

PRE-INDUSTRIAL SOCIETY AND ECONOMY WITH PARTICULAR
REFERENCE TO SCOTLAND.

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CONTENTS

This thesis comprises one book and 26 articles and chapters on the theme of pre-industrial economic and social patterns in Britain, which have been published over a period of thirty-two years. The articles are presented in chronological order to demonstrate the way in which the author's ideas were developed through time. The research focuses on Scotland between the sixteenth and the late eighteenth centuries. One of the most important themes concerns the nature of Scottish agriculture in the early modern period, its technology and production, the regional variations and the chronology of agrarian change. Other topics include rural settlement patterns, rural housing and the structure of rural society, patterns of debt and credit, landownership and estate management, land tenure and the conditions of tenant labour, marketing and trading, the effects of climatic change on agriculture, migration and population mobility, urban occupational and social structures, and protoindustrialisation.

An important element of the study is the evaluation of a range of historical sources, including estate papers, commissary court testaments, and records relating to migration which have so far received little attention, in a Scottish context, from social and economic historians. In several of the articles the author's training, as a geographer, in techniques of statistical analysis has been used to develop new ways of exploring historical data and to frame new hypotheses relating to economic and social patterns. The thesis also includes review articles relating to Scottish historical geography, Scottish rural settlement and the contributions of historical geographers to medieval studies within Britain.

ABSTRACT.

This thesis comprises one book and 36 articles and chapters on the theme of pre-industrial economic and social patterns in Britain, which have been published over a period of fourteen years. The articles are presented in chronological order to demonstrate the way in which the author's ideas have developed through time. The research focuses on Scotland between the sixteenth and the late eighteenth centuries. One of the most important themes concerns the nature of Scottish agriculture in the early modern period, its technology and practices, its regional variations and the chronology of agrarian change and improvement. Other topics include rural settlement patterns, rural housing and the structure of rural society, patterns of debt and credit, landownership and estate management, land tenure and the condition of tenant farmers, marketing and trading, the effects of climatic change on agriculture, migration and population mobility, urbanization, urban occupational and social structures, and protoindustrialization.

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Taken together this material represents a significant contribution to scholarship relating to early-modern Scotland. A recurring theme throughout the thesis is the way in which detailed research by the author has demonstrated that the society and economy of Scotland between the sixteenth and the late eighteenth centuries was more complex, more developed, more varied regionally and less primitive than has been accepted in the past. The results of the research highlight many of the ways in which Scotland developed between the Reformation and the Industrial Revolution.

NOTE ON AUTHORSHIP AND COPYRIGHT.

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Rural Housing in Lowland Scotland in the Seventeenth Century: The Evidence of Estate Papers

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Introduction

The study of what has been termed the 'peasant house' (Gailey 1962; Dunbar 1971) has attracted a good deal of attention in recent years. Much of the work has been centred on the Highlands and Islands where the survival of ancient styles of vernacular building was widespread into the nineteenth and twentieth centuries (Hall 1972). The study of rural housing in Lowland Scotland, which is here defined as comprising the whole of Scotland outside the Highlands and Islands, has likewise tended to concentrate on the period from the eve of the Agricultural Revolution, in the later eighteenth century, to the present. Reasons for this are not hard to seek.

The Agricultural Revolution in Lowland Scotland obliterated most traces of the pre-existing agrarian landscape, and survivals of vernacular building from the first half of the eighteenth century are rare. Peasant houses dating from the seventeenth century and earlier are virtually unknown (Fairhurst 1967a). Much of the work which has been done relates to the study of traditional building styles and construction techniques which survived into recent times (Fenton 1968, 1970). Documentary sources concerning rural housing are relatively abundant for this period. The late eighteenth and early nineteenth centuries witnessed an unprecedented burst of descriptive writing and commentary on the agricultural scene. The framework provided by two Statistical Accounts, the Board of Agriculture Reports and the writings of various improvers, local historians and travellers can be used to set surviving structures in context. A wealth of estate plans allows the study of rural housing at this time to be integrated with the changing contemporary landscape.

