5	1	-	15-24	3	8	
25-34	-	-	4	-	25-34	1	-	
35-64	-	-	1	1	35+	-	-	
65+	-	-	-	-				

TABLE 64

Channelkirk: outmigrants (Males) (surveyed households)

present age	how long away			age when left	period of moving	
	^{under} 1 yr	-5	^{over} 10		1951-61	1961+
0-14	-	-	-	0-14	1	-
15-24	-	2	1	15-24	1	2
25-34	-	-	-	25-34	-	-
35-64	-	-	-	35+	-	-
65+	-	-	-			

Reasons for the movement of young people away from the two parishes seemed to fall into several distinct categories.

Those men and women with higher education and specialized training were forced to move because of lack of employment within not only the parish, but the area as a whole. Those young men with prospects of owning or renting a farm tended to remain in the parish but the remainder found that they could get better wages and working conditions in other types of employment. In Ettrick this necessitated their leaving the parish, but in Channelkirk some alternative employment was available in the mill in Earliston, and so out-migration was not as great from this parish as it might have been.

75% of the young women who left these parishes did so on marriage in order to set up house near their husband's place of work: about 30% of the men also moved for this reason, and in this instance it was either to be near the wife's relations, or because on marriage it was necessary to obtain more remunerative employment than was available in the parishes.

In several instances, for both men and women, travel to their place of work would have been feasible, but houses, or houses at a suitable cost and standard, were not available in the parish.

TABLE 65

Channelkirk: outmigrants (Female) (surveyed households)							
present age	how long away (yrs)				age when left	period of moving	
	^{under} 1	-5	-10	^{over} 10		1951-61	1961+
0-14	-	-	-	-	0-14	-	-
15-24	-	3	-	-	15-24	2	5
25-34	-	2	2	-	25-34	-	-
35-64	-	-	-	-	35+	-	-
65+	-	-	-	-			

TABLE 66

Ettrick: outmigrants (Female) (surveyed households)							
present age	how long away (years)				age when left	period of moving	
	^{under} 1	-5	-10	^{over} 10		1951-61	1961+
0-14	-	-	-	-	0-14	-	-
15-24	-	4	-	-	15-24	4	5
25-34	-	2	1	2	25-34	-	1
35-64	-	-	-	1	35+	-	1
65+	-	-	-	-			

Those who had recently moved into the parishes had done so because they had family connections with the parish (82%), houses were available (at good prices) 86%, they had retired (41%), or they enjoyed country life (36%).

TABLE 67

Ettrick: Male Employment 1967 (Surveyed households)

Age	agriculture	mining	production	service	defence	school/ retired
15-24	3	-	1	2	-	2
25-34	5	-	-	2	-	-
35-64	26	-	-	6	-	3
65+	1	-	-	-	-	4

TABLE 68

Channelkirk: Male Employment 1967 (Surveyed households)

Age	agriculture	mining	production	service	defence	school/ retired
15-24	4	-	1	1	-	1
25-34	6	-	3	3	-	-
35-64	21	-	3	15	-	2
65+	1	-	-	-	-	4

Employment in the two parishes in 1967 was much the same as in 1866, with the majority of the men working in agriculture, and a proportion in service activities (shops, banks, etc.) The majority employed in the latter group do not work within the parishes, however, as was the case in 1866. Channelkirk men find employment in service activities in Earlston, and Ettrick men in Selkirk and to a lesser extent Hawick. Greater diversification of employment structure is exhibited by Channelkirk parish than is found in Ettrick, because here about 30% of the work force is devoted to textile manufacture in the mill at Earlston, as a result of the easy communications between Channelkirk and the places to the south of it via the A68.

This road has had a further implication for the population of the parish. Several houses in Oxton village have been taken over as weekend and summer houses for families at present living in Edinburgh. In at least two instances their owners hope eventually to retire to the village. This holiday function is something which Ettrick has also, but in a different form. No instances were found of people buying houses in the parish for this purpose, but there is a large caravan site at Hopehouses which attracts many tourists during the summer months.

Ettrick parish's population history has been governed by two factors, isolation and agricultural evolution. So long as commerce and services were not centralised employment was available in crafts in this rural parish but with the 19th-20th century evolution towards larger units and national concerns these craftsmen found it increasingly difficult to compete, and so shoe-makers, bakers, and blacksmith's, to name but a few disappeared from the scene. At the same time agriculture was changing in techniques, and amalgamation was taking place: In line with changing social attitudes family size was declining. All these factors contributed to the steady decrease in the number of people living in the parish. The large sheep farms of the present day can be run with very little labour, and afford employment to only a few; services and social provision are at a low level, because with such a small, scattered population it is uneconomical to improve them - but the resulting conditions have been conducive to out-migration, especially of young people, as they

are less willing to live in such remote places. As a result, farmers are short of what little labour they do have need of, in particular experienced shepherds, and there are few young men coming into the "profession".

Channelkirk's history has been very similar, but ease of communication at all times has made a wider range of employment available to the in-habitants of the parish, who have been able to live there but work elsewhere. This factor has also made more accessible what are at present considered 'the necessities of life' - adequate day-to-day shopping in Earlston, or one of the larger centres further south, and Edinburgh, about 40 minutes drive away with its wide range of retail and entertainment facilities. But all this has not been sufficient to stop out-migration, and net loss of population to the parish, and here as in Ettrick the numbers are dwindling, and where there is an in-movement it is of the elderly, thus making the population of both ^{parishes} ~~parties~~ age at the apex.

Gordon and Greenlaw

Gordon and Greenlaw parishes in Berwickshire were also studied as examples of type one demographic region; Greenlaw being typical of this type (like Ettrick) and Gordon exhibiting some variations from the norm.

Both of them have been dominantly agricultural parishes in the period 1850 to 1967. They are situated on the western edge of the

Merse. Moorland occupied about one-quarter of the surface of Gordon in 1866 according to Rutherford², and north west Greenlaw was "heathy and moorish. In the upper part of the parish a gravelly ridge, approximately 50 feet wide and 30 or 40 feet high called the 'Kaimes' crosses the moor, extending nearly two miles in length. On the north of this ridge the ground is boggy, and on the south of it is Dugden moss, about 50 acres in extent".³

TABLE 69
Trends in Agriculture

	Gordon				Greenlaw			
	1866	1891	1928	1966	1866	1891	1928	1966
Wheat	30	0	14	28	17	9	36	286
Barley	511	448	148	1,592	706	415	235	1,677
Oats	1,345	1,459	1,091	372	1,239	1,139	699	193
Turnips	1,035	1,038	749	365	955	785	526	229
Rotation Grass	2,364	3,025	3,157	2,807	1,765	1,522	1,864	1,960
Permanent Grass	2,004	2,224	2,144	1,436	612	1,012	2,114	996
Rough Pasture	?	554	1,576	2,085	?	3,454	4,843	8,165
Horses (T)	?	172	120	0	?	140	123	0
Cattle (T)	550	630	825	2,184	607	584	623	1,140
Ewes	?	?	6,061	5,521	?	?	5,303	6,403
Sheep (T)	9,740	14,864	17,973	16,339	5,805	9,699	13,940	16,420
Pigs (T)	261	201	102	200	250	132	146	1,276
Poultry (T)	?	?	3,914	1,500	?	?	2,545	809

SOURCE : Parish Agricultural Returns

"That part of it (Gordon) which is arable is under a high state of cultivation"⁴ and this was also the case in Greenlaw in 1866.

Rotation grasses and turnips were important crops in 1866 in Gordon,

3. Rutherford, op. cit., p. 541

4. Rutherford, op. cit., p. 537

accounting for 2,364 and 1,035 acres respectively (see Table 69), and oats, 1,345 acres of them, was the main cereal crop, followed by barley 511 acres, and a small amount, 30 acres of wheat. Permanent grass covered less ground than rotation grasses. Cattle and sheep were important in the economy, numbering 550 and 9,740 in the parish in 1866. In Greenlaw, oats, turnips and rotation grasses were the main items in the cultivated area, their acreages being 1,239, 955 and 1,765. As in Gordon barley was also important, there being 706 acres of it within the parish at that time. Permanent grass covered only 607 acres, and did not therefore constitute a significant factor in the parish's economy. Cattle, 607 of them, and 5,805 sheep, 250 pigs are the main livestock. These 1866 figures establish the fact that both parishes were at that time areas of mixed farming, arable and pastoral activities both forming integral parts of the agricultural economy.

Both parishes at this period had one settlement. In Gordon, the village "consists of one long street, in which are some very good shops and houses"⁵ Greenlaw at this time was the county town of Berwickshire, and according to the 1861 census had 810 of a population.

In the two parishes employment was mainly to be found in agriculture, but as in Channelkirk and Ettrick all essential services were also provided, and in far greater abundance than in either of these two upland parishes. From Table 70 the importance of Greenlaw as a centre serving not just its own parish but a wider area

5. Rutherford, op. cit., p. 544

TABLE 70

Trades and Services 1866

<u>Gordon</u>		<u>Greenlaw</u>	
<u>carrier</u>	3 per week to Kelso (1 extra once a fortnight)	<u>carrier</u>	1 per week to Coldstream
	1 per week to Galashiels (1 extra once a fortnight)		1 per week to Kelso
	1 per week to Duns		1 per week to Edinburgh
	2 per week to Earlston		1 per fortnight to Duns
	1 per week to Edinburgh		

"Gordon has now a station quite close to it, on the Berwickshire branch of the N. B. R." and Greenlaw "has a railway station" on the same branch line.

Baker	1	2
Confectioner	-	1
Grocer	4	8
Flesher/butcher	1	2
Tea Dealer	2	-
Shoemaker	2	7
Tailor, milliner } dressmaker }	6	14
China merchant	-	1
Watch maker	-	2
Fishing tackle maker	1	-
Innkeeper	3	3
Coal agent	-	1
Blacksmith	2	3
Cartwright	-	1
Ironmonger	-	1
Saddler	-	1
Undertaker	-	1
Mason	2	-
Cooper	1	-
Contractor	-	3
Slater/glazier	-	2
Thatcher	-	1
Joiner	2	3
Millwright	-	2
Tweed manufacturer	-	2
Cattle dealer	-	2
Farmer	11	14

* Source Rutherford

can be seen, despite the fact that part of its privileges as county town had been "by an Act lately passed... transferred to Dunse where most of the county officials reside."⁶

Services of direct interest to farmers in both parishes were provided in the number of corn and flour mills in each, 3 in Gordon and 2 in Greenlaw.

A further source of employment in Greenlaw was quarrying "On its (Blackadder) banks are extensive quarries of red sandstone, from which was built the railway bridge at Leader foot, and most of the stones required on the Dunse and Earlston Railway were procured from them"⁷ In 1866 the quarry of Greenside was still being worked.

TABLE 71

Demographic Characteristics

<u>Gordon</u>	Male	Female	<u>Greenlaw</u>	Male	Female
1861	435	496	1861	652	718
1891	407	436	1891	527	583
1921	342	377	1921	438	471
1951	328	345	1951	409	422
1961	303	339	1961	391	387

Greenlaw Village

1861	1881	1891	1901	1961
810	744	669	611	557

6 Rutherford, op. cit., p. 541

7 Rutherford, op. cit., p. 541

TABLE 71 (CONTD).

		0-14	15-34	35-64	65+			0-14	15-34	35-64	65+
1861	Male	171	119	117	28	1861	Male	257	192	162	4
	Female	180	153	128	32		Female	227	233	202	5
1891	Male	172	118	106	11	1891	Male	188	154	146	3
	Female	161	123	120	32		Female	171	172	174	6
1921	Male	95	92	117	38	1921	Male	114	108	172	4
	Female	103	104	134	36		Female	111	131	163	6
1961	Male	77	76	107	43	1961	Male	92	107	139	5
	Female	79	74	113	73		Female	79	92	158	5
<hr/>											
Fertility Ratio		1861	476			Fertility Ratio		1861	555		
		1891	380					1891	380		
		1961	413					1961	331		
<hr/>											

Both parishes, like the pair already discussed, have declined in total numbers from an early maximum population (see fig. 36 and Table 71). In Gordon this was a steady decline until the decade 1881-1891 when there was a slight increase and again 1911-1921 showed an even smaller increase. Greenlaw on the other hand, increased very slightly from 1851 to 1871 and declined from then, the rate being faster until 1911 than it has been subsequently.

In terms of age and sex structure the parishes are also similar. Females have outnumbered males at all censuses, in both parishes, except in 1961 in Greenlaw. They have also outnumbered men in almost every age group over the period 1851-1961, particularly in the two older groups. In Greenlaw males under 14 provide the only exception to this statement as they have always been in excess of females of the same age; in Gordon the totals in this age group have been very close to one another.

These parishes exhibit ageing of the population, a characteristic

already met with in Ettrick and Channelkirk. This had become evident by 1921, and by 1961 50% of the males in each of the two parishes were over 35, and 55% of the females. About 15% of the male and female populations in Greenlaw were over 65; and in Gordon 15% of the men and over 20% of the women were in this age group.

The fertility rates in these two parishes is slightly lower than in the pair already discussed: in Greenlaw it has become progressively lower, and in Gordon has shown little change during this century.

The decline of the total population of the village of Greenlaw exactly parallels the parish's decline.

During the periods when the populations in Gordon and Greenlaw parishes were declining, their agriculture was slowly evolving. Rotation grasses and oats continued to be the main cultivated crops in Gordon in the 1866 to 1891 period, with 3,025 acres being devoted to the former and 1,459 acres to the latter by 1891. Turnip acreage did not change much during the period, but barley was grown in a smaller area, 448 acres, and wheat was no longer sown in the parish. Permanent grass land increased by 220 acres between the two dates, and a small area was covered with rough pasture (554 acres). The number of sheep being reared in the parish had risen quite considerably, from 9,740 in 1866 to 14,864 in 1891, and cattle breeding was also on a slightly larger scale, 630 head in 1891 as opposed to 550 in 1866. By the turn of the century sown crops were declining in acreage so that substantial areas had been lost to barley, oats and turnips by 1928. Rotation grasses occupied roughly the same area, as did permanent grass, but rough pasture had extended itself three-

fold from 554 acres in 1891 to 1576 by 1928. In line with the increase in the area under pasture the amount of livestock steadily increased to 825 cattle and 17,973 sheep by 1928. Subsidies since the second world war have brought about a further change in the agricultural emphasis of some farms. Wheat, oats, and turnips are now scarcely grown at all, and barley is the main cereal crop, now occupying 1,592 acres. A very small amount of this barley is used for malting (overseas, not of high enough quality for Scottish breweries) but most of it goes for cattle feeding, to provide the type of lean meat which is in great demand by housewives. The number of cattle kept in Gordon has risen sharply, from 825 in 1928 to 2,184 in 1966. Sheep totals, and the number of breeding ewes have fallen very slightly (see table 69).

Conditions in Greenlaw are very similar, with an emphasis on sheep rearing, backed up by cattle breeding and a little grain production before the turn of the century; a reduction in the area under crops and an increase in pasture in the first decades of this century so that the land would support more sheep, and a few more cattle, and then, since the thirties an increasing emphasis on barley beef production, with sheep rearing as the complementary activity.

It has proved impossible to make any estimates of past migration to and from these parishes, as the numbers involved in the population are too small to allow the application of the survival ratio. The questionnaire survey carried out in 1967 was again, as it had been for Channelkirk and Ettrick, the only source of information on population movement, and this was confined to migration in the fairly recent past.

TABLE 72
Gordon (Households Surveyed)

Age	MALE		FEMALES		MALES					FEMALES				
	E. D.	Survey	E. D.	Survey	length of time in Parish					length of time in Parish				
					<i>under</i>	<i>over</i>	<i>under</i>	<i>over</i>	<i>under</i>	<i>over</i>	<i>under</i>	<i>over</i>	<i>under</i>	<i>over</i>
0-14	77	32	79	37	1	-	5	2	24	-	-	1	-	36
15-24	35	23	30	23	1	1	2	1	18	1	-	3	-	19
25-34	41	18	44	16	2	-	8	1	7	1	2	5	1	7
35-64	107	58	113	59	2	2	5	13	36	1	2	7	15	34
65+	43	22	73	18	1	1	8	4	8	-	3	4	5	8

TABLE 73
Greenlaw (Households Surveyed)

Age	MALE		FEMALE		MALES					FEMALES				
	E. D.	Survey	E. D.	Survey	length of time in parish					length of time in parish				
					<i>under</i>	<i>over</i>	<i>under</i>	<i>over</i>	<i>under</i>	<i>over</i>	<i>under</i>	<i>over</i>	<i>under</i>	<i>over</i>
0-14	92	52	79	52	-	3	3	-	46	-	5	3	-	44
15-24	54	32	46	11	-	3	4	3	17	-	2	2	-	7
25-34	53	20	46	27	-	7	1	3	9	-	7	7	1	12
35-64	135	90	158	88	1	6	9	26	48	1	6	6	44	31
65+	53	17	58	9	1	1	1	6	8	-	2	-	5	2

Gordon Parish contained 204 households according to 1961 census

Survey " 102 "

Greenlaw Parish " 264 " according to 1961 census

Survey " 130 "

Of those at present living in the two parishes the great majority had been there all their lives. In both instances just over 20% of those interviewed had lived there for less than ten years: in Gordon 25% of those who had been there for less than ten years were over 65 years of age, but in Greenlaw only 6% were in this age group. On the other hand, 34% of Greenlaw's in-migrants over the last ten years are presently aged 35-64 as opposed to 27% in Gordon. Very few of the migrants into the parishes between 1957 and 1967 are in the young adult age group now.