However, little attention has been paid to the study of rural housing in Scotland in periods prior to the eighteenth century. The difficulties facing such studies are clear and have been discussed by Fairhurst (1967a) and Crawford (1967). There are no surviving peasant houses pre-dating the eighteenth century. Remains of settlement sites are few in number owing to destruction by later building and cultivation. In marginal areas, where some sites have survived, the few which have been excavated have proved

difficult to date. The peripheral nature of such sites automatically raises questions regarding the extent to which they are representative of the vanished rural landscape. It is a curious fact that more is definitely known about rural housing and settlement in Scotland during the Iron Age than in the seventeenth century (Crawford 1967:87).

Since there are no surviving examples to study and excavation poses such problems, only documentary sources remain to be considered as a possible means of obtaining information on pre-eighteenth century rural housing. Until recently it appears to have been generally thought that these were too sparse to allow a detailed reconstruction of any aspect of the economy and society of Lowland Scotland during the seventeenth century or earlier.

As a consequence, there has been a tendency to take the relatively abundant evidence for rural housing conditions in the earlier phases of the Agricultural Revolution and to project it back into the past. This has been done on the assumption that the rural economy of Scotland as a whole was stagnant, or even in decline, at the opening of the eighteenth century (Handley 1953; Fairhurst 1967b: 196-7). This view is now becoming untenable as an increasing body of evidence points to a substantial degree of development in the agrarian economy of Lowland Scotland during the seventeenth century (Whyte 1974). Moreover, the first half of the eighteenth century was itself a period of accelerating change, and conditions at that time did not necessarily mirror those of past centuries.

Previous work on rural housing has tended, when seeking the origins of building types and construction techniques in the seventeenth century and earlier, to use only a limited number of printed sources. These have mainly consisted of the works of Scottish topographers and English travellers (Brown 1891, 1893). The latter, at least, are uniformly scathing and blatantly biased. Other information has been drawn from scattered references in a few printed court books and sets of estate accounts. One result of the reliance on such a limited and possibly unrepresentative selection of sources is that rural housing conditions have been viewed as being uniformly squalid at all levels of peasant society.

To date, little has been done to assess the value, for the study of the economy and society of Lowland Scotland, of large quantities of seventeenth-century manuscript material. However, one source of great potential value, private estate papers, has recently begun to attract attention (Whyte 1974:21-9). It contains important information on rural housing.

This paper considers the evidence of estate papers relating to rural housing in Lowland Scotland during the seventeenth century. Only collections in the Scottish Record Office and the National Library of Scotland have been studied and no attempt has been made to consult those which remain in private hands. Because of this, the present study is only an introductory survey of some themes which are considered to be significant and it is closely circumscribed by the limitations of the sources. However, the collections which have been used relate to both large and small estates spread fairly evenly through-

out Lowland Scotland. It is considered that the data which have been drawn from them are fairly representative.

The techniques of vernacular building which were in use will be considered, and then an attempt will be made to reconstruct the building types which resulted and to set them, as far as possible, in their social and economic milieu. From this, it is hoped to bring out regional variations and to examine the development of building techniques and house types during the century. Firstly, however, it is germane to consider in greater detail the nature of the manuscript evidence which has been used, as it imposes severe constraints upon the depth of the analysis.

The Source Material

Collections of estate muniments contain a great variety of manuscripts, but information relating to rural housing is mainly contained in three types of document.

Inventories of buildings, whether belonging to tenants or to home farms, are the most valuable source. They were usually drawn up for assessing repairs, or as valuations upon the entry of tenants to particular holdings so that they could be compensated for any improvements made during the course of their tenancy, or penalised for any neglect. Inventories vary greatly in the amount of detail which they contain but generally, by listing the number and function of buildings and giving an indication of their size, they provide a fairly clear picture of the character of a farmstead.

Estate accounts frequently list the quantities of material supplied by proprietors to the houses of their tenants. Additional information is sometimes available concerning the construction and repair of buildings on the home farms managed by landowners.

Tacks or leases of holdings usually contain clauses specifying the tenants' obligations regarding the maintenance of their farm buildings and the proprietors' responsibilities in supplying construction materials and labour.

Most of the data used in this study have been drawn from documents of this type, but valuable information also occurs more sporadically in other types of estate documents, particularly court books.