TABLE 74

Greenlaw: Out-migrants (Male)					(Households surveyed)			
present age	how long away (yrs)				Age when left	period of moving		
	<small>under</small> 1yr.	5	10	<small>over</small> 10		1941-51	1951-61	1961+
0-14	-	-	-	-	0-14	-	-	-
15-24	1	6	2	-	15-24	1	3	13
25-34	-	4	3	2	25-34	-	1	-
35-64	-	-	-	1	35-64	-	-	-

TABLE 75

Gordon: Out-migrants (Male)					(households surveyed)		
present age	how long away (yrs)				Age when left	period of moving	
	<small>under</small> 1	5	10	<small>over</small> 10		1951-61	1961+
0-14	-	-	-	-	0-14	-	-
15-24	-	7	1	-	15-24	3	10
25-34	-	3	5	-	25-34	1	1
35-64	-	-	-	1	35-64	-	-

87% of those who had left Gordon were under 25 when they had done so, and 97% of those from Greenlaw were in this age group. More than twice as many people entered these parishes as left them,

as far as the questionnaire could ascertain (but the census indicates that the total populations have declined) but do the numbers compensate for the loss of young people ?

TABLE 76

Greenlaw: Out-migrants (Female) (Households surveyed)

present age	how long away (yrs)				age when moved	period of moving	
	^{under} 1	-5	-10	^{over} 10		1951-61	1961+
0-14	-	-	-	-	0-14	-	-
15-24	-	12	-	-	15-24	2	19
25-34	-	5	4	-	25-34	-	-
35-64	-	-	-	-	36-64	-	-

TABLE 77

Gordon: Out-migrants (Female) (Households surveyed)

present age	how long away (yrs)				age when moved	period of moving	
	^{under} 1	-5	-10	^{over} 10		1951-61	1961+
0-14	-	-	-	-	0-14	-	-
15-24	2	13	-	-	15-24	2	17
25-34	1	2	-	-	25-34	2	1
35-64	-	1	-	2	35-64	-	1

Nearly all of the young men from both parishes who had migrated had done so for better employment and about 50% of the women for the same reason: the remainder in both instances having left on marriage. Again, as in Ettrick and Channelkirk, migration away from these parishes since 1961 was far in excess of that recorded for the 1951-61 period.

TABLE 78

Gordon: Male Employment 1967

age	agriculture	mining	production	service	defence	school/retired
0-14	-	-	-	-	-	-
15-24	5	-	3	7	-	8
25-34	7	-	-	11	-	-
35-64	26	-	1	31	-	-
65+	-	-	-	1	-	21

TABLE 79

Greenlaw: Male Employment 1967

age	agri culture	mining	production	service	defence	school/retired
0-14	-	-	-	-	-	-
15-24	8	-	6	13	-	5
25-34	7	-	1	12	-	-
35-64	31	-	5	52	-	2
65+	1	-	-	-	-	16

Agriculture and service activities are the main occupations in the two parishes. About 30% of the men in each parish in 1967 worked in agriculture, on farms within the parish in which they lived, usually in tied cottages. 40% of those in Gordon, and 48% in Greenlaw were in service occupations; in the former instance about two-thirds were employed in the village and the remainder in Duns, Earliston and Greenlaw, but of the 48% in services in Greenlaw parish all but about 5% commuting to Duns or Kelso, worked in the town itself. A small proportion of those men over 15 years of age whose work ^{are} is classifiable as productive; they are employed in

mills, those in this category living in Gordon travel to Earlston, and those in Greenlaw work in the town's hosiery mill.

Gordon and Greenlaw provide examples of a declining population in parishes where occupations other than agriculture are well represented (particularly in Greenlaw) as opposed to Channelkirk and Ettrick where access to other types of work was not quite so easy. The great emphasis on agriculture, and the lack of skilled and specialist jobs, and alternative industry would seem to be the prime reasons for the out-migration of young people, as they were in the previous pair of parishes discussed. Those who had moved into the parishes had done so to retire, to enjoy the quiet country life, and for some of the younger ones, - particularly those with families - because houses were available.

19 households of those questioned in Greenlaw thought they would like to move. Reasons for this emphasised the "pull" factors of other places :-

towns for more shops were cited by 15

better jobs opportunities by 19

better schooling for families by 11

better climate (e. g. south coast) when retired by 4.

The main factor which seems to hold them in the area is the problem of acquiring adequate housing elsewhere, Several young couples found living in the village cheap, and gave them more opportunity to save for a home in a town. Apart from those wishing to retire to warmer places, towns were the chief destinations of these 'potential

'migrants' in particular Berwick, Newcastle and Edinburgh.

14 of the households interviewed in Gordon expressed a desire to move, and again the chance of a better job was the main reason for wishing to do so. Better shopping facilities and schooling were also important: and one that had not been mentioned in any of the other parishes, awkwardness of transport out of Gordon. The latter did not affect many people in the rural parts of the four parishes which have so far been considered, as all those living on farms or in dispersed settlement units had private transport, from bicycles for children to scooters and cars for older people. But in the villages of Gordon and Greenlaw car ownership was limited to 65% of the households interviewed - those without were mainly retired people who found the awkward and often inconvenient 'bus-linkages' of the area so tiring that they tended to be confined to the village, and they felt that a more frequent service to the main towns of the area would have allowed them to plan their trips on the basis of a shorter and less exhausting day - similarly they felt that better facilities at the points where a change of bus was necessary would have made trips more enjoyable - social provision for the elderly, who are coming to make up an increasing proportion of the population does not seem to have progressed to any extent; several felt that empty schools could be used as 'old peoples' clubs, and that the library system of the area could be expanded.

The chapter so far has brought out the fact that decline of the form characterised by demographic region type one can be found in

isolated, upland parishes and in thriving lowland arable parishes - it is not confined to areas of small dispersed settlement in the first instance, but is found in districts where settlement units are large and the variety of employment opportunity greater. This decline in total population, and its characteristic of ageing go hand in hand with an evolution of the agricultural pattern of each parish, with its attendant decrease in the numbers who need to be employed in the industry to allow productivity to increase: rural depopulation in each of these parishes is also connected to the narrowing of possible type of work by the decline in craft industries, in face of competition from large concerns.

Ednam and Eccles

Ednam parish in Roxburghshire and Eccles in Berwickshire are examples of demographic region type 2, and lie on the western edge of the Merse, slightly south of Gordon and Greenlaw.

Both parishes have a history which indicates that they are good farming areas: the emphasis in each has been on arable cropping, and sheep and cattle rearing have played an important role at all times. The changes in the agricultural enterprises of Ednam and Eccles parishes (table 80) have meant that a lower labour force is required to continue and increase production than was previously the case. The lower acreage of turnips has done away with much of the hand labour required, and the introduction of various forms of mechanisation over the years has meant that each farmer need employ fewer and fewer people. Barley is, on all farms, harvested with

the combine harvester which came into the district in 1944.

TABLE 80
Trends in Agriculture

ECCLES	1861	1891	1928	1966	Ednam	1861	1891	1928	1966
Wheat	370	189	190	750	Wheat	138	38	78	119
Barley	1895	2207	1354	4795	Barley	685.5	743	520	1492
Oats	2210	2199	1842	578	Oats	688	725	576.5	135
Turnips	2245	2228	1573	374	Turnips	734	710	521	171
Rotation Grass	3520	3496	3461	2850	Rotation Grass	1068.5	323	1359	1408
Permanent Grass	570	1285	3266	1130	Permanent grass	362.5	394	539	546
Rough Grazing	?	0	29	163	Rough Grazing	?	0	0	33
Horses (Total)	?	425	389	0	Horses (Total)	?	107	113	0
Cattle (Total)	1037	1074	1609	2229	Cattle (Total)	313	329	461	1162
Ewes	?	?	6300	3588	Ewes	?	?	1374	1421
Sheep (Total)	9529	12829	18710	10377	Sheep (Total)	3815	4334	4946	3674
Pigs (Total)	605	383	445	792	Pigs (Total)	185	79	183	73
Poultry (Total)	?	?	6479	3310	Poultry (Total)	?	?	3151	35473

TABLE 81
Trades and Services, 1866*

<u>ECCLES PARISH</u>		<u>EDNAM PARISH</u>	
<u>Eccles Village</u>		<u>Leitholm Village</u>	
Grocer	1	Grocer	1
Blacksmith	1	Baker	1
Tailor	1	Tailor	1
Shoemaker	1	Shoemaker	1
Joiner	1	Joiner	2
Mason	1	Cooper	1
<u>Birgham Village</u>		<u>Harrington Hamlet</u>	
Grocer	1	Joiner	1
Blacksmith	2	Agricultural	} 1
Tailor	1	Implement	
Flesher	1	maker	
Joiner	2		
<u>Parish</u>	farmer 36		

* Source: Parish Agricultural Returns

* Source: Rutherford p. p. 180, 656-658

Ednam contained one village in the nineteenth century and Eccles had three: the latter was the better serviced parish, most day-to-day needs being catered for in the 'villages' (table 81). In addition to those services listed each parish had a school, churches, corn mills: Eccles had two quarries and Ednam a brewery. The parishes were, therefore, in 1866 thriving, well serviced agricultural areas.

The decline in population in the two parishes from their 1851 maximum has not been completely steady. Eccles had a relatively static period from 1851 to 1871, then declined to 1891: this was followed by a further period from 1891 to 1911 when the total numbers did not change, and from then until the present day the parish population has declined. Ednam, on the other hand, declined then increased between 1851 and 1871, then after 1891 went into a steady decline which was not interrupted until 1931. The population of the parish then grew, and by 1951 had achieved its 1921 total - the period 1951-61 was one of decline (see fig. 36).

Ednam
In ~~Ednam~~ females have outnumbered males at all times, and it is only since 1951 that males have outnumbered females in Eccles. There has been in these two parishes ageing of the population similar to that met with in the parishes which have already been discussed. In Eccles and Ednam, in the male sector of the population, the proportion under 15 declined slowly to 1891, and thereafter at an

accelerated rate. Trends for men under 35 in Ednam exactly parallel these, and in Eccles those men in this age group have decreased steadily in numbers and proportion during the 1851-1961 period. The process of ageing in Eccles has therefore been a progressive one from 1861 until the present day, but in Ednam the rate has increased since 1891. The female population in each parish exhibits the same characteristics as its male counterpart.

The fertility ratios calculated for each parish show, in Ednam a progressive decline, and in Eccles a decline that has only recently been arrested. Eccles in 1961 had the highest ratio to be recorded there in the last hundred years.

TABLE 82
Ednam Parish : Migrating Families

Period	In migration	Out migration	Net gain/loss
1871-80	193	no information	
1881-90	154	"	
1891-1900	128	"	
1901-10	128	"	
1911-20	67	"	
1921-30	88	"	
1931-40	104	"	
1941-50	68	66	+2
1951-60	59	83	-24
61+	14	50	-36

Source: Ednam School Registers

The records of Ednam Parish school, which exist for the period 1871 to 1963, afford an insight into the migrational patterns of that part of the population who had children of school-age. The limitations of using such records have already been discussed (see chpt. 2)

As can be seen from table 82 the information contained in these records is unsatisfactory for drawing any conclusions about migration in connection with Ednam parish. But they do reveal the fact that since the turn of the century the parish has attracted fewer and fewer in migrants, and that during the twenty-three years for which movement away from the parish has been recorded, this has increased at each decennial period.

TABLE 83

Eccles (Households Surveyed)

Age	MALE		FEMALE		MALE					FEMALE				
	E. D.	Survey	E. D.	Survey	How long in Parish (years)					How long in Parish (Years)				
					under		over			under		over		
					1yr	-5	-10	10yrs	all	1yr	-5	-10	10yrs.	all
0-14	108	30	129	45	1	1	1	2	25	3	1	4	-	37
15-24	72	27	42	15	3	1	4	3	16	3	4	1	1	6
25-34	57	16	59	25	-	4	6	-	6	-	4	11	2	8
35-64	191	76	211	76	4	5	13	19	35	4	7	13	28	24
65+	60	18	63	8	-	3	1	2	12	-	4	2	-	2

154 households in Eccles according to 1961 census

115 households in sample

TABLE 84

Eccles : Out-Migration (Male and Female)

Present Age	How long away (years)				Age when left	Period of moving		
	^{under} 1	-5	-10	^{over} 10		1951-61	1961+	
0-14	-	-	-	-	0-14	-	-	Males
15-24	-	3	1	-	15-24	-	7	
25-34	-	2	5	-	25-34	8	1	
35-64	-	-	-	-	35-64	-	-	
0-14	+	-	-	-	0-14	-	-	Females
15-24	1	8	-	-	15-24	3	12	
25-34	-	4	3	-	25-34	-	2	
35-64	-	-	-	-	35-64	-	-	

56 of those questioned in 1967 had moved into the parish during the previous ten years, the greater proportion of these now being in the upper part of the 35-64 age group (73%). The corresponding total of out-migrants with relatives still living in the parish was 11. There was, therefore, on the basis of the questionnaire sample, a net gain to the parish during the period. As this evidence does not cover those who have left the parish without any ties still remaining, it does not give the full picture - and probably the school records are, in that they deal with family movement, concerned with these people who have left without a trace: they indicate that some 70 families of this type have left the parish since 1957 and only 33 entered. So using these records there appears to be a strong tendency for people to leave the parish.

TABLE 85
Ednam (Households Surveyed)

Age	MALE		FEMALES		MALE Number of year in Parish					FEMALE Number of years in Parish				
	E. D.	Survey	E. D.	Survey	under		over			under		over		
					1yr	-5	-10	10yrs.	all	1yr.	-5	-10	10yrs.	all
0-14	38	21	43	25	-	1	-	2	18	-	2	1	-	22
15-24	31	18	20	16	2	-	3	3	10	-	2	2	6	6
25-34	16	9	19	7	-	1	3	1	4	-	2	3	2	-
35-64	66	48	77	40	1	4	7	18	18	1	6	6	21	6
65+	20	10	28	10	-	3	1	2	4	-	5	-	2	3

TABLE 86
Ednam Out-Migration (Male and Female)

Percentage	How long away (Years)				Age when left	Period of Leaving		
	1	-5	-10	10		1951-61	1961+	
0-14	-	-	-	-	0-14	-	-	Male
15-24	-	1	-	-	15-24	1	4	
25-34	1	4	1	-	25-34	-	2	
35-64	-	-	-	-	35-64	-	-	
0-14	-	-	-	-	0-14	-	-	Female
15-24	+	1	-	-	15-24	-	3	
25-34	-	2	1	-	25-34	-	1	
35-64	-	-	-	-	35-64	-	-	

For Eccles there is only the one source available for obtaining information about migration, namely the questionnaire. 108 people moved into the parish in the 1957-67 period, again mainly those now in the 35-64 age group, and 27 have left, all of them under 35 and most under 25 when they moved. This migration of

young people has accelerated since 1961.

These two parishes are, therefore, on the basis of the questionnaires, areas of out-migration of young adults of both sexes.

TABLE 87
Ednam and Eccles : Male Employment 1967

Age	EDNAM						ECCLES					
	Agri.	Mine	Prodn.	Ser.	Def.	School/ Retired	Agri.	Mine	Prodn.	Ser.	Def.	School/ Retired
15-24	6	-	-	8	-	4	5	-	1	12	-	9
25-34	6	-	-	3	-	-	9	-	-	7	-	-
35-64	37	-	-	10	-	1	51	-	-	22	-	3
65+	1	-	-	-	-	9	-	1	-	-	-	17

47% of the men over 15 years of age in Eccles work in agriculture, and 56% of those in Ednam. There are no other types of employment available in these two parishes - the other adult males who work travel to Duns and Kelso from Eccles, and to Kelso only from Ednam for employment in the service industries of these towns. The remaining males over 15 years of age in each parish are either receiving further education (about 30% of them) or are retired.

Agriculture has been the main form of employment in these two parishes in the period 1851-1967. Early reductions in crop acreage meant that less labour was required, and when, later, crops, in particular barley, became more extensively grown the mechanised harvesters were available so that not merely were no extra workers

required because of the enlarged crop acreage, but the actual numbers employed could be cut back even further. As there was no alternative employment in either parish those residents who did not work in agriculture had to look further afield for a job. Good communications always existed between those parishes and the nearby burghs of the lowland area, so that for a proportion of the population it was possible to work in the town. But such employment is of a retail and commercial nature, and with growing centralisation of such activities, particularly since work war II even the towns have had their labour forces reduced. Thus employment in services is not so readily available to people from Eccles and Ednam as it once was. People with special skills, or advanced educational attainments (and the number of young men at present receiving higher education indicates the potential magnitude of this problem) are unable to make use of these within even the burghs - and therefore tend to migrate from the area to find suitable employment.

Ancrum and Bedrule

Ancrum and Bedrule in Roxburghshire are also examples of regional type two. In 1866 both of these were predominantly agricultural parishes - but their agriculture did not have the same emphasis as in Ednam and Eccles who have had the same type of demographic history. Ancrum and Bedrule are much hillier than the pair already discussed, and Bedrule has in fact none of the gentle slopes to be found in the other three parishes.

TABLE 88
Trends in Agriculture

Bedrule	1866	1891	1928	1966
Wheat	13	-	-	20
Barley	263	178	26	41
Oats	477	335	277	384
Turnips	463	285	144	145
Rotation grasses	1,077	1,927	861	856
Permanent pasture	327	197	1,277	831
Rough grazing	?	-	910	1,084
Horses (total)	?	50	174	-
Cattle (total)	218	274	427	718
Ewes	?	?	1,858	2,080
Sheep (total)	4,181	8,003	5,235	5,730
Pigs (total)	60	24	6	-
Poultry (total)	?	?	434	852

Source: parish agricultural statistics

Bedrule was entirely agricultural, and contained only one agglomerated settlement, Bedrule, which consisted of the parish church, school house, smithy, and a farm house with its workers' cottages and ancillary buildings. The other residents of the parish were all farmers. The economy was based on sown crops, of which rotation grasses were the most important, occupying 1,077 acres. Oats, turnips and barley all had significant acreages; and wheat was grown on 13 acres. Permanent pasture covered only one-third of the area, occupied by rotation grasses, 327 acres. Cattle and sheep rearing were complementary activities with 218 cattle, and 4,187 head of sheep being kept in 1866; 60 pigs completed the livestock total.

TABLE 89
Trends in Agriculture

Ancrum	1866	1891	1928	1966
Wheat	147	43	43	246
Barley	663	504	295	1,995
Oats	1,780	1,375	1,040	357
Turnips	1,269	1,027	714	395
Rotation grasses	3,213	2,710	2,458	3,488
Permanent grass	1,010	2,542	2,960	1,921
Rough pasture	?	-	19	278
Horses (total)	?	182	170	-
Cattle (total)	506	758	1,035	1,833
Ewes	?	?	5,954	5,246
Sheep (total)	6,198	13,867	17,518	14,995
Pigs (total)	343	153	256	452
Poultry (total)	?	?	5,150	2,237

Source: Parish Agricultural Returns

Ancrum, on the other hand, contained two settlements, Ancrum village with 538 inhabitants, and Longnewton a small hamlet in the north-western part of the parish. This, in addition to a farm house and cottages, had a joiner and blacksmith. Ancrum was served with a range of shops and trades, but outside of the village the parish, like Bedrule, (and the others already studied) was completely rural. Again the complete range of service functions required by a rural community was supplied by the village, as in Oxton, Gordon, Greenlaw, Ednam and the villages of Eccles.

AncrumVillage

grocer	5
baker	1
flesher	2
shoemaker	3
tailor	4
joiner	3
blacksmith	2
mason	1
cooper	1
inkeeper	2

Parish

farmer	28
--------	----

Source: Rutherford pp. 199-200.

Grass was the mainstay of the agricultural economy of the parish in 1866, with 3,213 acres under rotation grasses, and 1,010 under permanent pasture, Oats accounted for 1,780 acres and turnips for 1,269 acres, and a smaller acreage, 663 was devoted to barley and 147 to wheat. Livestock breeding was the principal activity, and 506 cattle and 6,198 sheep were kept.

In Ancrum between 1866 and 1891 the ^{acreage} average sown was considerably reduced for rotation grasses, turnips, oats and even barley and wheat and the amount of permanent pasture more than doubled. This allowed a significant increase in the number of cattle and sheep which could graze in the parish, the latter more than

doubling in numbers in the twenty-five year period. This reduction in the sown area, with its complementary increasing emphasis on livestock production meant that less labour was required on the farms in the parish, and this decrease in the numbers employed is reflected in a decline in the total population. This emphasis on the pastoral aspects of farming continued through the first three decades of the 20th century, when the acreage under sown crops continued to decline, and permanent pasture became slightly more extensive. Cattle totals increased to 1,035 by 1928, and sheep numbers also rose, though not as rapidly as in the latter part of the 19th century. In line with the changes in the parish's economy, the total population continued to fall until 1901, and from then until 1931 remained relatively static. During the next three decades the agriculture of the parish again shifted its emphasis slightly. Permanent grass, with sheep and cattle continued to be important until the late forties, and then the acreage under certain crops started to increase. By 1966 oats accounted for only 357 acres and turnips for 395 acres, but barley had increased its acreage almost seven times in the 1928 to 1966 period from 295 acres to 1,995 acres: wheat acreage had also risen considerably, from 43 to 246 acres. Rotation grasses, increased their acreage also, and all these increases were at the expense of a reduction in the amount of land that was permanent pasture. Sheep rearing has fallen slightly, although the number of breeding ewes being kept has changed little since 1920. Beef production on the other hand has markedly expanded, with 1,833 head of

cattle being kept in the parish in 1966, compared with 1,035 in 1928. This change in emphasis, allowed a very slight increase in population, but the introduction of the combine harvester, and its universal use has meant that the agricultural labour force in the parish has become smaller since 1951.

Bedrule's economy has also evolved over the period 1851 to 1967. Crop acreages declined until the end of the 1920's for wheat, barley, oats and turnips. Rotation and permanent pasture land increased between 1866 and the turn of the century, and then declined again: and with the increase in the area of grass went a doubling of the number of sheep kept in the parish, from 4,181 in 1866 to 8,003 in 1891. Cattle numbers rose very slightly during this period, from 218 to 274. Between 1900 and 1930 much of the grass land reverted to rough grazing land, and fewer sheep could be nourished on the pasture land available and so the numbers kept in the parish decreased steadily. As in the other parishes studied the second world war period saw further changes in agriculture, but these were not so startling here as elsewhere. The barley acreage rose very slightly, as did that under oats; rotation grass remained almost the same; permanent pasture ^{continued} ~~continued~~ to decline, and more and more land reverted to rough grazing. Nevertheless, as elsewhere in the region, the number of cattle being kept markedly increased, a fact which is no doubt attributable to the introduction of the hill cattle subsidy scheme. The smaller acreage under crops, and the steadily declining area of 'kept' pasture land has meant that less and less hand labour has been required in Bedrule, and this is reflected in the long continued slow decline of the parish's population.

TABLE 90
Demographic Characteristics

<u>ANCRUM</u>		MALE	FEMALE					<u>BEDRULE</u>	MALE	FEMALE	
	1861	707	804					1861	109	113	
	1891	600	641					1891	113	133	
	1921	409	503					1921	84	96	
	1951	437	440					1951	65	55	
	1961	387	407					1961	52	52	
		0-14	15-34	35-64	65+			0-14	15-34	35-64	65+
1861	(Male	277	208	183	39	1861	(Male	47	33	26	3
	(Female	295	251	207	51		(Female	48	36	29	0
1891	(Male	223	181	161	35	1891	(Male	45	31	27	10
	(Female	230	187	179	45		(Female	40	52	39	2
1921	(Male	106	120	140	43	1921	(Male	23	28	29	4
	(Female	104	147	203	49		(Female	22	39	34	1
1961	(Male	101	71	168	47	1961	(Male	9	8	26	9
	(Female	94	72	165	76		(Female	12	9	26	5
Fertility Ratio	1861	403					Fertility Ratio	1861	574		
	1891	450						1891	540		
	1961	356						1961	227		

The fertility ratio for both Ancrum and Bedrule retained a fairly high average throughout the 19th century, but has shown a progressive decline during this century. Ancrum's maximum rate was recorded in 1891, and the 1961 figure was 20% lower; 1861 was Bedrule's peak year and by 1961 there had been a 60% decline.

These two parishes are examples of areas with declining total populations, general increase in the average age of their populations, and decreasing

ability to regenerate themselves at each successive decade.

TABLE 91
Ancrum Parish : Migrating Families

Period	In migrants	Out Migrants	Net gain/loss
1871-80	105	no information	
1881-90	84	"	
1891-1900	73	"	
1901-10	73	28	+45
1911-20	68	100	-32
1921-30	68	60	+ 8
1931-40	76	56	+20
1941-50	68	93	-25
1951-60	60	72	-12
1961+	27	45	-18

Source: Ancrum school registers.

Migration, using school records, can be traced for Ancrum, but the registers for Bedrule are missing. The Ancrum ones reveal that in-migration of families with children of school-age was greatest in the 1871-80 period, and declined steadily until the turn of the century. The rate was static from 1911 to 1930, and during the 1931 to 1940 period, increased slightly. Since 1941 the numbers moving into the parish have again declined. It should be remembered here that the figures between 1931 and 1950 are slightly augmented by refugee movement as it was not clear in all cases who were true

migrant families and who were children moving to stay with relatives in the district during the war years. Migration from the parish has not proceeded at a uniform rate, but it would appear that since 1941 it has continued at a high rate, and has been sufficient to cancel out the gains to the parish from in-migration. Sources and destinations of the movers can be readily traced from the maps (fig. 52). These reveal that short distance movement was predominant during the 19th century, within the Border area in the early 20th century, and now to areas outwith the three counties. In-migrants still tend to come over short distances. On this basis it would seem that many out-migrants are not merely a loss to the parish, but to the area as a whole.

Information about migration for both Ancrum and Bedrule was provided by the questionnaire survey.

TABLE 92

Ancrum : (households surveyed)

Age	Male		Female		Male length of time in parish					Female length of time in parish				
	E.D. Survey	E.D. Survey	under 1yr.	-5	-10	over 10yr.	all	under 1yr.	-5	-10	over 10yr.	all		
0-14	101	41	94	31	4	5	1	2	29	2	4	1	-	24
15-24	42	23	30	20	1	3	1	10	8	3	2	3	5	7
25-34	29	14	42	14	4	3	-	1	6	2	4	2	3	3
35-64	153	70	165	78	2	7	11	30	20	3	5	9	45	16
65+	47	19	76	29	2	-	-	3	14	3	4	1	3	18

254 households in parish according to 1961 census.

116 households in survey.

TABLE 93

Bedrule: (Households Surveyed)

Age	Male		Female		Male					Female				
	E. D.	Survey	E. D.	Survey	length of time in parish					length of time in parish				
					^{under} 1 _{yr}	-5	-10	^{over} 10 _{yrs.}	all	^{under} 1 _{yr.}	-5	-10	^{over} 10 _{yrs.}	all
0-14	9	6	12	5	1	4	-	-	1	-	2	-	-	3
15-24	5	6	4	3	-	1	-	1	4	-	-	-	-	3
25-34	3	2	5	2	-	-	-	1	1	1	1	-	-	-
35-64	26	16	26	18	2	1	3	7	3	1	1	3	8	5
65+	9	3	5	1	-	-	-	3	-	-	1	-	-	-

105 households in Bedrule & Minto parishes according to 1961 census

21 households in sample.

92 people have moved into Ancrum in the 1957-67 period, and 64 have moved away. Of the former 65 are now 35 years of age and over and of the latter 16 are now over 35. At the time of moving, however, all of the out-migrants were under 35 years of age - while this parish is gaining population through migration, it is acquiring older people than it is losing. In Bedrule 19 people have moved in, in the ten year period, and 9 have left. Again the over 35s dominate the former group, and under 35s form the whole of the latter.

TABLE 94

Ancrum Out-migrants (male)

present age	how long away (yrs)				age when moved	period of moving		
	^{under} 1	5	10	^{over} 10		1941-51	1951-61	1961+
0-14	-	-	-	-	0-14	-	-	-
15-24	1	6	2	-	15-24	7	9	12
25-34	-	4	8	3	25-34	-	5	1
35-64	-	-	2	8	35-64	-	-	-

TABLE 95

Bedrule: Out-migrants (Male)

present age	how long away (yrs)				age when moved	period of moving	
	^{under} 1	5	10	^{over} 10		1951-61	1961+
0-14	-	-	-	-	0-14	-	-
15-24	-	-	-	-	15-24	3	-
25-34	-	-	2	2	25-34	2	-
35-64	-	-	-	1	35-64	-	-

In the majority of the instances young men and women left the parishes to obtain work; about 20% of the female migrants and 5% of the male left on marriage, the former to be where their husband's work was, and the latter to obtain homes for their families. The in-migrants to the two parishes contained a small proportion, 3% for Bedrule, and 8% for Ancrum who had moved from towns in the area to better houses in the country, but who commuted to the centres each day to work. The remainder were agricultural labourers, moving around in search of better housing or prospects, and older people (63%) who had retired to these parishes.

TABLE 96

Ancrum and Bedrule: MALE EMPLOYMENT 1967

Age	Ancrum						Bedrule					
	Agri	Mine	Prodn.	Ser.	Def.	School/ retired	Agri	Mine	Prodn.	Ser.	Def.	School/ retired
15-24	6	-	6	6	-	5	3	-	2	1	-	-
25-34	7	-	3	4	-	-	2	-	-	-	-	-
35-64	47	-	7	10	-	4	12	-	-	2	1	1
65+	-	-	-	-	-	19	1	-	-	-	-	2

ANCRUM

BEDRULE

Agriculture still dominates the life of both parishes, and production and service employment, at least in Bedrule, had to be sought elsewhere usually in Hawick. Ancrum village still has some service functions, ^{a post office,} ~~P.O.~~, village store, garage, and a timber contractor, but apart from these sources of employment men had to work outside the parish. Newtown St. Boswells, Jedburgh and Hawick each provided employment, Newtown in clerical functions, and the other two in production, of the light engineering and hosiery variety.

From conversation with those questioned in both parishes, it would seem that some people working in these towns left the parish when they were older to obtain houses in them - but of course as no trace is left of them within the parishes, it was not possible to verify how great a movement of this type there is.

TABLE 97

Ancrum	Out-migrants	(Female)			age when moved	period of moving		
		present age	how long away (yrs) ^{under} 1yr. -5 -10	^{over} 10yrs.		1941-51	1951-61	1961+
0-14	-	-	-	-	0-14	-	-	-
15-24	-	5	1	-	15-24	2	16	10
25-34	-	8	8	4	25-34	-	1	3
35-64	-	-	-	6	35-64	-	-	-

TABLE 98

Bedrule	Out-migrants	(Female)			age when moved	period of moving	
		present age	how long away (yrs) ^{under} 1yr. -5 -10	^{over} 10yrs.		1951-61	1961+
0-14	-	-	-	-	0-14	-	-
15-24	-	1	-	-	15-24	1	3
25-34	-	2	1	-	25-34	-	-
35-64	-	-	-	-	35-64	-	-

Both of these parishes serve a dormitory function for the towns of the immediate area, in particular Ancrum, where in the late forties the council erected a sizeable estate. This factor has meant that the population was able to increase slightly between 1931 and 1951, but with improved housing facilities in the towns themselves this function has been declining in importance since the early fifties, and both parishes record a decline in population in the 1951-1961 decade.

Ednam, Eccles, Ancrum and Bedrule all exhibit the same demographic characteristics, and the decline and ageing of their

populations has been largely due to the changes in their agricultural economies, particularly prior to 1930, and to the fact that before that time alternative employment was neither available in the parishes, nor very easily accessible in nearby towns. Increased mobility has, since that date, allowed people to work elsewhere while still living in the parishes, so that intensification of mechanisation on the farms in them with its attendant reduction of the labour force, has not meant a great decline in the total numbers living in each parish.

Abbey St. Bathans and Bunkle and Preston

Abbey St. Bathans and Bunkle and Preston are situated on the south facing slopes of the Lammermuir Hills, in northern Berwickshire, but these do not achieve any great height within the bounds of the parishes. They are examples of demographic region type 3.

TABLE 99

Abbey St. Bathans	Trends in Agriculture			
	1866	1891	1928	1966
Wheat	-	-	-	-
Barley	117	89	100	121
Oats	522	609	483	338
Turnips	434	347	316	239
Rotation grasses	797	962	1,575	1,954
Permanent grass	289	553	970	900
Rough pasture	?	2084	2,201	1,853
horses (total)	?	71	51	-
cattle (total)	192	123	260	845
ewes	?	?	3,214	3,331
sheep (total)	2511	5,968	7,638	9,506
pigs (total)	98	32	52	26
poultry (total)	?	?	741	249

source: Parish Agricultural Returns

According to Rutherford "in the higher parts of the parish (Abbey St. Bathans), the surface is for the most part barren, and covered with coarse heathy pasture. The lower grounds, in the neighbourhood of the small streams which drain the parish, are generally fertile and well cultivated"⁸. The picture is little different at the present time, but the lower areas are, in the main, put down to grass pasture, and little land is under crops (see table 99). Sheep are the mainstay of the farm economy and in the hundred years since 1866 to 1966 have increased in number by nearly four times, from 2,511 to 9,506. The grass land of the parish consisted of 797 acres of rotation grass, 289 acres of permanent pasture and an unspecified amount of rough grazing in 1966, and the amount of land devoted to rotation grasses increased at each decennial period, to 962 by 1891, 1,775 by 1928 to 1,454 in 1966. Permanent pasture also covered an expanding area, until the early years of the thirties, and since then has remained static. Rough grazing occupies a large, though decreasing amount of the parish. Cattle rearing is practised as well as sheep breeding, with the most significant increase in the numbers kept occurring since 1944.

8. Rutherford, *op. cit.* 2, p. 583

TABLE 100

Bunkle and Preston

Trends in Agriculture

	1866	1891	1928	1966
wheat	137	73	105	191
barley	1,055	973	521	1,989
oats	1,195	1,503	838	273
turnips	1,260	1,185	751	321
rotation grasses	2,435	2,073	2,944	2,448
permanent grass	313	1,251	2,000	1,552
rough pasture	?	-	727	885
horses (total)	?	179	141	-
cattle (total)	541	672	1,228	1,897
ewes ?	?	?	4,331	4,774
sheep (total)	1,331	8,093	12,654	14,531
pigs (total)	378	172	84	450
poultry (total)	?	?	1,376	2,075

Source: Parish Agricultural Statistics

Bunkle and Preston has a greater area of gentle slopes, and only the northern part of the parish is within the Lammermuirs. "The lower part of the parish is nearly level, gradually sloping to the south-east. The northern part is hilly; a ridge of the Lammermuirs, under the name of Bunkle Edge, traversing it. . . . The soil on the high lands was at one time poor, but has been much improved by lime and marl; the rest of the parish is fertile and well cultivated"⁹; this lower part forms the northern edge of the Merse. The agriculture practised in the parish was and is of a higher order than in Abbey St. Bathans. In 1866 sown crops covered the greater part of the land area, rotation grasses covering the greatest acreage, 2,435 acres, but barley and oats being very important

⁹ Rutherford, *op. cit.*, p. 631

parts of the farm economy, accounting for 1,055 acres and 1,195 acres respectively. Turnips (1,260 acres) were also grown. Permanent pasture covered only 313 acres. Complementary to the arable practices of the parish was livestock rearing, both cattle and sheep, on a significant scale, 541 head of cattle and 7,331 sheep being kept.

The trends in agriculture can be seen in table 100; sheep rearing and cattle breeding have formed the most important part of the farm economy at all times, and arable cropping while fluctuating in acreage, has been more significant here than in Abbey St. Bathans. The recent increase in barley acreage strengthens the pastoral emphasis of the parish by providing feeding for beef cattle.

The hamlet of Abbey St. Bathans, on a beautiful site in the Whiteadder valley was the only nucleated settlement in the parish. In 1866 it contained the parish church and manse, the school and schoolhouse, a farm house, and Abbey St. Bathans House. Today this loose agglomeration contains eleven houses, mainly estate workers' cottages; the old farm house and manse are still there but are used as private residences.