Building Construction

Timberwork

The sources indicate that cruck framing was the standard method of constructing farm buildings in Lowland Scotland at this time. The only exceptions were some houses constructed with clay whose walls may have been fully load-bearing, and houses which were built with lime mortar. The use of cruck frames, or couples as they were generally known, was widespread from the Solway to Aberdeenshire. The cruck trusses were the most important and valuable part of a tenant's house. By the seventeenth century, Lowland Scotland was in many places almost treeless (Kirk 1892:8-17), and there was a chronic shortage of native timber for construction. Scotland had to import some

90 per cent of her timber requirements, principally in the form of Norwegian softwood (Smout 1960).

The expense of providing imported timber for the construction of tenants' houses was offset in parts of Galloway, the Borders and the fringes of the Highlands, areas which were distant from the sea, by the presence of remnants of natural woodland. These allowed many proprietors to supply their tenants with timber at little cost (S.R.O. GD 157 702). However, such sources of wood appear to have been very much wasting assets by this time. Oak and ash wood was preferred to fir timber for crucks where it was available (S.R.O. GD 188 2; GD 186 12/2), but the use of hardwoods was probably fairly restricted by the seventeenth century.

Owing to the strict management of surviving natural woodland and the difficulty and expense of buying foreign wood, the provision of timber was almost invariably the responsibility of the proprietor. Tacks generally specified that the proprietor was bound to provide the 'great timber', which included the cruck trusses and, in some cases at least, the purlins (pans) and rafters (cabers) (N.L.S. Minto Charters CB 144 11; S.R.O. GD 74 441). Because of this, it was rare for a tenant to be allowed to remove his roof timbers when he left a holding, as appears to have been more common in the Highlands (Grant 1961). The only usual exception to this was where a tenant had constructed a building at his own expense, in which case he normally had the alternative of financial compensation (S.R.O. GD 248 700; GD 44 44 30). Examples of tenants being permitted to take away their roof timbers are recorded (Barron 1892), but in general, tenants were bound to leave their houses as they found them, although instances of the illegal removal of roof timbers are not unknown (Littlejohn 1906:II.428, 435).

Because of the expense of providing timber for tenants' houses, landlords tended to be parsimonious by postponing the replacement of unsound cruck trusses for as long as possible. This sometimes resulted in houses which were in a poor state of repair. The situation was probably aggravated by the fact that while proprietors were usually bound to provide the timber, they did not often pay for the expense of having it erected by professional wrights. Some half-dozen instances of craftsmen being employed in the construction of tenants' houses are known, but they are greatly outnumbered by references which indicate that the tenant was his own carpenter.

This niggardly attitude provoked some violent protests from the tenantry. In 1682, the tenants of the baronies of Hailes and Traprain in East Lothian were forced to 'complean exceedingly with the badnes of there houses. [The proprietor] . . . at there entry were oblidge to repaire them which was never done' (S.R.O. GD 6 1687). An inventory of buildings in the barony of Thornton, also in East Lothian, records the provision of timber 'to John Murray's stable that fell and almost destroyed his horse', and to Adam Manderston 'for his dwelling house that fell to the ground' (S.R.O. GD 6 1532). Even in such situations, proprietors continued penny-pinching by supplying short pieces of timber to shore up rotten cruck trusses rather than replace them. A survey of repairs needed to houses on the Leven estates in Fife in 1682 contains entries

such as 'John Mitchell in Craigencatt is weak both in the couples timber and walls and some of his couples are broken and therefore will be needfull to be taken down and repaired . . .' (S.R.O. GD 26 631).

If such practices were common then the standard of construction must frequently have been low. This goes a long way towards explaining why no seventeenth-century cruck-framed buildings have survived in Lowland Scotland. It also indicates that cruck blades must have been commonly constructed in more than one piece. Such a practice would have been particularly likely when imported timber was used, for it would presumably have come in straight sections without the natural curves which could have been readily shaped into single cruck blades. The sources do not provide enough information to suggest the types of cruck framing which were in general use, however.