In 1861 the enumerators' books of the census for Bunkle and Preston parish record that Preston village contained 145 people, and Lintlaw hamlet 83 - groupings were larger in this parish than in the one to the north (see fig. 8)

Employment in both parishes was dependent on agriculture, and neither was well served with trades or tertiary activities.

The trade activities of Bunkle and Preston were not concentrated in

TABLE 101

Trades and Services, 1866

<u>Abbey St. Bathans*</u>		<u>Bunkle and Preston*</u>	
Blacksmith	1	Blacksmith	2
Joiner	1	Joiner	2
Farmer	6	Tailor	1
		Shoemaker	1
		Gardener	1
		Farmer	9

the village, but were to be found in the rural areas, a blacksmith and the shoemaker at Hammerhall with only 17 inhabitants, and the other blacksmith at Crossgatehall where there were 9 people.

For all convenience goods the people of the parishes had to go to Duns, as there were no bakers, grocers or butchers within them. This is perhaps understandable in Abbey St. Bathans where there were less than 200 people, thus generating only a very small local market, but in Bunkle and Preston, with over 750 people is only explicable because of the relative ease of access from this parish to Duns and Chirnside.

Access from Abbey St. Bathans to Duns, about 7 miles away was very poor in 1866, but this was the nearest market town and easiest railway station to reach. "Grants house on the ^{North British} N. B. coast line, and nearly due north, is only five miles off but the road to it is bad" says Rutherford¹⁰, and the present day road, although

* Source : Rutherford

Abbey St. Bathans p. 584
Bunkle and Preston p. 633

10 Rutherford, op. cit., p. 584

well-surfaced is much more difficult to drive over than the one south out of the parish to Duns. According to the inhabitants interviewed in the summer of 1967, the parish is extremely isolated, particularly in winter when it can be completely cut-off from the rest of the county by snow.

Bunkle and Preston, on the other hand, has always enjoyed good access to both Duns and Chirnside, with a post office messenger each day in 1866, as opposed to Abbey St. Bathans' three per week, and convenient railway stations at Duns, Edrom, Chirnside, Grantshouse and Reston. Today the roads of the parish are good, and allow easy movement from the parish in all directions: and the parish itself is not nearly so isolated as Abbey St. Bathans.

TABLE 102
Demographic Characteristics

<u>Abbey St. Bathans</u>				<u>Bunkle & Preston</u>			
	Male	Females			Males	Females	
1861	98	81		1861	355	401	
1891	133	113		1891	319	353	
1921	99	104		1921	265	277	
1951	74	75		1951	211	206	
1961	65	60		1961	182	161	

		0-14	15-34	35-64	65+			0-14	15-34	35-64	65+
1861	(Males	30	39	23	6	1861	(Males	141	123	79	12
	(Females	16	45	18	2		(Females	148	148	89	16
1891	(Males	52	39	34	8	1891	(Males	106	122	78	13
	(Females	30	44	34	6		(Females	106	150	81	16
1921	(Males	30	29	34	6	1921	(Males	83	81	85	16
	(Females	29	31	38	6		(Females	70	96	96	16
1961	(Males	18	12	30	5	1961	(Males	48	46	74	14
	(Females	18	9	29	4		(Females	33	41	69	18

Fertility Ratio	1861	321	Fertility Ratio	1861	607
	1891	364		1891	635
	1961	269		1961	328

Bunkle and Preston parish increased in population to 1871, while hand labour in large numbers was required by the arable sector of the farm economy, and from then has shown a progressive decline in total numbers to the present day. This decline has proceeded at a slightly more rapid rate since 1931, by which time the cereal crops were of little importance in the parish. Pastoralism as practised in the parish, and the recent emphasis on barley beef, has meant that labour force requirements have been considerably reduced.

Abbey St. Bathans' population in contrast, increased until 1881, declined to 1891 and then increased again to 1911; from then on it has shown an overall decline to the present day. The period of fluctuating population corresponds to the years when turnip and oat growing were important and rotation grasses held a prime position in the parish's acreage, but after the turn of the century cropping acreages fell, and permanent pasture and rough grazing became increasingly significant land-users - less labour was then required, more mechanisation became possible as time went on, and the population declined. Abbey St. Bathans is the deviant one of this pair of demographic region type three parishes, and it is in the overall growth of the parish which has just been described that the deviation is most apparent: it has not had a history of simple growth followed by decline as Bunkle and Preston has had (see fig. 36), due to its more hesitant turnover to pastoral activities.

Males have been in excess of females in Bunkle and Preston only since 1951; prior to that census women had outnumbered men, but by a continually declining amount from 1851. In Abbey St. Bathans this was not the situation. Men outnumbered women in the period during which the parish population exhibited growth, and 1921 was the first census to record more females than males in the parish, just when it had started the 50 years of decline.

Age structure reveals even more reasons for the difference in growth between the parishes. It was not until comparatively recently that ageing of the population became evident in Abbey St. Bathans, but by 1961 the number of people of both sexes in the 35-64 age group constituted almost 50% of the total population. Even more significant was the fact that only 16% of the men, and 12% of the women were aged 15 to 34, thus indicating a strong imbalance in age structure. Regeneration of the population, even at its present low size may prove difficult in future years.

In Bunkle and Preston ageing was becoming apparent by 1891, and during the 20th century has been a most obvious feature of the age structure of the population. Thus each successive group of people in the parish has been less and less able to regenerate the population, and decline has therefore been inevitable. By 1961 over 50% of the men and women in the parish were over 35, as was the situation in Abbey St. Bathans, but 25% were aged 15 to 34 - a much better demographic balance than in Abbey St. Bathans.

This age and sex structure pattern for the two parishes during the last 100 years finds expression in their fertility ratios. Bunkle and Preston's has shown a steady decline, paralleling the ageing of the population and the fall in its total numbers so that the 1961 ratio is only 54% of the 1861 one. In Abbey St. Bathans increasing fertility ratios were characteristic of periods of male preponderance, and growth of population; decline has occurred during the greater part of the 20th century, but the overall fall in the value of the ratio between 1861 and 1961 has not been as great as in Bunkle and Preston, and the rate is now 83% of the 1861 ratio.

TABLE 103

Abbey St. Bathans (households surveyed)

age	Male		Female		Male no. years in parish				Female no. years in parish			
	ED	survey	ED	survey	under 1 _{yr}	-5	-10	over 10 _{yrs} all	under 1 _{yr}	-5	-10	over 10 _{yrs} all
0-14	18	9	18	14	-	-	1	- 8	-	-	-	- 14
15-24	9	2	3	2	-	-	-	1 1	-	-	-	- 2
25-34	3	3	6	4	-	-	-	- 3	-	1	1	1 1
35-64	30	19	29	19	-	2	1	5 11	-	1	1	12 5
65 +	5	5	4	2	-	-	-	1 4	-	-	-	- 2

TABLE 104

Bunkle and Preston (households surveyed)

age	Male		Female		Male no. years in parish				Female no. years in parish			
	ED	survey	ED	survey	under 1 _{yr}	-5	-10	over 10 _{ys} all	under 1 _{yr}	-5	-10	over 10 _{ys} all
0-14	48	19	33	19	-	3	1	- 15	-	2	3	- 14
15-24	22	14	22	11	-	2	3	- 9	-	2	1	- 8
25-34	24	14	19	8	-	3	1	1 9	-	3	1	1 3
35-64	74	44	69	44	-	2	9	7 26	-	3	7	17 17
65 +	14	7	18	4	-	1	-	- 6	-	1	-	1 2

Abbey St. Bathans and Bunkle and Preston contain 157 households according to the 1961 census.

Abbey St. Bathans survey = 26 households

Bunkle and Preston survey = 61 households.

No school records were available to indicate migration to and from these parishes, so that consideration of this topic is confined to the information elicited from the questionnaire survey. Eight people have moved into Abbey St. Bathans during the ten years 1957 - 67, and ten have moved out. As has been the case in the other parishes studied, most of the in-migrants are now over 35, and all of the out-migrants were under 25 when they moved. Out-migration has increased in volume since 1961 but in-migration has not.

TABLE 105

Abbey St. Bathans. Out Migrants (Male)

present age	how long away (yrs)				age when left	period of moving	
	^{under} 1	5	10	^{over} 10		1951-61	1961+
0-14	-	-	-	-	0-14	-	-
15-24	-	3	-	-	15-24	1	3
25-34	-	-	1	-	25-34	-	-
35-64	-	-	-	-	35-64	-	-

TABLE 106

Bunkle and Preston. Out Migrants (Male)

present age	how long away (yrs)				age when left	period of moving	
	^{under} 1	5	10	^{over} 10		1951-61	1961+
0-14	-	-	-	-	0-14	-	-
15-24	-	2	1	-	15-24	1	5
25-34	-	2	1	1	25-34	-	1
35-64	-	-	-	-	35-64	-	-

TABLE 107

Abbey St. Bathans. Out Migration (Female)

present age	how long away (yrs)				age when left	period of moving	
	^{under} 1	5	10	^{over} 10		1951-61	1961+
0-14	-	-	-	-	0-14	-	-
15-24	-	3	-	-	15-24	1	3
25-34	-	-	1	-	25-34	-	-
35-64	-	-	-	-	35-64	-	-

TABLE 108

Bunkle and Preston. Out Migration (Female)

present age	how long away (yrs)				age when left	period of moving	
	^{under} 1	5	10	^{over} 10		1951-61	1961+
0-14	-	-	-	-	0-14	-	-
15-24	-	3	1	-	15-24	3	6
25-34	-	5	1	1	25-34	2	-
35-64	-	-	-	-	35-64	-	-

All of the women who left the parish did so on marriage; and the young men to seek better paid employment, in all instances of a non-agricultural nature. The lack of services and difficult communications which this parish has at the present time mean that it is impossible to live here and travel to work elsewhere all the year round. At the present time the dominant activity in the parish is the same as it has always been, namely agriculture. Service work was mainly in ancillary agricultural occupations such as game-keeper, agricultural machine representative, timber contractor and estate maintenance. With the exception of the agricultural machine

representative, all men worked within the parish.

Forty-eight people have moved into Bunkle and Preston in the 1957-67 period, and eighteen have moved out. Nearly half of those moving in are now over 35: most of them found farm employment, with a house, within the parish. The younger people who moved in, without exception worked in Duns or Chirnside, and had come into the parish because houses were available - by and large they occupied council houses, mainly in Preston village.

Young women left the parish to obtain service employment (24%) and to marry (76%): young men either to live near their work in Duns or Kelso if they were tradesmen, to be nearer schools for children, or to obtain better paid employment in less quiet surroundings such as Berwick and Edinburgh

TABLE 109

Abbey St. Bathans. Male Employment 1967

age	agri.	mine.	produ.	serv.	def.	educn/ retired
15-24	1	-	-	-	-	1
25-34	2	-	-	1	-	-
35-64	13	-	-	6	-	-
65 +	2	-	-	-	-	3

TABLE 110

Bunkle and Preston. Male Employment 1967

AGE	agri.	mine.	produ.	serv.	def.	school/ retired
15-24	6	-	5	1	-	2
25-34	8	-	-	6	-	-
35-64	30	-	3	9	-	2
65+	-	-	-	-	-	7

Again employment in the parish is dominated by agriculture, but production and service activities in the immediate neighbourhood provide alternatives to this. Production was mainly in the Cumledge mills near Chirnside: services included tradesmen and shopkeepers working in Duns and Chirnside; and county council roadmen and lorry drivers for whom the main reason for living in the parish was the availability of housing.

Hobkirk and Cavers

Hobkirk and Cavers are a second example of demographic region type 3. Both are upland parishes, and are extremely hilly in their southern parts - the part of each parish which is bounded by Castleton in the south, is bleak and moorish.

TABLE 111

Trends in Agriculture

Hobkirk	1866	1891	1928	1966
wheat	6	-	-	-
oats	1,072	1,110	869	660
barley	128	180	16	100
turnips	692	723	447	352
rotation grasses	1,765	2,126	2,704	2,644
permanent grass	935	2,593	2,181	1,385
rough pasture	?	5,102	8,783	7,280
horses (total)	?	153	119	-
cattle (total)	491	654	722	1,635
ewes	?	?	9,582	8,116
sheep (total)	12,552	21,535	22,782	20,585
pigs (total)	177	99	59	12
poultry (total)	?	?	3,117	1,109

source: Parish Agricultural Returns.

These parishes are mainly pastoral, but in the valley of the Rule in Hobkirk the soil is deep and fertile and has, during the last hundred years, been used for the growing of grain crops.

That part of Cavers parish which overlooks the river Teviot, in the Dean Burn - Honeyburn - Denholm area has also always been devoted to grain crops.

TABLE 112

Trends in Agriculture

Cavers	1866	1891	1928	1966
wheat	107	-	4	30
barley	369	238	284	807
oats	1,279	1,097	1,179	724
turnips	875	735	716	359
rotation grasses	1,815	2,021	3,570	3,440
permanent grass	786	1,878	3,059	2,567
rough pasture	?	7,975	14,438	13,912
horses (total)	?	168	190	-
cattle (total)	642	708	1,018	2,864
ewes	?	?	14,410	12,472
sheep (total)	14,768	21,618	34,641	30,321
pigs (total)	207	141	178	534
poultry (total)	?	?	7,106	5,624

Pasture land in both parishes increased in acreage during the second half of the nineteenth century, and during the first three decades of the twentieth century, and paralleling this was an increase in the amount of livestock kept in these two parishes, particularly in the number of sheep, which rose from 12,552 in Hobkirk in 1866 to 22,782 by 1928, and 14,768 to 34,641 in Cavers. Greatest increases in the numbers of cattle occurred in the period from the mid forties to the present day, and at the same time the

amount of barley grown in Cavers at least increased significantly.

(See tables 111, 112).

The occupations of those living in the two parishes in 1866 reflect the agricultural emphasis. Men were either farmers or farm workers, or were employed in occupations ancillary to agriculture, for example in the corn mills and saw mills of the two parishes. Tertiary activities were confined to the village of Denholm in Cavers, and to the Bonchester Bridge - Hobkirk area of Hobkirk parish.

Denholm village contained 766 people in 1861. It is laid out in the form of a quadrangle, and the houses face onto a large village green.

TABLE 113

Trades and Services 1866

<u>Cavers</u>		<u>Hobkirk</u>	
baker	2	grocer	3
flesher	2	joiner	2
grocer	5	mason/stone cutter	4
spirit dealer	1	blacksmith	2
tailor/drapery	3	farmer	20
shoemaker	2		
hosier/stockingmaker	3		
millwright	2		
innkeeper	3		
joiner	4	source: Rutherford	
mason/stone cutter	3	Cavers - pp. 291-293 + 288	
builder	1	Hobkirk - pp. 284-285	
cooper	1		
blacksmith	3		
quarryman/master	2		
road contractor	1		
carter	1		
farmer	42		

Hosiery provided employment to both men and women in Denholm at this period - but the other activities of the parish are similar to those found in all rural areas at the time.

The population of these parishes, like those already discussed has declined in the last hundred years. The numbers living in Cavers/ Kirkton rose very rapidly in the decade 1851 to 61, and fell as quickly in the 1861-71 period. This expansion followed by contraction is coincident with the influx of labour to work on rail construction in the southern part of the parish - and when the stretch had been completed many men were moved south, to Castleton, to augment the construction force already there. From 1871, the population declined steadily for thirty years. (See table 114) 1901-1911 is the first period of recovery, when the population of the parish increased very slightly, then declined again, at a slower rate than was evident in the late 19th century, until 1931. A slight increase in numbers during each decennial period was the characteristic feature of Cavers' population development from then until 1951, but the last intercensal period to 1961 exhibited a further decline in numbers.

TABLE 114
Demographic Characteristics

<u>CAVERS</u>					<u>HOBKIRK</u>				
		Male	Female			Male	Female		
	1861	1292	951		1861	390	381		
	1891	884	953		1891	307	324		
	1921	576	628		1921	281	274		
	1951	5880	624		1951	277	242		
	1961	547	578		1961	286	282		

		0-14	15-34	35-64	65+			0-14	15-34	35-64	65+
1861	(Male	401	499	349	43	1861	Male	(136	130	111	13
	(Female	355	315	235	46		Female	(149	127	88	17
1891	(Male	323	249	232	60	1891	Male	(105	95	76	31
	(Female	336	294	260	63		Female	(99	111	86	28
1921	(Male	155	172	194	55	1921	Male	(97	71	98	15
	(Female	134	169	247	78		Female	(77	74	106	17
1961	(Male	156	113	215	63	1961	Male	(82	63	113	28
	(Female	121	135	237	85		Female	(75	70	100	37

Fertility Ratio	1861	610	Fertility Ratio	1861	529
	1891	529		1891	366
	1961	340		1961	444

Hobkirk also achieved its highest population in 1861, and decreased gently from it until 1891, declined more rapidly in the ten years 1891 to 1901, and was then relatively static in numbers until 1951; between 1951 and 1961 the population of the parish has grown.

Cavers in 1861 had far more men than women, a situation which proved to be only temporary however, as at each succeeding census women slightly outnumbered men. The age-sex pyramids for the parish in 1861 and 1891 show that the percentage of men in the age group 25 to 45 and in particular 25 to 35 declined substantially in this period (due to the substantial movement away from the parish of men who had been employed in rail construction there). A similar decline in the female population did not occur, and in fact the 1891 pyramid for women is very similar to the 1861 one. By 1921 ageing of both sectors of the population in Cavers had become evident and proportionate and absolute declines in the males and females under 15 years of age were recorded, and by 1961 over 50% of the women, and 55% of the men were over 35 years of age.

In Hobkirk both sexes declined in the same way as the total population, and each shows an increase in numbers during the last ten years. Men have (except in 1891) been more numerous than women, but the difference is not great. A slight ageing of the population has been apparent in both sexes since 1861, but even now less than 50% of each sex is over 35.

The changes which have taken place in the balance of the sexes, and their ages, is reflected in the fertility ratios of the two parishes. Cavers has declined greatly over the last 100 years and is now recording only 55% of its 1861 rate. (340 as against 610). In Hobkirk there has not been this progressive decline in fertility - in the 1891-1901 period when the population had just finished a period of decline, fertility reached its lowest ebb, and had dropped by 30% over the preceding thirty years. The first fifty years of the 20th century was a period of stability in the population and the fertility ratio did not change much: the last intercensal period has seen it increase by about 20% from its 1951 figure of 370 to 444 by 1961.

The relative stability of the population in Hobkirk in the 20th century may be attributed to that parish's good fortune in having forestry to turn to as a source of employment when agriculture was becoming more and more mechanised, and fewer men were required to work on farms.

Bonchester Bridge has greatly increased in size since world war II owing to the developments taking place in Wauchope Forest, and to a lesser extent Keilder across the Border in Northumberland. The forestry commission have found that most of its workers and their families prefer to live in a village or town and so have built many houses in Bonchester Bridge, and thus enlarged the settlement, thereby broadening its service function (with the increase in

potential market). As many of the forestry workers were then in their twenties and thirties and had young families, their in-migration to Hobkirk has offset ageing within the farming community, to present a much more balanced age and sex structure than is normal in upland parishes with a rural economy. Alternative employment to agriculture has undoubtedly been beneficial to the parish's population.

TABLE 115

Cavers (Households Surveyed)

Age	Male		Female		MALE					FEMALE				
	ED Survey		ED Survey		How long in parish (yrs)					How long in parish (yrs)				
	ED	Survey	ED	Survey	1	5	10	10	all	1	5	10	10	all
0-14	156	57	121	49	4	3	9	-	41	5	2	-	-	42
15-24	61	31	80	28	1	-	4	3	23	-	4	3	3	18
25-34	52	26	55	30	1	7	4	4	10	3	9	6	2	10
35-64	215	95	237	113	3	4	7	30	51	4	4	11	44	50
65+	63	21	85	21	-	-	4	4	13	-	2	3	7	9

TABLE 116

Hobkirk (Households Surveyed)

Age	Male		Female		MALE					FEMALE				
	ED Survey		ED Survey		How long in parish (yrs)					How long in Parish (yrs)				
	ED	Survey	ED	Survey	1	5	10	10	all	1	5	10	10	all
0-14	82	33	75	25	2	3	-	1	27	-	9	1	1	14
15-24	33	15	37	16	-	1	-	4	10	-	1	1	1	11
25-34	30	12	33	14	-	3	1	2	6	-	5	3	3	3
35-64	113	47	100	52	-	6	3	12	26	2	4	3	19	24
65+	28	9	37	6	2	-	1	2	4	-	1	1	1	3

445 households in Cavers, and Teviothead according to 1961 census

164 households in survey

155 households in Hobkirk according to 1961 census

71 households in survey

The sample survey reveals that almost all of the male workers of Hobkirk are employed within the parish on farms, (38%), and within the parish or in the adjacent Southdean in forestry (34%). A small number are in service occupations, mainly concentrated in Bonchester Bridge (shop, hotel, coach hirer). Production employs very few men living in Hobkirk, and all of these travel to Hawick to work in the mills there.

In Cavers the situation is quite different. Its early ties with hosiery have **not** been lost, although the village of Denholm no longer contains any branch of the hosiery industry, being now purely residential in character. Many people living in the village are employed in Hawick and travel into that centre each day. Within the village itself service activities are the main source of employment, mainly in shops, garages and hotels, supplying the needs of the remainder of the village population.

TABLE 117

Cavers		Male Employment 1967					School/ retired
Age	Agri.	Mine	Prodn.	Serv.	Def.		
15-24	7	-	14	5	-	5	
25-34	5	-	11	10	-	-	
35-64	41	-	27	23	1	3	
65 ⁺	3	-	-	-	-	18	

TABLE 118

Hobkirk		Male Employment 1967					School/ Retired
Age	Agri.	Mine	Prodn.	Serv.	Def.		
15-24	5	-	5	2	-	3	
25-34	10	-	-	2	-	-	
35-64	35	-	2	8	-	2	
65+	2	-	-	-	-	7	

In the rural parts of the parish males over 15 years of age were mainly employed in agriculture - with one exception: About half of the boys belonging to farm labourers' households did not have agricultural employment, but worked in Hawick in the mills or as apprentice tradesmen. From conversation with many parents in the parish this would seem to be with the direct encouragement of the father: he does not feel he is well paid; or has a secure job or house, and thinks that unless his son may own or rent a farm for himself there is no future in farming for him, and he should look for employment off the land. This is in part borne out by the fact that among the farmers themselves usually only one son follows in his father's footsteps, the others being encouraged to seek another form of employment.

A much higher proportion of men are recorded as being retired in this parish than in the others (except Ednam) which have been studied. The reason for this is the same in both instances. The

village is a convenient distance from a town, Hawick (for Ednam, Kelso) it is in pleasant surroundings, contains nice houses and is therefore an attractive place to retire to. Several such people have come from Edinburgh, and chose Denholm because it wasn't too isolated: and many Hawick people buy a house here, very often long before they retire, to be away from the cramped site of the town, and to have a house in more spacious and salubrious surroundings.

TABLE 119

Cavers Parish		Migrating families	
Period	In-migration	Out-migration	net gain/loss
1891-1900	83	56	+27
1901-10	109	102	+ 7
11-20	111	Incomplete information	
21-30	140	102	+38
31-40	99	74	+25
4 41-50	Incomplete Information		
51-60	70	73	- 3
61+	29	34	- 5

TABLE 120

Hobkirk Parish		Migrating families	
Period	In-Migration	Out-Migration	net gain/loss
1928-30	17	3	+14
31-40	73	71	+ 2
41-50	59	57	+ 2
51-60	44	61	-17
61+	52	55	- 3

Source: Hobkirk school admission registers

Migration with regard to these two parishes can be studied from two sources, namely the parish school registers, and the questionnaire survey.

For Cavers in-migration appears to have dominated prior to 1940: in the south end of the parish 1901-1920 was the period during which net gains to the parish were greatest, and from then until 1950 there was a continuous decline in in-migration to the Kirkton district. In the northern part of the parish in-migration was the main feature in 1891-1900, and 1921-1940, with 1901-1910 being a decade of out-migration. Since 1940 there has been a net loss to the whole parish during each decade, more families with children of school age leaving Cavers than entering it.

In the first three years of its existence Hobkirk school recorded greater gains to the parish than in any subsequent decade. During the thirties and forties there was a continuous stream of migrants in both directions, and in each decade a slight net gain to the parish resulted. After 1951 the volume of out-migration increased during the first few years of the fifties (when forest planting had ceased, and fewer men were required to maintain the woodland) and then proceeded at a more sedate pace. Nevertheless the result has been a loss of population to the parish since 1951, particularly heavy in the 1951-60 period, but negligible since then.

According to the questionnaire survey 107 people entered Cavers in the ten years, 1957-67, and during the same period Hobkirk had 53 in-migrants. Over 55% of these in-migrants, in

Table 121

Cavers	Out-migrants (Male)				age when left	period of moving	
	present age	how long away (Yrs.) <small>under</small> 1	-5	-10		<small>over</small> 10	1951-61
0-14	-	-	-	-	0-14	-	-
15-24	2	3	1	-	15-24	5	11
25-34	-	5	3	2	25-34	-	2
35-64	-	-	-	2	35-64	-	-

Table 122

Hobkirk	Out-migrants (Male)				age when left	period of moving	
	present age	how long away (Yrs.) <small>under</small> 1	-5	-10		<small>over</small> 10	1951-61
0-14	-	-	-	-	0-14	-	-
15-24	-	4	1	-	15-24	-	6
25-34	-	2	4	-	25-34	-	5
35-64	-	-	-	-	35-64	-	-

each instance, are under 35 years of age at the present time.

These gains have been offset by 49 people leaving Cavers and 31 leaving Hobkirk between 1957 and 1967. While 15 of the 53 in-migrants to Hobkirk were under 14 years, all of the out-migrants were aged 15-34 (mostly under 24), so that some replacement of the young adult losses to the population has been made.

Table 123.

Cavers	Out-migrants (Female)				age when moved	period of moving	
	present age	how long away (Yrs.) <small>under</small> 1	-5	-10		<small>over</small> 10	1951-61
0-14	-	-	-	-	0-14	1	1
15-24	-	11	1	-	15-24	6	20
25-34	-	12	6	1	25-34	-	3
35-64	-	-	-	-	35-64	-	-

Table 124.

Hobkirk	Oug-migrants (Female)				age when moved	period of moving	
	present age	how long away (Yrs.) <small>under</small> 1	-5	-10		<small>over</small> 10	1961-61	1961+
0-14	+	-	-	-	0-4	-	-
15-24	1	9	-	-	15-24	3	15
25-34	-	6	2	-	25-34	1	1
35-64	-	-	1	1	35-64	-	-

In each parish women out-migrants were in excess of men: many young women, earning high wages in textiles having moved into Hawick and Galashiels to live and work as they felt isolated in these parishes, particularly in Hobkirk where the 'workers' bus was their main means of transport. Young men did not seem to have this problem as 83 per cent in Hobkirk, and 78% in Cavers had personal transport of some description.

As in all the other parishes studied lack of alternative employment to agriculture within the bounds of the parish had prompted many youngsters to move either to adjacent parishes to be nearer

work in a mill; or away from the district ^{altogether.} all together if they possessed any professional or trade skills. Men were slightly older than women when they moved, as they appeared to remain at home until an apprenticeship was completed at 21 or 22 before leaving.

About 60 per cent of the women, and 25 per cent of the men moved on marriage, for a house, better job, or to be near one of other's relatives.

Table 125.

Male Agricultural Employment.

Parish	1928		1966	
	permanent	casual	permanent	casual
Ancrum	102	12	64	1
Abbey St. Bathans	37	4	26	3
Bedrule	36	3	25	2
Bunkle	116	21	76	2
Cavers	118	15	70	4
Channelkirk	81	8	40	2
Eccles	248	17	130	6
Ednam	74	4	43	5
Ettrick	54	7	31	0
Gordon	108	4	52	4
Greenlaw	71	8	60	3
Hobkirk	80	7	46	1

Source: Parish Agricultural Returns.

"The old type of rural crafts and trades which formed such an essential part of the life of the countryside has declined. For example, in the whole of the area there are in 1954 no more than five dry stane dykes. As stone dykes are the usual form of fence in upland country it is now a difficult matter to keep them in repair. With the passing of the agricultural horse the blacksmith's shop has ceased to function in many districts. The parish meal-mill is largely a thing of the past, there being only one mill still at work. The sound of the stone-breaker is no longer heard on rural roads. Instead, the whole of the road-metal required for the area is produced at one quarry on the Dunion Hill, Jedburgh. Any farmer may obtain tar-macadam ready mixed, direct from the quarry, to lay on farm roads and around steadings."¹¹ Because of this general decline in rural activities, less employment has been available in the 12 parishes studied at each decade since 1850. Furthermore with the centralising of functions in nearby towns there has been a continuing tendency for people not to wish to live in the 'isolation' of the countryside, away from all amenities.

In all of the parishes studied much of the population decline may be attributed to changes in agriculture - to variations in the amount of land devoted to cereals, to turnips needing hand-thinning,

11. Corner, H. H., *Agriculture in south Roxburghshire*, misc. pub. no. 142, The Edinburgh and East of Scotland College of Agriculture, 1954, p. 11.

and later to land-uses which could be tended by mechanical means. The amount of labour required has been considerably reduced (see table 125), although agricultural production has continued to increase. "Tractors have replaced horses almost completely and whereas in former days one horseman with a pair of horses produced 60 acres of tillage on level ground and 40 acres of tillage on steep land, the same man with a tractor can nowadays deal with 100 acres on level ground or 80 acres on steep land. The output per man has, therefore, practically doubled. The hay crop is largely baled out of the rick or picked up by a one-man baler, while almost the whole of the barley crop is handled with the combine harvester. The need for hand-labour at certain periods, however, such as singling of roots, haymaking, sheep clipping, grain harvesting and the lifting of turnips is still very great and is beyond the capacity of the regular farm-staff.

There are very few small farms from which part-time labour can be got and workers from villages are scarce. Irish workers used to come across in large numbers but they are now much fewer..... Hill farmers sometimes find difficulty in getting shepherds to replace older men. There is no easy solution as it is not easy to get young married women with children to face the isolation on remote hill farms. "

In all the parishes studied the greater proportion of working men was over 35 years of age. Most of these men were agricultural workers; in those parishes close to an urban centre the remainder found employment there in services. Only in Ancrum, Cavers and Greenlaw was there a significant number of men in this age group employed in production - in all instances in textiles. For younger men a greater proportion worked in production and services, particularly those under 25 - and agriculture was no longer the main employer. It would seem that if the present situation continues the labour problem in agriculture might become acute as the number of young people being trained is far lower than the demand will be. It is probable that the eventual situation in agriculture will be the same as that existing in textiles at the present time, when the industry is unable to take advantage of improving market conditions by expanding its production.

Depopulation and ageing are features of rural parishes, of those containing sizeable nucleated settlements, and of those in close proximity to burghs. Reductions in the agricultural labour force, coupled with an inadequate number of alternative sources of employment, even in the towns of the area, are important factors causing movement away from the three counties.

CONCLUSION

The population of the counties of Berwick, Roxburgh and Selkirk has declined since 1850: this much can be said with confidence. But when the attempt is made to analyse the mechanics of this decline, to express the relative share of the birth rate, the death rate, and the migration rate, and to trace the relationship between demographic decline on the one hand and economic and non-economic motives on the other hand, the position is much more uncertain.

Since the decade 1851-1861 Berwickshire has shown a steady decline in total numbers: Roxburghshire, on the other hand, remained relatively static from 1861 to 1891, declined to 1921, increased again to 1931 and 1951, and then declined. 1881-1891 was the peak population period for Selkirk county, it declined very rapidly to 1901 and has continued to decline, very slowly ever since. This was the picture up to 1961, but since then, a sample survey which the census took in 1966, has indicated that while Berwick County is continuing to lose population, Roxburghshire and Selkirkshire have shown an overall increase in numbers in the five-year period. However, considering that the 1951 population of the area was 92,354, the 1961 one 86,672 and the 1966 one 87,320, it seems most unlikely that the recent rate of growth will do much to counteract the previous heavy losses.

It has been clearly established that the fertility and mortality rates in the area, since 1851, have also declined: but this decline

in fertility has not been sufficient to cause the fall in numbers of people which the area has experienced, as at no period was fertility too low at least to regenerate the existing population. This is evident from the fact that, despite a falling death rate and birth rate, natural increase in the decade 1871-1881 amounted to 15% of the 1971 population, but in 1941-51 it was still as high as 5.6% of the population of 1941.

Some of the reasons for this decline are revealed by the fact that the three counties were 57% female in 1861, 53% in 1891, 56% in 1931, 53% in 1951 and 52% in 1961. These averages mask many cases of pronounced ill-balance between the sexes. Parishes containing nucleated settlements of 400 or more people, have always had far more women than men, and this problem has been even more obvious in the industrial towns. In 1861 Galashiels had 112 women for every 100 men, Earlston 120 women per 100 men, to name but two examples, and at the present time there is not a burgh in the area where women do not greatly outnumber men, in all age groups except the under fives. It is only in the lowland parishes bordering the Tweed in Roxburghshire, and in the Merse in Berwickshire, that the sexes are roughly equal in numbers.

The population of the three counties has aged progressively during the last 100 years, and this process of ageing has increased in rate since the second world war. Not only has the proportion of men and women over 65 increased in line with the country's

improved mortality, it has increased more rapidly than this. Using the cohort projection technique it is evident that at any decennial census the number of people in the 65-75 cohort is greater than the number in the 55-65 group at the previous census, allowing for deaths: this indicates that people move into this area when they are elderly. This ageing of the population is not confined only to the sector over 65 years. The proportion of the population in the upper part of the working age group i. e. those over 35, has also been on the increase. At the same time the number of young adults, in the age groups which are just entering the labour force, has gone down considerably as has the proportion of children.

At the last census 22% of the people in Britain were under 15, compared with 20.5% in these three counties, 67% of the British population were aged 15-64 compared with 63.5% in Berwick, Roxburgh and Selkirk counties, and 11% of the people of Britain were over 65 compared with 16% for the study area.

It has already been shown in this thesis that decline in numbers of people is not the dominant characteristic of only one section of the population, both burghal and landward areas have experienced this trend.

There can be no doubt that migration is the most important factor determining this decline. Movement has been both internal, and to and from areas outwith the Border counties: it is a complex

phenomenon with many cross currents. To some extent these have offset each other, for example the school records indicate that for all the parishes for which this information is available the net migration has been only a small proportion of the gross movement: this fact is also evident from the place of birth statistics of the census.

Short distance movement was characteristic of the 19th century, and distances moved have increased during the present century, as far as migration within the study area is concerned. Out-migrants have at all periods tended to move further than in-migrants.

Many people moved from the three counties to Edinburgh and Lanarkshire at the end of last century, and these have continued to be the major destinations of out-migrants. The counter movement into the area has at all times been much smaller than the exodus, and has been mainly of people from other rural areas, in particular from the south-west borders.

Out-migration in the latter part of the 19th century, and the first part of this century, was mainly made up of agricultural workers and their families, and as their destinations were, for the most part, Central Scotland and North East England (these two areas accounting for about 84% between 1870 and 1920) their move would appear to have been linked with a change in occupation.

Short distance movement of rural workers was similar in the three counties to that in other parts of rural Britain. Families moved from the rural districts to the towns of the area (or to other farms), and this can be seen particularly in Selkirkshire, where the population growth and the increased numbers employed in textiles in Galashiels and Selkirk from 1871 to 1911 far exceeded the natural growth of these two centres.

By the period 1910-1920 people had started to move from the burghs also, so that for the last fifty years town and country alike have been depopulating. During that time only one direct move seems to have been made by rural people, rather than to village, town, then city.