Roofing

Contrary to some suppositions (Smout 1969:139; Handley 1953:76), straw was far from unknown as a roofing material in seventeenth-century Lowland Scotland. Its use is widely recorded in eastern Scotland from Kincardineshire to Roxburghshire, in Central and Southern Ayrshire, and in Dumfries-shire. With the exception of Aberdeenshire and the Moray Firth coast, from where there are as yet no records of its use at this time, the distribution corresponds roughly with those areas which, from their rent structures, are known to have concentrated on arable farming (Whyte 1974:330-4), and which are likely to have had a relative abundance of straw. The accounts of the Buccleuch estates at Dalkeith, Midlothian and the Panmure estates in Angus (S.R.O. GD 224 943 3; GD 45 18 18) indicate that, as in England (Innocent 1916) the straw of wheat and rye was preferred to that of bere and oats. Such straw was longer and stronger than other kinds. As oat straw was generally considered to be superior to wheat or rye as a fodder (Sinclair 1813:1. 391), there was probably little conflict between these uses.

Rye, although grown quite widely in Lowland Scotland at this time (Whyte 1974: 145-6), was seldom produced in any quantity. However, the purposes behind the cultivation of small quantities of rye are uncertain and the possibility that it was deliberately grown for thatching should not be overlooked (Innocent 1916:191). Wheat was grown more widely, and in greater quantity (Whyte 1974:144-5), but the distribution of straw thatch is wider still and it is probable that bere straw was used in many areas, as was the case in the Highlands at a later date (Grant 1961:158).

The nature of the evidence makes it impossible to be certain whether, in any of the recorded instances, straw was the sole roofing material. However, in many cases the references relate specifically to a thatch of turf and straw. Houses with turf roofs occurred in both upland and lowland areas. In pastoral districts, where straw was too precious as a fodder to use for thatching, turf may frequently have been the only roofing material, or may have been used in conjunction with heather. The paring of turf from

arable land in fallow, or the over-intensive stripping of it from the common, particularly in arable areas where pasture was in short supply, could be detrimental to the farm or the estate as a whole. The first practice was usually banned and the second carefully regulated. At Raith in Fife, and Penicuik in Midlothian, tenants were restricted in the amount of turf that they could use for roofing and in the latter example were compelled to use straw and turf together rather than turf alone (S.R.O. GD 26 2 2; GD 18 695).

Heather was used as a roofing material in Galloway, Ayrshire and the North-East, but was probably more widespread to judge by the number of references to the regulation of the pulling of heather in court books. In one or two cases heather was used for fuel, but in others it was probably destined for roofing. Later writers considered that it formed a very durable thatch, preferable to straw in some ways, although rather heavy. Bearing in mind the standards of roof construction, this may have restricted its use to some degree.

Slate was rarely used for roofing tenants' houses. It was difficult to obtain and expensive to transport. In addition, it was heavier than thatch and required more closely-spaced roof timbers (Smith 1967:788). Considering the expense of timber, its rarity is not surprising. On some estates tenants were actually forbidden to roof their houses with it (S.R.O. GD 26 2 2). Slate was in widespread use for the houses and out-buildings of home farms at this time, though not invariably. The stables at Cassillis House in Ayrshire and Castle Kennedy in Wigtownshire were thatched with heather in 1650 (S.R.O. GD 25 9 50,64). Even the superior dwelling houses possessed by the tenants of Lasswade, which will be considered below, were roofed with straw and turf (S.R.O. GD 18 695). The only certain examples of slate being used for tenants' houses come from Mangerton in Liddesdale, where there was a quarry close at hand, and from North Berwick (S.R.O. GD 237 4; GD 110 697).

Broom and whin were in general use, with twigs and small branches, as underlays for turf, straw or heather, to secure them to the rafters. These interwoven layers of brushwood were sometimes referred to as 'wattles' (S.R.O. GD 188 2). There was widespread concern to maintain supplies of broom by planting it on dykes and in special 'broom parks' (S.R.O. GD 30 612; GD 28 1648), as well as conserving supplies on commonlands. The sources are vague with regard to the ways in which the thatch was finished off and secured. The use of ropes of straw and heather is mentioned (S.R.O. GD 25 9 64), but it is not clear how they were laid out and secured.

Walling

As tenants were rarely compensated for the cost of providing and building the walls of their houses, they constructed them as cheaply as possible from materials occurring on, or in the immediate vicinity of, their farms. The availability of particular materials varied from place to place but the principal ones were stone, clay, turf and wattle.