Mobility of labour seems to have been closely tied to changes in the main industries of the counties, agriculture and textiles. Any recession in these, was paralleled or followed by an exodus of people from the area.

Migration, as has been discovered by many others, is an age selective process. It takes place dominantly at early adult ages, and the proportion of persons aged 15-25 who undertook migration movements was at least twice as high as the proportion among people of all other age groups together, in each ten-year period. As people were especially mobile at the earlier adult ages before they had become settled in their trades and professions the inference may be drawn that this movement was inspired by

prospects of better jobs elsewhere. This is borne out by the fact that about 70% of those out-migrants traced by the questionnaire survey had moved for this reason. For young married couples the chance of a house was often a reason for moving.

Out-migration is female dominated in the age group 15-20, that is school leavers, and male dominated in the 20-25 group, when many men have served an apprenticeship or obtained other training and are then in a position to compete for employment elsewhere.

During the 20th century, and particularly in the last 25 years, migration of older people into the area has been important. This is mainly movement from a city by middle aged and retired people who are usually individuals born in the country who have spent their most productive years in the city, and then returned to a rural area.

This long-term decline in the total numbers of people in the area, the out-migration of young people, and the smaller in-migration of old has produced many problems in the three counties at the present time. The area is now one of embryonic economic and social decay and ill-balance bereft of its young, more active age-group.

The prime natural resource of the area throughout history has been its agricultural land. Another feature is its beautiful landscape, which, combined with its historic associations and ancient monuments, forms a valuable asset. Light industry,

in the form of textile production, is important in the Middle Tweed Area.

Of the above, agriculture is the most important. Sheep production is now more firmly established than ever owing to the geographical position of the area. Lying to the north are the fertile districts of the Lothians, Fife and Angus which are mainly concerned with arable cropping, while to the south lie wide arable districts in the north of England. These areas, north and south, demand supplies of sheep for fattening purposes and for flying flocks of draft ewes which are lambed once and then sold. This area is in a position to meet this demand, and to concentrate on the production of sheep for breeding purposes, and lambs for the store market. The three counties are breeding grounds for much of lowland Scotland and north-east England, and greatly enhance Britain's agricultural status overseas as producers of fine stocks of sheep.

There is little evidence yet that the population conditions in the three counties have deteriorated to the extent that they adversely affect this important industry, although certain kinds of farm worker are hard to find. The rural population is, however, over wide areas so low in numbers and imbalanced in age structure that service facilities and other social provision are now lacking. Some public transport facilities have been withdrawn, and there is evidence of dissatisfaction with the inconvenience of living conditions in the countryside. The economic advantage of tied housing is

outweighed by the insecurity it represents for many people; and the costs of shopping via travelling vans, having personal transport, and travel to entertainment are increasing at a rate which is emphasising the advantages of living in towns.

The regular male labour force in agriculture at the present time has a higher proportion of older men than at any previous period, and this would indicate that in the future, in the absence of young people going into farming, that the number of workers available will continue to decline.

The textile industry is the other important employer of labour in the area, alternative industries and service activities being under-represented in the economy of the three counties. As this is a dominantly female employing industry, it follows that male employment outwith agriculture is scarce in this area, and it always has been.

"The textile industries, including textile finishing as well as woollens and hosiery, were able to increase their labour forces by nearly 1,000 or 7% between 1951 and 1963. But the trends in the woollen and hosiery sides were very different. The labour force in the woollen industry fell by about 1,000 or more than 10% while that in hosiery increased by over 1,700 or about 40%. A peak was reached in the woollen industry in 1957 and in hosiery in 1961.

Continuing depopulation, and the growth of the hosiery side of the industry, have combined to produce a situation of acute labour shortage. The shortage of employment for men in the area

reduces the pool of female labour". 1

There are ready markets for the products of both branches of the industry and a real potentiality for growth if only alternative employment could be made available for those members of a family with other skills and interests.

The third asset of the area, is its unspoiled landscape. The area's potential as a tourist attraction is not great, but some trade may develop from those who use houses in the area as weekend and summer houses, and those who spend days touring the Abbeys and places of beauty and interest in the three counties.

The population history of the three counties indicated that groups of parishes within them had similar demographic characteristics, and it was therefore possible, on the basis of selected criteria, to delimit population regions. The spatial distribution of these regions corresponds very closely to that of the economic units to be found in the area at the present time.

This emphasises the close ties existing between demography on the one hand, and other aspects of human and economic geography on the other; and suggests that population analysis is a useful method of arriving at an understanding of an area's geography.

1. H. M. S. O. p.102. The Scottish economy 1965-1970, a plan for expansion. Cmnd 2864, 1966.

APPENDIX I - Migration tables.

Methodology.

Calculations.

Method of calculating the Abridged Life Tables in use
Berwick, Roxburgh and Selkirk Counties.

Introduction

1. The symbols employed on the calculation sheet follow the notation normally followed in Life Table calculation. (See paragraph 4 below.)

The calculations are made independently for the two sexes, the same method being employed for male and female. The specimen sheet is that for females for use with the calculation of the net reproduction rate.

Data required

2. An estimate of the mean or mid-year population is required by single years of age from 1 to 4 (last birthday), by quinquennial age-groups from 5 to 84 (last birthday) and for age 85 and over. (See the first column of the specimen calculation sheet attached.) The deaths at these ages in the calendar year concerned are also required. (See the second column of the specimen calculation sheet.) It will be noted that the age group "Under 1 year" has been omitted; this age group requires special treatment. Infant mortality calculations should be used here, preferably based on related live births, or failing that, registered live births. Whichever method is employed, it is necessary to obtain infant mortality rates separately for males and females and for ages 0-1 month (or 0-4 weeks), 1-3 months (or 4 weeks -

3 months), 3-6 months, 6-9 months, and 9-12 months. (See the specimen calculation sheet.)

Calculations

3. (a) Multiply the infant mortality rates by the factors given on the specimen sheet. (These factors remain constant from year to year and represent the fraction of the first year of life lost by persons dying in the age period concerned. For the purposes of these tables it is a sufficient approximation to assume that the deaths occur in the middle of each age period. Thus persons dying at age $\frac{1}{2}$ month lose $11\frac{1}{2}$ months or $11\frac{1}{2}/12$ months of their first year of life, i. e. 0.9583 of year; and so on.)

(b) Total the individual mortalities and the products.

4. Passing to the main Table.

Column 3. Death Rate, m. Complete by dividing the deaths of the previous column by the population of the first column.

Column 4. p_x (The fraction of the persons surviving to the age point concerned, x , who will also survive to the next age point.) Complete, using the formulae* at the bottom of the specimen sheet.

Column 5. l_x (The number of persons surviving to age x out of the 10,000 assumed births (l_x at $x = 0$.) Complete by entering 10,000 at age 0, and calculating successive values as the product of the p and the l of the previous row.

Column 6. L_x (The total years of life lived between age x and the next age point by the survivors of the assumed births). Complete, using the formulae at the bottom of the specimen sheet.

Column 7. T_x (The total years of life lived after age x by the survivors of the assumed births.) This column is completed from the bottom upwards. The bottom row, for age 85+, is calculated employing the empirical formula given at the foot of the specimen sheet. T_{80} is then calculated as $L_{80} + T_{85+}$, then T_{75} and $L_{75} + T_{80}$, and so on.

Column 8. e_x^0 (The mean years of life lived after age x , or expectation of life at age x .) Calculated by dividing T_x by l_x .

ABRIDGED SCOTTISH LIFE TABLE - 1957 Females

Age x	Estimated Resident Population 30.6.57	Deaths	D. Rate $\frac{m}{l}$	$P_x^{(2)}$	l_x	$L_x^{(3)}$	$T_x^{(4)}$	$e_x^{(5)}$	x
0	(1)	-	-	.9755	10,000	9,792	714,106	71.41	0
1	44,391	60	.001352	.9986	9,755	9,748	704,314	72.20	1
2	42,704	31	.000726	.9993	9,741	9,738	694,566	71.30	2
3	42,229	30	.000710	.9993	9,734	9,731	684,828	70.35	3
4	41,391	20	.000483	.9995	9,727	9,725	675,097	69.40	4
5-	213,180	90	.000422	.9979	9,722	48,560	665,372	68.44	5
10-	205,549	78	.000379	.9981	9,702	48,465	616,812	63.58	10
15-	185,347	84	.000453	.9977	9,684	48,365	568,347	58.69	15
20-	178,936	107	.000598	.9970	9,662	48,238	519,982	53.82	20
25-	180,177	174	.00097	.9952	9,633	48,050	471,744	48.97	25
30-	179,330	200	.00112	.9944	9,587	47,800	423,694	44.19	30
35-	177,784	341	.00192	.9904	9,533	47,435	375,894	39.43	35
40-	177,286	430	.00305	.9849	9,441	46,848	328,459	34.79	40
45-	184,055	806	.00438	.9783	9,298	45,985	281,611	30.29	45
50-	173,340	1,145	.00661	.9675	9,096	44,740	235,626	26.90	50
55-	160,507	1,685	.01050	.9488	8,800	42,873	190,886	21.69	55
60-	136,691	2,375	.01737	.9168	8,349	40,008	148,013	17.73	60
65-	114,110	3,216	.0282	.8683	7,654	35,750	108,005	14.11	65
70-	90,636	4,315	.0476	.7873	6,646	29,695	72,255	10.87	70
75-	62,635	4,919	.0785	.6719	5,232	21,888	42,530	8.13	75
80-	34,544	4,388	.1270	.5130	3,515	13,340	20,692	5.89	80
85+	15,312	3,754	.2452	-	1,821	-	7,352	4.04	85

(1) See separate sheet for age 0 (2) $p_0 = 1-A$ (3) $L_0 = 10,000 - B$ (4) $T_{85} = \frac{l_{85}}{m_{85}}$ X 0.99

p (single year) = $\frac{2-m}{2+m}$ plus 4, minus 2 + m
 L (single year) = $\frac{1}{2}(l_x^{(1)} + l_{x+1}^{(1)})$

p (five year) = $\frac{2-5m}{2+5m}$ plus .8, minus .4 + m
 L (five year) = $\frac{5}{2}(l_x^{(1)} + l_{x+5}^{(1)})$

(5) $e_x^0 = \frac{T_x}{l_x}$

Infant Mortality for 1957 Life Tables (Related Births)

Births	1956	1957	Excess (1956-57)	Add to	Births		Deaths		Rate	
					Males	Females	Males	Females	Males	Females
January	8,223	8,476	-253)	(1) Under 4 weeks	97,977	50,345	1,141	779	.02266	.01636
February	7,627	7,775	-148)	.452 x -20						
March	8,744	8,509	+236)	= -9.04	97,968	50,345	47,623	1,141	.02266	.01636
April	8,242	8,481	-239)	(2) 4 wks - 2 mths						
May	8,730	8,620	+110)	.654 x -968						
June	7,917	7,873	+44)	= -633	97,344	50,025	47,319	205	.00410	.00315
July	7,862	8,383	-521)	(3) 3-5 mths.						
August	7,693	8,309	-616)	-968 + 1/2 (-1446)						
September	7,099	7,408	-309)	= -1,691	96,286	49,481	46,805	176	.00356	.00301
October	8,129	8,606	-477)	(4) 6-8 mths.						
November	7,222	7,693	-471)	-1446-968 + 1/2 (85)						
December	7,825	7,845	-20)	= -2,457	95,520	49,087	46,433	74	.00151	.00125
				(5) 9-11 mths.						
				-85-1446-968 + 1/2 (-165)						
				= -2,582	95,395	49,023	46,372	43	.00088	.00078
	95,313	97,977	-2,664		(97,977	50,350	47,627)		(A).03271	.02455

Factors	
9583	217
8383	34
6250	22
3750	6
1250	1
(B)	280
	208

- (1) .452 x excess in December
- (2) .654 x excess October to December
- (3) excess October-December + 1/2 excess July - September
- (4) excess July-December + 1/2 excess April - June
- (5) excess April-December + 1/2 excess January - March

Berwick Male (Applying R:B:S survival rate 1951-1961.)

<u>Forward</u>		M					
t.	R.	S.	t+10	C	\hat{C}	M	
0-4	1060	9546	10-14	981	1,012	- 31	
5-9	967	9954	15-19	763	963	-200	
10-14	853	9951	20-24	555	849	-294	
15-	1,470	9941	25-	1,239	1,461	-222	
25-	1,730	9842	35-	1,407	1,703	-296	
35-	1,841	9791	45-	1,540	1,803	-263	
45-	1,637	9,130	55-	1,344	1,495	-151	
55-	1,228	7888	65-	893	969	- 76	
65-	958	6,153	75-	391	589	-198	
75-	404	1,947	85-	53	79	- 28	

<u>Reverse</u>				F+R		Av.	
10-14	981	9744	0-4	1060	955	-105	- 136 - 68
15-19	763	-	5-9	967	763	-204	- 404 -202
20-24	555	-	10-14	853	555	-298	- 592 -296
25-	1239	9767	15-	1470	1210	-260	- 482 -241
35-	1407	9974	25-	1730	1403	-327	- 623 -312
45-	1540	9747	35-	1841	1501	-340	- 603 -302
55-	1344	9104	45-	1637	1123	-514	- 665 -333
65-	893	7196	55-	1228	643	-585	- 661 -331
75-	391	2886	65-	958	113	-845	-1043 -522
85-	53	-	75-	404	-	-	-2607

Urban.

<u>Forward</u>				Av.		<u>Reverse</u>	
0-4	282	9546	10-14	271	269	+ 2 - 8	10-14 271 9744 282 264 - 13
5-9	222	9954	15-19	187	221	-34 -35	15-19 187 - 222 187 - 35
10-14	182	9951	20-24	118	182	-64 -64	20-24 118 - 182 118 - 64
15-	301	9941	25-	280	299	-19 -24	25- 280 9767 301 273 - 28
25-	413	9842	35-	365	406	-41 -45	35- 365 9974 413 364 - 49
35-	458	9791	45-	441	448	- 7 -18	45- 441 9747 458 430 - 28
45-	373	9130	55-	312	341	-29 -59	55- 312 9104 373 284 - 89
55-	288	7888	65-	226	227	- 1 -63	65- 226 7196 288 163 -125
65-	249	6153	75-	96	153	-57 -113	75- 96 2886 249 27.7 -211
75-	98	1,947	85-	9	19	-10	85- 9 - 98 -

Rural

Forward

0-4	778	9548	10-14	710	743	- 83
5-9	745	9954	15-19	576	742	-166
10-14	671	9951	20-24	437	668	-231
15-	1189	9941	25-	959	1182	-203
25-	1317	9842	35-	1042	1296	-254
35-	1383	9791	45-	1099	1354	-255
45-	1264	9130	55-	1032	1154	-122
55-	940	7868	65-	667	741	- 74
65-	709	6153	75-	295	436	-141
75-	306	-	85-	-	-	-

Reverse

							F+R	Av.
10-14	710	9744	0-4	778	692	- 86	-119	- 60
15-19	576	-	5-9	745	576	-169	-335	-168
20-24	437	-	10-14	671	437	-234	-465	-233
25-	959	9787	15-	1189	937	-232	-435	-218
35-	1042	9974	25-	1317	1099	-278	-532	-266
45-	1099	9747	35-	1383	1071	-312	-567	-284
55-	1032	9104	45-	1264	940	-324	-446	-223
65-	667	7196	55-	940	480	-460	-534	-267
75-	295	2886	65-	709	35	-324	-765	-363

Rural	Urban	Total	Total (from County Calculations)
- 60	- 8	- 68	68
-168	- 35	-203	202
-233	- 64	-297	296
-218	- 24	-242	241
-266	- 45	-311	312
-284	- 18	-302	302
-223	- 59	-282	333
-267	- 63	-330	331
-383	-113	-496	522

Berwick Female (Applying B:R: S_F survival rate 1951-1961)

Forward

t.	R	S	t+10	C	\hat{C}	M
0-4	1054	96904	10-14	922	1021	- 99
5-9	942	99195	15-19	674	934	-260
10-14	779	-	20-24	535	779	-244
15-	1498	98655	25-	1299	1478	-179
25-	1610	979296	35-	1471	1568	- 97
35-	1866	984312	45-	1650	1837	-187
45-	1793	947636	55-	1577	1699	-122
55-	1525	886435	65-	1156	1352	-196
65-	1194	6977152	75-	562	833	-271
75-	536	5526939	85-	112	356	-244

Reverse

							F+R	Av.
10-14	992	98406	0-4	1054	976	- 78	- 177	- 89
15-19	674	99434	5-9	942	670	-272	- 532	- 266
20-24	535	99842	10-14	779	534	-245	- 489	- 245
25-	1299	99601	15-	1498	1294	-204	- 383	- 192
35-	1471	-	25-	1610	1471	-139	- 236	-1118
45-	1650	98924	35-	1866	1632	-234	- 421	-2211
55-	1577	957386	45-	1793	1509	-284	- 406	- 203
65-	1156	874411	55-	1525	1010	-515	- 711	- 356
75-	562	5109956	65	1194	287	-907	-1178	- 589

-2264

UrbanForward

t.	R	S	t+10	C	\hat{C}	M	t+10	R	S	C	\hat{C}	M	F+R	Av.
0-4	272	96904	10-14	252	264	-12	10-14	252	98406	272	248	- 24	- 36	- 18
5-9	218	99195	15-19	169	216	-47	15-19	169	99434	218	165	- 50	- 97	- 49
10-14	139	-	20-24	137	169	-32	20-24	137	99842	169	137	- 32	- 64	- 32
15-	406	98655	25-	329	401	-72	25-	329	99601	406	328	- 78	-150	- 75
25-	424	979296	35-	423	415	+ 8	35-	423	-	424	423	- 1	+ 7	+ 4
35-	466	989312	45-	441	459	-18	45-	441	98924	466	436	- 30	- 48	- 24
45-	473	947636	55-	431	448	-17	55-	431	957386	473	413	- 60	- 77	- 39
55-	392	886435	65-	340	347	- 7	65-	340	874411	392	297	- 95	-102	- 51
65-	344	6977152	75-	162	240	-78	75-	162	5109956	344	83	-261	-339	-170
75-	152	5526939	85-	28	74	-46	85-	28	-	152	-			

LANDWARD

Forward

Reverse

t	R.	S	t+10	C	\hat{C}	-M	t+10	R	S	t	C	\hat{C}	M	Av
0-4	782	98904	10-14	670	758	- 88	10-14	670	98406	0-4	782	659	-123	-106
5-9	724	99195	15-19	505	718	+213	15-19	505	99434	5-9	724	502	-222	-218
10-14	610	-	20-24	398	610	-212	20-24	398	99842	10-14	610	396	-214	-213
15-	1092	98655	25-	970	1077	-107	25-	970	99601	15-	1092	963	-126	-117
25-	1186	979296	35-	1048	1161	-113	35-	1048	-	25-	1186	1048	-138	-126
35-	1400	984312	45-	1209	1378	-169	45-	1209	98924	35-	1400	1196	-204	-187
45-	1320	947636	55-	1146	1251	-105	55-	1146	957386	45-	1320	1097	-223	-164
55-	1133	886435	65-	816	1004	-188	65-	816	874411	55-	1133	714	-419	-304
65-	850	6977152	75-	400	593	-193	75-	400	5109956	65-	850	204	-646	-420
75-	384	5526939	85-	84	-		85-	84	-	75-	384	-	-	-

<u>URBAN</u>	<u>RURAL</u>	<u>TOTAL</u>	<u>TOTAL</u> (from County Calculations)
-18	-106	-124	- 89
-49	-218	-267	-286
-32	-213	-245	-245
-75	-117	-192	-192
+ 4	-126	-122	-118
-24	-187	-211	-211
-39	-164	-203	-203
-51	-304	-355	-356
-170	-420	-590	-589

ROXBURGH MALE (Applying R: B1.S_M Survival Rate 1961 - 1961)

FORWARD

t	R	S	5+10	C	\wedge C	M
0-4	1936	9546	10-14	1888	1848	+40
5-9	1612	9954	15-19	1455	1605	-150
10-14	1586	9951	20-24	1208	1578	-370
15-	2503	9941	25-	2346	2488	-142
25-	3100	9842	35-	2720	3051	-331
35-	3283	9791	45-	2905	3214	-309
45-	2876	9130	55-	2394	2626	-232
55-	2093	7888	65-	1475	1651	-176
65-	1658	6153	75-	741	1020	-279
75-	685	1947	85-	100	133	-33

REVERSE

t+10	R	S	t	C	\wedge C	M	F+R	Av
10-14	1888	9744	0-4	1936	1840	-96	-56	-28
15-19	1455	-	5-9	1612	1455	-157	-307	-154
20-24	1208	-	10-14	1586	1208	-378	-748	-374
25-	2346	9767	15-	2503	2291	-212	-354	-177
35-	2720	9974	25-	3100	2713	-387	-718	-359
35-	2905	9747	35-	3283	2832	-451	-760	-380
55-	2394	9104	45-	2876	2179	-697	-929	-465
65-	1475	7196	55-	2093	1061	-1032	-1208	-604
75-	741	2886	65-	1658	2139	-1444	-1723	-802

URBANFORWARDREVERSE

Av.

0-4	1129	9546	10-14	1072	1078	-6	10-14	1072	0-4	1129	9744	1045	-74	-40
5-9	892	9954	15-19	787	888	-101	15-19	787	5-9	892	-	787	-105	-103
10-14	880	9951	20-24	688	876	-188	20-24	688	10-14	880	-	688	-192	-190
15-	1376	9941	25-	1416	1368	+48	25-	1416	15-	1376	9767	1383	+7	-28
25-	1821	9842	35-	1569	1792	-223	35-	1569	25-	1821	9974	1565	-256	-240
35-	1927	9791	45-	1689	1887	-198	45-	1689	35-	1927	9747	1646	-281	-240
45-	1723	9130	55-	1451	1573	-122	55-	1451	45-	1723	9104	1321	-402	-262
55-	1211	7888	65-	842	955	-113	65-	842	55-	1211	7196	606	-605	-359
65-	951	6153	75-	441	585	-144	75-	441	65-	951	2886	127	-824	-484
75-	366	1947	85-	65	-	-	85-	-	75-	-	-	-	-	-

RURAL

FORWARD

Reverse

Av.

0-4	807	9546	10-14	816	770	+46	10-14	816	9744	0-4	807	795	-12	+17
5-9	720	9954	15-19	668	717	-49	15-19	668	-	5-9	720	668	-52	-51
10-14	706	9951	20-24	520	703	-183	20-24	520	-	10-14	706	520	-186	-185
15-	1127	9941	25-	980	1120	-190	25-	930	9787	15-	1127	908	-219	-205
25-	1279	9842	35-	1151	1259	-108	35-	1151	9974	25-	1279	1148	-131	-120
35-	1356	9791	45-	1216	1328	-112	45-	1216	9747	35-	1356	1185	-171	-142
45-	1153	9130	55-	943	1053	-110	55-	943	9104	45-	1153	859	-294	-202
55-	882	7888	65-	633	674	-41	65-	633	7196	55-	882	456	-426	-234
65-	707	6153	75-	300	435	-135	75-	300	2886	65-	707	21	-686	-411
75-	319	-	85-	-	-	-	85-	-	-	75-	-	-	-	-

<u>URBAN</u>	<u>RURAL</u>	<u>TOTAL</u>	<u>TOTAL</u> (from County Calculation)
-40	+17	-23	-28
-103	-51	-154	-154
-190	-185	-375	-374
+28	-205	-177	-177
-240	-120	-360	-359
-240	-142	-382	-380
-262	-202	-464	-465
-359	-234	-593	-604
-484	-411	-895	-862

ROXBURGH

FEMALE (Applying R: B. S F Survival Rate

1951 - 1961)

Forward

t	R	S	t+10	C	\hat{C}	M
0-4	1,745	96904	10-14	1,676	1,691	-15
5-9	1,458	99195	15-19	1,276	1,448	-170
10-14	1,508	-	20-24	1,252	1,508	-256
15-	2,937	98655	25-	2,468	2,899	-431
25-	3,050	979296	35-	2,807	2,987	-180
35-	3,454	984312	45-	3,221	3,400	-179
45-	3,399	947636	55-	3,074	3,221	-147
55-	2,910	886435	65-	2,399	2,580	-181
65-	2,415	6977152	75-	1,283	1,685	-402
75-	1,046	5526939	85-	225	578	-353

REVERSE

t+10	R	S	t	C	\hat{C}	M	F+R	Av.
10-14	1,676	98406	0-4	1,745	1,649	-96	-111	-56
15-19	1,276	99434	5-9	1,458	1,269	-189	-359	-180
20-24	1,252	99842	10-14	1,508	1,250	-258	-514	-257
25-	2,468	99601	15-	2,937	2,458	-479	-910	-455
35-	2,807	-	25-	3,050	2,807	-243	-423	-212
45-	3,221	98924	35-	3,454	3,186	-268	-447	-224
55-	3,074	957386	45-	3,399	2,943	-456	-503	-302
65-	2,399	874411	55-	2,910	2,098	-822	-1003	-502
75-	1,283	5109956	65-	2,415	656	-1759	-2161	-1031
								-3099

URBANFORWARDREVERSEAv.

0-4	1037	96904	10-14	909	1005	-96	10-14	909	98406	0-4	1037	894	-143	-120
5-9	784	99195	15-19	760	777	-17	15-19	760	99434	5-9	784	755	-29	-23
10-14	871	-	20-24	800	871	-71	20-24	800	99842	10-14	871	798	-73	-72
15-	1806	98655	25-	1498	1782	-284	25-	1498	99601	15-	1806	1492	-314	-299
25-	1870	979296	35-	1713	1831	-118	35-	1713	-	26-	1870	1713	-157	-138
35-	2104	984312	45-	2002	2070	-68	45-	2002	98924	35-	2104	1980	-124	-96
45-	2122	947636	45-	1960	2012	-52	55-	1960	957386	45-	2122	1876	-246	-149
55-	1874	886435	65-	1548	1550	-2	65-	1548	874411	55-	1874	1351	-523	-263
65-	1538	6977152	75-	857	1070	-213	75-	857	5109956	65-	1538	440	-1098	-656

RURALFORWARDREVERSEAv.

0-4	708	96904	10-14	667	686	-19	10-14	667	98406	0-4	708	656	-52	-41
5-9	674	99195	15-19	516	669	-153	15-19	516	99434	5-9	674	513	-161	-157
10-14	637	-	20-24	452	637	-185	20-24	452	99842	10-14	637	451	-186	-186
15-	1131	98655	25-	970	1116	-146	25-	970	99601	15-	1131	966	-165	-156
25-	1180	979296	35-	1094	1155	-61	35-	1094	-	25-	1180	1094	-86	-74
35-	1260	984312	45-	1219	1240	-21	45-	1219	98924	35-	1260	1206	-54	-38
45-	1277	947636	55-	1114	1211	-97	55-	1114	957386	45-	1277	1066	-211	-154
55-	1100	886435	65-	851	975	-124	65-	851	874411	55-	1100	735	-365	-245
65-	877	6977152	75-	426	612	-186	75-	426	5109956	65-	877	218	-559	-373

URBANRURALTOTALTOTAL (from County Calculation)

-120	-41	-161	-56
-23	-157	-180	-180
-72	-186	-258	-257
-299	-156	-455	-455
-138	-74	-212	-212
-96	-38	-134	-224
-149	-154	-303	-302
-263	-245	-508	-502
-656	-373	-1029	-1031

SELKIRK MALE (Applying R: B: S_M Survival Rate 1951 - 1961)

FORWARD

t	R	S	t+10	C	^ C	M
0-4	882	9546	10-14	840	842	-2
5-9	700	9954	15-19	739	697	+42
10-14	620	9951	20-24	807	617	+190
15-	1136	9941	25-	1151	1129	+22
25-	1428	9842	35-	1081	1405	-324
35-	1508	9791	45-	1266	1476	-210
45-	1432	9130	55-	1399	1307	+92
55-	1043	7888	65-	1274	823	+451
65-	816	6153	75-	730	502	+228
75-	349	1947	85-	380	68	+312

REVERSE

	R	S		R	S	F + R	Av.
10-14	840	9744	0-4	882	818	-64	-33
15-19	739	-	5-9	700	739	+39	+44
20-24	807	-	10-14	620	807	+187	+189
25-	1151	9767	15-	1136	1124	-12	+5
35-	1081	9974	25-	1428	1078	-350	-337
45-	1266	9747	35-	1508	1234	-274	-242
55-	1399	9104	45-	1432	1274	-158	-33
65-	1274	7196	55-	1043	917	-126	+163
75-	730	2886	65-	816	211	-605	-189
85-	380	-	75	349	-	-	-

-834
+398 = 436

URBAN

FORWARD

REVERSE

Av.

	R	S		R	S		R	S		R	S		Av.	
0-4	764	9546	10-14	702	729	-27	10-14	702	9744	0-4	764	684	-80	-54
5-9	578	9954	15-19	543	576	-33	15-19	543	-	5-9	578	543	-35	-34
10-14	502	9951	20-24	412	500	-88	20-24	412	-	10-14	502	412	-90	-89
15-	933	9941	25-	909	927	-18	25-	909	9767	15-	933	888	-45	-32
25-	9842 1,159	9,842 9,842	35-	1086	1,170	-84	35-	1,086	9974	25-	1,189	1,083	-106	-95
35-	1,277	9791	45-	1,208	1,250	-42	45-	1,208	9747	35-	1,277	1,177	-100	-71
45-	1,220	9130	55-	1,069	1,114	-45	55-	1,069	9104	45-	1,220	973	-247	-146
55-	870	7888	65-	621	686	-65	65-	621	7196	55-	870	447	-323	-194
65-	684	6153	75-	323	421	-98	75-	323	2886	65-	684	93	-591	-345
75-	284	1947	85-	36	-	-	85-	36	-	75-	284	-	-	-

RURAL

Forward

0-4	118	9546	10-14	105	113	-8	10-14	105	9744	118	102	-16	-24	-12
5-9	122	9954	15-19	118	121	-3	15-19	118	-	122	118	-4	-7	-4
10-14	118	9951	20-24	78	117	-39	20-24	78	-	118	78	-40	-79	-40
15-	203	9941	25-	172	202	-30	25-	172	9767	203	168	-35	-65	-33
25-	239	9842	35-	180	235	-55	35-	180	9974	239	180	-59	-114	-57
35-	229	9791	45-	191	224	-33	45-	191	9747	229	186	-43	-76	-38
45-	212	9130	55-	205	194	+11	55-	205	9104	212	183	-25	-14	-7
55-	173	7888	65-	109	136	-27	65-	109	7196	173	78	-95	-122	-61
65-	132	6153	75-	57	81	-24	75-	57	2886	132	16	-116	-140	-71
75-	65	-	85-	8	-	-	85-	8	-	65	-	-	-	-

<u>URBAN</u>	<u>RURAL</u>	<u>TOTAL</u>	<u>TOTAL</u>	(from County calculation)
-54	-12	-66	-33	
-34	-4	-38	+41	
-89	-40	-129	+189	
-32	-33	-65	+5	
-95	-57	-152	-337	
-71	-38	-109	-242	
-146	-7	-153	-33	
-194	-61	-255	+163	
-345	-71	-416	-189	

SELKIRK FEMALE (Applying B:R:S_F Survival rate 1951-1961)

FORWARD

t	R	S	t+10	C	\hat{C}	M
0-4	858	96904	10-14	827	821	+6
5-9	694	99195	15-19	697	688	+9
10-14	584	-	20-24	624	584	+40
15-	1473	98655	25-	1246	1454	-208
25-	1554	979296	35-	1401	1521	-120
35-	1637	884312	45-	1604	1611	-7
45-	1689	947636	55-	1550	1601	-51
55-	1545	886435	65-	1221	1369	-148
65-	1221	6977152	75-	642	852	-210
75-	516	5526939	85-	122	285	-163

REVERSE

							F+R	Av
10-14	827	98406	0-4	858	814	-44	-38	-19
15-19	697	99434	5-9	694	694	-1	+8	+4
20-24	624	99842	10-14	584	623	+39	+79	+40
25-	1246	99601	15-	1473	1241	-232	-440	-220
35-	1401	-	25-	1554	1401	-153	-273	-137
45-	1604	98924	35-	1637	1586	-51	-58	-29
55-	1550	957386	45-	1689	1483	-206	-257	-129
65-	1221	874411	55-	1545	1067	-478	-626	-313
75-	642	5109956	65-	1221	328	-893	-1103	-552

URBAN

FORWARD

							<u>REVERSE</u>				<u>Av.</u>			
0-4	721	96904	10-14	718	699	+19	10-14	718	98406	0-4	721	706	-15	+2
5-9	527	99195	15-19	562	523	+29	15-19	562	99434	5-9	527	559	+32	+32
10-14	491	-	20-24	494	491	+3	20-24	494	98842	10-14	491	488	-3	0
15-	1182	98655	25-	1057	1166	-109	25-	1057	99601	15-	1182	1053	-129	-119
25-	1296	979296	35-	1201	1269	-68	35-	1201		25-	1296	1201	-95	-82
35-	1407	984312	45-	1390	1384	+6	45-	1390	98924	35-	1407	1375	-32	-13
45-	1459	947636	55-	1354	1383	-29	55-	1354	957386	45-	1459	1296	-163	-96
55-	1339	886435	65-	1089	1186	-97	65-	1089	874411	55-	1339	952	-387	-242
65-	1079	6977152	75-	581	765	-184	75-	581	5109956	65-	1079	297	-772	-478
75-	456	5526939	85-	-	-	-	85-	-	-	75-	456	-	-	-

RURAL

FORWARD

REVERSE

Av.