Stone was expensive and difficult to transport even over short distances, but could be obtained fairly readily from the larger stones removed from cultivated land, or from small quarries on the common. It is likely that there would usually have been a supply of stone available around most farmsteads from former buildings and that the entering tenant would have needed to find relatively little new stone unless he was engaged in a major expansion of his farmstead. The use of stone for walling was widespread in Lowland Scotland, generally in combination with turf or clay. However, the fact that the walls of cruck-framed buildings did not have to carry the weight of the roof may have caused many tenants to restrict the use of stone to the foundations and bottom courses on which to rest the cruck trusses, the upper parts of the walls being built of turf which was lighter to transport and handle. Stone and turf construction, whether in alternate courses as described by Fenton (1968), or with a substantial bottom layer of stone, appears to have been a common building technique. It is known from the North-East to the Borders and Ayrshire.

Clay was used for walling in Eastern Scotland from the Moray Firth to Teviotdale, and in the South-West. This distribution is similar to that found by Fenton for the eighteenth and nineteenth centuries (Fenton 1970). In many cases the clay was used as a mortar for stone, allowing chimneys and gables to be constructed, but still in conjunction with cruck-framing (S.R.O. GD 30 1537; GD 16 27 67). In other references to clay alone it is not certain whether it was used as mortar or as the major construction material.

There are no clear instances of the use of wattle for the walls of peasant houses in Lowland Scotland at this time. In every case where the term 'wattle' is used, it appears to relate to a thatch underlay. This evidence, admittedly negative, supports Gailey's theory that the use of wattle for the walls of tenants' houses died out at a comparatively early date in Lowland Scotland compared with the Highlands (Gailey 1962:238). It is possible, however, that it remained in use for the houses of sub-tenants at this time. Such dwellings are rarely accorded the detailed descriptions which are available for tenants' houses. This in itself suggests that they were constructed of impermanent materials like turf and wattle, which were not worth listing in valuations.

Perhaps the most important development in building construction in Lowland Scotland during the seventeenth century was the growing use of lime mortar. Previously it has been assumed that lime mortar was not used for tenants' houses on any scale before the nineteenth century (Dunbar 1966:229). However, estate papers indicate that its use was widespread on the east coast, particularly around the Forth and Tay estuaries, but extending as far north as Aberdeenshire and south into Roxburghshire, Lanarkshire and Galloway.

Lime had been known to tenant farmers over a wide area of Lowland Scotland since the early decades of the century at least. At this time the use of agricultural lime underwent a major expansion in a belt of country which had access to limestone, and to coal for burning it, extending from Fife and East Lothian to Central Ayrshire.

Compared with agriculture, building construction required relatively small quantities of lime. A long distance trade in it by coastal and overland transport existed by the seventeenth century for building and repairing the houses of the gentry (S.R.O. GD 45 18 645; GD 224 943 7). It was only a matter of time before lime mortar became available for tenants' houses in those areas which had immediate access to it. The earliest known instance of its use was on the Aberdour estate in Fife in 1625 (S.R.O. GD 150 2012). However, the bulk of the references relate to the period 1660-1700, and it is likely that the use of lime mortar became more widespread during the period of prosperity which occurred between the Restoration and the onset of the famines of the later 1690s. Although most of the known examples come from areas close to sources of limestone and coal, the use of lime mortar in areas such as Teviotdale, Galloway and Angus indicates that transport costs were sufficiently low to allow its use for tenants' houses in areas outside the immediate vicinity of limestone outcrops. The full implications of the advent of lime mortar will be considered below.

Some of the references in inventories indicate that the houses concerned were gable-ended. Houses with gables are recorded throughout Lowland Scotland and are sometimes specifically associated with clay mortar. The construction of gable ends suggests that the walls of the houses concerned must have been fairly strong and should have been capable of bearing the weight of the roof. Yet many of these buildings were definitely cruck-framed. This may argue a lack of confidence in the load-bearing ability of the walls. However, it could also be a manifestation of the tendency, noted by Gailey in the Highlands at a later date, to continue using crucks despite the presence of walls which were capable of supporting the roof (Gailey 1962:233). If this was the case then the universality of cruck-framing in seventeenth-century Lowland Scotland may be in part a cultural survival, particularly among the houses of the wealthier tenants, although crucks were doubtless still essential in the houses of the majority of smaller tenants.