0-4	137	96904	10-14	109	133	-24	10-14	109	98406	0-4	137	106	-31	-28
5-9	107	99195	15-19	135	106	+29	15-19	135	99434	5-9	107	134	+27	+28
10-14	93	-	20-24	130	93	+37	20-24	130	99842	10-14	93	130	+37	+37
15-	291	98655	25-	189	287	-98	25-	189	99601	15-	291	188	-103	-101
25-	258	979296	35-	200	253	-53	35-	200	-	25-	258	200	-58	-56
35-	230	984312	45-	214	226	-12	45-	214	98924	35-	230	212	-18	-15
45-	230	947636	55-	196	218	-22	55-	196	957386	45-	230	188	-42	-32
55-	206	886435	65-	132	183	-51	65-	132	874411	55-	206	115	-91	-71
65-	142	6977152	75-	61	99	-38	75-	61	5109956	65-	142	81	-111	-75

<u>URBAN</u>	<u>RURAL</u>	<u>TOTAL</u>	<u>TOTAL</u>	(from County calculation)
+2	-28	-26	-19	
+32	+28	+60	+4	
-	+37	+37	+40	
-119	-101	-220	-220	
-82	-56	-138	-137	
-13	-15	-28	-29	
-96	-32	-128	-129	
-242	-71	-313	-313	
-478	-75	-553	-552	

APPENDIX II - SHEEP PRICES

SHEEP PRICES

	CHEVIOT SHEEP								WOOL	
	WETHERS		EWES		LAMBS		LAI D	(and Cheviot White)		
1850	20/6 to	29/6	12/0 to	20/0	8/0 to	13/0	15/- to	17/6		
1851	21/5	31/0	13/0	21/0	8/9	14/-	12/-	16/0		
1852	21/-	32/-	15/-	23/-	8/-	14/-	13/-	15/-		
1853	26/6	38/-	17/-	28/6	9/-	17/-	19/-	22/-		
54	25/-	36/-	17/-	26/-	9/-	16/6	12/-	15/-		
55	23/6	36/-	16/-	25/-	10/-	17/-	14/6	19/-		
56	22/-	35/6	15/6	24/-	10/-	15/-	19/-	21/6		
57	24/-	36/-	14/6	26/-	10/6	14/6	19/-	24/-		
58	24/-	34/6	14/-	24/6	10/6	14/-	15/-	17/-		
59	25/-	34/6	16/-	25/-	10/3	14/9	18/6	24/-		
1860	26/-	38/-	17/6	27/6	12/6	17/6	22/0	32/-	37/- to	38/-
61	25/-	38/6	16/-	28/-	9/0	16/0	19/6	27/-	from 30/-	up
62	27/-	37/6	17/6	28/-	10/-	16/-	18/6	26/-	20/-	37/-
63	25/-	38/6	19/0	28/6	10/6	16/-	25/6	31/-	38/-	42/-
64	31/-	41/-	21/-	21/6	14/-	18/-	31/-	39/-	47/-	54/-
65	32/6	44/-	22/6	33/6	14/6	20/-	23/-	30/-	44/-	45/-
66	37/-	50/-	29/-	42/6	15/-	26/-	24/-	30/-	30/-	38/-
67	26/-	58/-	18/-	25/6	12/-	16/-	16/-	21/6	not quoted	
68	30/-	32/-	15/6	21/-	7/6	13/-	19/-	26/-	23/-	32/-
69	28/-	38/-	15/-	22/6	7/6	14/-	18/-	26/6	not quoted	
1870	35/6	43/-	18/-	28/-	10/-	17/-	15/-	23/6	25/-	26/-
71	38/6	49/-	22/-	33/6	14/-	20/-	20/-	26/6	30/-	34/6
72	45/-	56/-	32/-	42/-	16/-	22/-	26/-	37/6	40/-	48/-
73	42/-	51/-	25/-	42/-	15/6	22/-	17/-	18/-	34/-	40/-
74	38/6	44/6	21/-	36/-	12/-	17/-	18/6	26/6	30/-	34/-
75	33/-	48/6	21/-	34/-	13/6	23/6	25/-	32/-	34/6	36/-
76	40/-	52/6	23/-	30/-	13/6	25/-	20/-	24/-	30/-	34/6
77	41/-	51/-	25/-	37/-	15/-	24/-	20/9	26/-	28/-	30/-
78	35/6	48/-	23/6	35/-	14/-	22/-	18/9	25/6	27/-	32/-
79	34/-	44/-	21/-	34/-	14/-	20/-	15/-	17/-	prices v. low	
1880	30/-	43/6	20/-	30/-	12/6	20/-	20/-	24/-	30/-	32/-
81	32/-	45/6	29/-	34/-	14/-	20/-	17/-	21/-	27/-	30/-
82	40/-	51/-	30/-	40/-	14/-	20/6	14/-	18/-	27/6	28/-

1583	44/- to	55/6	34/6 to	46/6	15/6 to	23/-	13/-	18/-	26/-	28/-
84	36/-	47/6	29/6	41/6	12/6	20/-	13/-	18/-	26/-	28/-
55	30/-	38/-	24/-	31/-	12/-	18/-	12/-	17/-	22/6	26/-
86	32/-	40/-	21/-	29/-	12/6	19/-	13/-	18/-	23/-	27/6
87	29/-	36/-	18/-	26/-	11/-	16/6	14/-	22/-	23/-	28/-
88	30/-	38/-	19/-	27/-	12/-	17/6	13/-	20/-	23/-	28/-
89	36/-	44/-	24/-	32/-	14/-	22/-	13/-	18/-	24/-	28/-
1890	31/-	40/-	22/-	30/-	12/6	20/-	13/-	18/-	24/-	28/-
91	27/-	38/-	16/-	25/-	9/-	16/-	12/6	18/-	22/-	28/-
92	22/-	30/6	13/-	22/-	5/-	11/-	12/-	18/-	20/-	28/-
93	26/-	35/6	18/-	28/6	8/6	15/-	12/-	17/-	20/-	27/-
94	26/-	37/-	20/-	31/-	10/6	18/6	12/-	16/-	20/-	26/-
95	28/-	39/-	22/-	34/-	11/6	19/6	12/-	16/-	20/-	25/-
96	24/6	34/-	19/-	30/6	9/-	16/6	11/-	15/-	19/-	24/-
97	27/-	36/-	21/-	31/6	11/-	17/6	11/-	14/-	18/-	23/-
98	27/-	37/-	22/-	32/6	12/-	18/6	10/-	13/-	16/-	20/-
99	24/-	33/-	20/-	30/6	10/6	16/-	10/-	13/-	13/-	18/6
1900	26/-	36/-	22/-	32/6	12/-	17/-	9/9	12/-	13/-	18/6
01	25/-	32/6	20/-	29/6	11/-	16/-	9/-	10/-	13/-	18/6
02	24/-	31/6	18/-	27/-	9/6	14/6	9/6 10/-	10/-	11/6	17/6
03	26/-	34/-	21/-	31/-	11/4	18/0	10/-	12/-	15/-	18/-
04	28/6	36/6	23/-	32/6	13/-	20/-	15/-	17/-	20/-	21/-
05	27/6	35/-	23/-	33/-	14/-	21/-	17/-	20/-	24/-	26/-
06	30/-	38/-	26/-	34/6	15/-	23/-	18/-	21/-	27/-	28/6
07	28/-	34/-	22/-	30/6	13/6	19/6	No chevits smeared now		22/-	24/-
08	26/-	32/6	21/-	27/6	11/6	17/-	"	"	16/-	18/-
09	24/-	31/-	18/-	25/6	9/6	16/-	"	"	24/-	26/-
1910	27/-	35/-	22/-	31/-	12/-	20/-	"	"	25/-	30/-
11	24/-	31/6	18/6	27/6	10/6	18/-	"	"	25/-	30/-
12	26/-	34/6	22/-	31/-	13/-	21/-	"	"	24/-	29/-
13	30/-	39/-	24/-	35/6	16/-	24/-	"	"	25/-	30/-
14	32/6	41/-	28/-	39/-	18/-	27/6	"	"	24/-	29/-
15	36/-	46/-	31/-	44/-	20/-	30/6	"	"	42/-	46/-
16	40/6	51/-	34/-	49/-	22/-	34/6				
17	43/6	56/-	38/-	56/-	24/-	34/-				
18	50/-	66/-	42/-	61/-	25/-	37/-				
19	53/-	69/-	44/6	67/-	28/-	40/6				

SHEEP PRICESWOOL
HIGHLAND

BLACK FACE SHEEP

	WETHERS		EWES		LAMBS		LAID		WHITE	
1850		not quoted			7/-	0/0	8/-	8/6		
51	17/6	23/-	9/-	12/-	6/6	8/-	8/-	9/3		
52	18/6	22/-	9/6	12/-	4/6	7/9	8/-	9/-		
53	23/-	27/-	14/6	16/6	8/-	11/6	11/-	12/6		
54	20/-	26/-	11/-	16/6	8/-	10/6	7/6	8/6		
55	23/6	26/6	14/-	16/-	10/-	11/-	8/6	9/-		
56	17/-	24/-	10/-	20/-	7/6	10/-	11/-	0/0		
57	20/-	29/-	10/6	15/-	9/3	11/-	13/-	14/3		
58	20/-	27/6	9/9	18/9	8/3	10/6	8/9	10/-		
59	20/-	25/-	10/-	14/-	8/9	11/-	10/9	11/6		
1860	21/-	27/3	11/-	16/-	10/-	13/6	10/-	11/3		
61	21/-	29/-	12/-	22/-	6/3	14/-	not quoted			
62	16/9	27/-	12/-	18/8	6/-	12/-	11/6	16/-		
63	20/-	30/6	13/-	16/-	8/-	11/6	15/3	17/6		
64	25/-	30/-	15/-	19/-	10/-	13/6	17/6	20/-		
65	15/6	32/6	15/-	25/-	10/-	17/-	15/-	17/-		
66	31/6	40/-	20/-	36/-	13/6	22/6	14/-	16/-		
67	20/-	30/6	14/-	22/-	7/6	13/6	not quoted			
68	20/-	26/-	10/6	13/6	7/-	13/-	8/6	9/-		
69	22/-	28/-	11/6	14/-	6/9	9/-	8/6	10/-		
1870	27/-	32/6	13/-	22/-	8/-	14/6	9/6	0/0		
71	23/-	37/-	13/-	23/-	11/-	16/3	12/-	15/-		
72	31/6	45/-	18/-	32/-	12/6	18/-	18/-	21/-		
73	28/-	39/-	16/6	27/-	7/-	16/-	9/-	12/-		
74	25/-	35/-	13/-	20/-	7/-	14/-	9/6	13/-		
75	26/6	37/6	15/-	21/3	9/6	17/6	12/6	16/-		
76	30/-	40/-	19/-	24/-	13/-	20/6	9/6	12/-		
77	35/-	38/9	18/-	25/-	13/6	23/-	10/-	12/-		
78	30/-	36/-	17/-	23/-	12/-	22/-	8/6	11/6		
79	25/-	35/9	16/-	24/-	10/6	20/-	7/-	0/0		
1880	25/-	38/-	16/6	22/6	10/-	17/-	10/6	11/6	14/-	15/-
81	30/-	39/-	15/-	23/-	10/-	15/-	5/-	9/6	12/-	13/-
82	33/-	46/-	20/-	28/-	12/6	18/6	7/6	9/0	13/-	14/-
83	36/-	50/6	24/6	33/-	14/-	21/6	6/6	8/6	11/6	12/6
84	29/-	43/6	19/6	28/-	12/-	19/6	6/6	8/6	11/6	12/6
85	24/-	34/-	13/-	22/6	10/-	15/-	6/-	8/-	11/6	12/-

1886	25/-	34/-	12/-	22/-	10/6	16/-	6/6	8/6	11/6	12/-
87	22/-	30/-	11/-	19/-	8/-	13/-	7/-	9/-	11/6	13/-
88	22/-	32/-	13/-	24/-	10/-	15/-	7/-	9/-	11/-	12/6
89	26/-	49/-	18/-	29/-	13/-	22/-	7/-	9/-	11/-	12/6
1890	24/-	37/-	14/-	27/-	10/6	19/-	7/-	9/-	11/-	12/6
91	21/-	37/-	10/-	24/-	7/6	15/-	7/-	9/-	11/-	12/6
92	16/-	28/6	6/-	17/-	3/-	10/-	7/-	8/6	10/6	12/-
93	21/-	37/-	12/-	24/-	7/-	14/-	7/-	8/-	10/-	12/-
94	20/-	37/-	14/6	26/6	8/6	16/6	7/-	8/-	10/-	12/-
95	23/-	41/-	16/-	28/6	9/-	17/-	7/-	8/-	10/-	11/6
96	19/-	35/4	13/-	24/-	6/-	13/6	7/-	8/-	10/-	11/6
97	21/-	36/6	15/-	25/6	7/-	14/6	7/-	8/-	10/6	12/-
98	22/-	37/-	16/-	26/6	8/-	15/-	7/-	8/-	10/-	11/6
99	20/-	33/6	13/-	24/-	5/6	13/-	7/-	8/-	8/6	9/6
1900	23/-	36/-	16/-	26/6	8/-	15/6	6/9	7/9	8/-	9/6
1901	20/-	35/-	14/-	25/6	6/6	14/6	5/9	6/6	8/-	9/-
02	18/6	34/-	12/-	24/-	6/-	14/-	6/-	6/6	8/6	9/6
03	21/-	36/-	18/-	28/-	7/-	16/6	7/-	8/-	11/6	12/6
04	23/-	38/6	18/-	30/-	8/6	17/6	9/-	10/-	14/-	15/-
05	21/6	37/-	19/-	31/-	9/-	18/6	10/-	11/-	15/-	16/-
06	23/-	38/-	20/-	33/-	10/-	19/6	11/6	13/-	16/6	17/6
07	21/-	33/6	17/-	28/-	8/6	17/6	11/-	12/6	16/-	17/-
08	19/6	30/-	15/-	24/6	8/-	16/-	No Highlands		8/-	8/6
09	17/-	28/-	11/6	22/-	6/3	13/-	smeared now		12/6	14/-
1910	21/-	32/6	16/-	27/6	8/-	17/-			13/-	14/6
11	19/-	29/6	14/-	24/-	7/-	15/-			13/-	14/6
12	21/6	32/6	17/-	27/6	9/6	17/6			14/-	15/-
13	24/6	36/-	21/-	31/-	12/6	21/6			17/-	18/-
14	27/-	38/6	25/-	34/6	15/6	24/-			15/-	15/6
15	31/-	42/6	29/-	39/6	17/-	25/6			21/-	22/-
16	33/-	46/6	31/-	42/-	19/-	27/6				
17	36/-	57/-	33/-	47/-	21/-	30/-				
18	41/-	56/-	36/-	50/-	27/-	33/-				
19	44/-	62/-	39/-	54/-	29/-	36/-				
1920	46/-	86/-	44/-	62/-	31/-	43/-				
21	32/9	60/9	35/3	62/6	20/3	47/-				
22	40/3	63/-	40/6	74/-	18/-	44/-				
23	46/-	65/6	43/-	78/-	21/-	45/6				

APPENDIX III - LOCAL BUS SERVICES

LOCAL BUS SERVICES

<u>Centre</u>	<u>Route</u>	<u>Freq.</u>	<u>Operator</u>	
Berwick	B - Horncliffe, Norham	Daily	United	
	B - Tweedmouth, Scremerston	"	"	
	B - Etal, Ford	"	"	
	B - " " , Crookham) Mon. to Fri.	"	"
	Westfield, Branxton, Milfield)			
	B. town services	Daily	"	
	B - Thornton, Shoresdean	Sat. only	"	
	B - Etal, Ford, Crookham)	"	"
	Westfield, E. Learmouth			
	B - Lowick, Hazelrigg, Chatton	"	"	
	B - Etal, Ford, Kimigston) Sat. & Sun.	"	"
	Milfield			
	B - Velvet Hall, Cornhill) Daily	"	Scot. Omnibus
	Carham, Kelso			
	B - Paxton, Hutton, Whitsome) "	"	"
	Swinton, Leitholm, Eccles			
	Ednam, Kelso			
	B - Paxton, Hutton, Horsedean)	"	"
	Ladykirk, Swinton, Lennel			
	Coldstream, Kelso			
	B - Paxton, Hutton, Whitsome)	"	"
	Swinton, Lennel, Coldstream)			
	Kelso			
		Kelso		
	B - Chirnside, Duns	"	"	"
	B - Ayton, Reston, Chirn, Duns	Weekdays	"	"
	B - Burnmouth, Ayton, Eyemouth) Daily	"	"
Coldingham, St. Abbs				
B - Paxton, Greenlaw, Houndslow	) Sat. & Sun.	"	"
Westruther, Lauder, Ed				
B - Paxton, Hutton, Allanton	) Sat.	"	"
Chirnside				
Kelso				
	Kelso			
K - Heiton, Eckford, Jedburgh	) Daily	"	"
Denholm, Hawick				
K - Ed, Eccles, Leitholm,	"	"	"	
Swinton				
K - Ed, Ecc, Greenl, Fogorig	) Thurs. & Fri.	"	"
Mt. Pleasant, Duns				
K - Ed, Kaimflat, Hassington	) Daily	"	"
Leitholm, Swinton				
Mt. Pleasant, Duns				
K - Blakelaw, Kirk, Y	"	"	"	
K - Stichell, Nenthorn, Gordon	) Fri. to Sat.	"	"
Houndslow, Westruther				
K - Nisbet, Ancrum	Sat.	"	"	

<u>Centre</u>	<u>Route</u>	<u>Operator</u>	
Kelso	K - Carham, Wark, Hadden Sprouston, K	) Thur. & Scot.) Sat. Omnibus
	K - Stich, Hume, Nenthorn, Stich, K))	
	K - Ed, Stich, Hume	Sun. "	
	K - Hume, Greenl, Houndslow Westruther, Lauder, Ed Moreb	) Fri. ") Wk. days A.
	K - Heiton	Mon. to Fri. "	
	K - Heit, Cessford	Sat. "	
	K - " " , Moreb	Tues. & Sat. "	
	K - Heit, Moreb, Hawnam	Thurs. "	
	K - Kersknowe, Linton Moreb	) Daily ")
	K - Kersknowe, Linton Moreb, Hownam	) Sat. ")
	K - Easter Softl., Lempitlaw Holefield, Graden	) Wed. & ") Sat.
	K - Roxb., Rutherf., Maxton St. B.	) Fri. Kyle Bros.)
	K - Makerst, Greatridgehall	Fri. "	
	Hawick	H - Denh, Barnmills, Ancrum	Thurs. & Scot. Sat. Omnib.
		H - Lillies, Bowden, N. St. B., Mel. Gala.) Thurs. ") Sat. & Sun. "
		H - Ash, Selk., Gala.	Daily "
		H - Denh, Jed., Crail, Eck, Kelso	" "
		H - Denholm	" "
		H - " , Minto	" "
H - Cavers Church, Denholm, Wells		Sat. "	
H - Stobs, Cogsmill		Fri. "	
H - Deanburnhaugh		Sun. Mon. R. J. Nichol Thurs. Wed. Sat.	
H - T'head		Sun. Mon. Wed. Thurs. " Fri. Sat.	
H - Bonchester, Forkins Chesters Rds.		) Sun. Mon.) Wed. Thurs. Anderson) Frid. Sat.
Duns		D - Greenl., Gordon, Earlston	Daily Scot. Omnibus
		D - A, St. B.	Tues. Sat. "
		D - Longform	" " "
		D - Cranshans	" " "
	Duns, Cumledge, Marigold Heighead) " " ")	

<u>Centre</u>	<u>Route</u>	<u>Freq.</u>	<u>Operator</u>
Duns	D - Preston, Grantshouse	Daily	Scot. Omnib.
Moreb	M - Hownam	Thur. & Sat.	A. Atkinson
Newcastleton N	Canonbie Canonbie	Sat. Sun.	Western S. M. T.

APPENDIX IV - FORM OF QUESTIONNAIRE

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