It is more difficult to distinguish hip-ended buildings from the sources. The only cases where this can be done are where the details of the timber supplied for roofing are sufficient to record the provision of tail-posts, which appear to have been the timbers supporting the hipped end of a building (S.R.O. GD 16 27 41). However, the presence of these is only recorded in a few instances. It is not possible at present to draw any conclusions from the distributions of gables and hip-ended houses in Lowland Scotland at this period.

House Types

The prevailing design of peasant house over much of Lowland Scotland at this time was the long-house. This is suggested by the recurring combination of dwelling (sit-house, fire-house), byre and barn together in inventories of farm buildings. That these were all under one continuous roof is sometimes explicit. In other cases this is implied by reference to one or more of the units being supported by a single cruck truss. The

construction of free-standing buildings with hipped ends, supported by a single cruck frame, seems unlikely and such descriptions probably relate to a two-bay division in a continuous long-house where the end crucks were listed under the adjoining units.

An incidental feature of the long-house plan was its economy in the use of building materials. This may help to explain its survival until a relatively late date in many parts of Scotland. The building of dwelling house, byre and barn together, divided by light internal partitions, would have required less material for walls and roof than the construction of three separate buildings. With a hip-ended structure there would also have been a saving in roof timbers compared with three single units. The long-house design clearly reduced the work of the tenant and the expenditure of the proprietor, though whether this was fortuitous or not cannot be determined.

The size and layout of seventeenth-century long-houses in Lowland Scotland conformed to a general pattern but varied in detail. A layout with the byre between the dwelling and the barn is the most common among surviving inventories. Such buildings may have had a common entrance for human beings and animals by means of a passage which separated the dwelling from the byre but this is impossible to discern from the documents. However, in cases where the barn stood between the byre and the house it must be presumed that each had a separate entrance, although the possibility that the byre could have been entered by internal doors through the barn cannot be discounted.

Many farms, particularly in arable areas, required provision for the work horses which undertook ploughing, harrowing and general carriage duties. The stable was usually placed next to the byre, but in at least one example it was situated next to the dwelling with the byre at the far end, separated from it by the barn.

References to accommodation for sheep are few although it has been generally assumed that, before the introduction of improved breeds into Scotland in the eighteenth century, sheep were normally housed in winter. This practice was certainly recommended by some seventeenth-century improvers (Donaldson 1697:97). However, references seem to indicate that sheep were normally housed in small, partly-covered folds separate from, though adjoining, the main farm buildings.

Inventories and other documents do not measure buildings in terms of bays, the spaces between the cruck frames, as was common in medieval England (Addy 1933:55). In Scotland, the bay was not a unit of taxation. Instead, buildings were measured by the number of cruck frames supporting them. As these were the most expensive items in construction, this method gave an immediate indication of the relative value, as well as the size, of a particular structure. The quantity of timber used in rafters, purlins and roof trees appears to have been regarded as being directly proportional to the number of cruck frames used. This suggests that there was a rough standardisation in the spacing of the crucks. The few instances where the number of couples is given together with internal measurements indicates that the bay width varied between about 7 and 11 feet, the average of about 9 feet agreeing with the figure which Walton suggested as being common among surviving Scottish cruck-framed dwellings (Walton 1956:118).

Information relating to the width of cruck-framed buildings indicates a considerable standardisation between 14 and 16 feet with only a single example reaching 17 feet.

The data show a wide range of sizes for the dwelling part of the long-house, ranging from one couple up to fourteen. The smallest houses must have consisted of a single room and were probably heated by a central open hearth. However, dwellings as primitive as these are relatively uncommon in inventories. Houses of two or three couples, probably large enough to allow some division of the living space, were more frequent. Fifty-five out of the ninety-four examples where the size of the dwelling is known were of two and three couples compared to only fourteen with one couple. Twenty-five were of five or more couples. The houses of cottars and sub-tenants receive less attention in inventories. They appear to have been smaller on the whole. Eighteen of the fifty-four recorded examples were of one, and thirty-one of two couples, although occasional cottar-houses of three and four couples are known.

It would be a mistake, however, to imagine that the house of every tenant farmer in Lowland Scotland at this time was a simple three-unit long house with the family living in the cramped confines of one or two rooms. The variations in the sizes of the dwellings themselves indicate considerable differences in wealth and status among the tenants who inhabited them.

Tenants of larger holdings possessed more substantial houses with more complex internal layouts and more durable structures. A house at Bridgend of Lintrathen in Angus, inventoried in 1656, comprised a hall, back chamber, inner chamber and pantry, extending in all to eight couples. The windows were glazed and the house possessed at least one chimney (S.R.O. GD 16 27 67). This type of house may be considered as an intermediate one where the long-house plan survived but where the house had developed substantially from the smaller one- and two-roomed examples.

The factor's house at Belhelvie, Aberdeenshire, described in 1705, was more sophisticated still. Thomas Innes, the factor, must have been a man of some consequence locally. He was a member of the class of more enterprising and substantial tenants who possessed larger holdings and who branched out into other occupations besides farming. Men of this class were becoming increasingly numerous throughout Lowland Scotland in the second half of the seventeenth century. In this case, Innes received a salary from the Earl of Panmure for acting as his factor, and he also engaged in small-scale trading ventures (S.R.O. GD 45 20 27-37). However, he was primarily a farmer, holding about a ploughgate of land (nominally 104 Scots acres), no more than many others on the estate.

His house, extending to fourteen couples, was gable-ended and built of stone with clay mortar. Parts of the walls, possibly around the doors and windows, were lime-mortared. There were four rooms on the ground floor and four glazed windows. Part of the house at least was lofted with deals, and a timber stair gave access to the upper rooms. The walls were carried high enough to enable four glazed windows to light the first floor. One or more single-storey ranges of outbuildings were attached to the house.

They included a kitchen and pantry, three barns, four byres and a peat house (S.R.O. GD 45 20 214). Considering the number of buildings involved, it is more likely that they were grouped around some sort of courtyard rather than constructed end to end.

It is difficult to estimate how prevalent houses of this size were at this time. This farm was not particularly large: holdings of two, three and even four ploughgates occur frequently in seventeenth-century rentals. There is evidence that the pace of agrarian change quickened during the seventeenth century, particularly after the Restoration, with an increasing trend towards commercialisation in agriculture (Whyte 1974). The muniments of estates throughout Lowland Scotland demonstrate that tenant numbers were being reduced, leading to an increase in mean holding size. This was accompanied by the breaking up of multiple-tenant farms and the consolidation of holdings out of runrig. The organisation and techniques of agriculture were undoubtedly becoming more efficient and there seems to have been an increase in prosperity, particularly on the east coast where the production of grain to supply urban markets at home, and for export, appears to have grown substantially during the later seventeenth century (Whyte 1974). In this sort of climate it is likely that houses of this type were becoming more common.

The increases in holding size due to reductions in tenant numbers would have caused a decline in co-operative husbandry on multiple-tenant farms. As individual holdings became larger, they would have needed to be more self-sufficient. This would have created a need for more and larger outbuildings to house the increased number of draught and carriage animals and equipment which would have been needed, and to store the greater quantities of grain and winter fodder which would have been produced. This appears to have caused the gradual replacement, in arable areas, of the simple long-house plan by the courtyard farmstead where the outbuildings formed two wings adjoining the dwelling house and enclosing a courtyard.

Some indications of this are discernible in one of the earliest estate plans surviving for Scotland. On the Clerk of Penicuik estates in Midlothian, the farm of Over Moss-houses is shown in 1717 as having a main dwelling house flanked by two service wings, with the fourth side enclosed by some sort of boundary, possibly a wall (S.R.O. RHP 3834). A much earlier example, at West Gagie in Angus in 1649, can be reconstructed from the inventory which includes the compass orientations of the various buildings and indicates which ones were under the same roof. Here the dwelling house and some of its offices were laid out round three sides of a courtyard with a wall and gate on the fourth. Adjoining this, the remaining outbuildings, four byres, a stable, three barns and a hen house, formed a separate cluster, possibly enclosing a second yard (S.R.O. GD 188 2).

However, the buildings described above were still cruck-framed and were subject to the limitations of plan, height and width which the use of crucks imposed. Perhaps the most significant development in rural housing in Lowland Scotland at this time was the increasing use of lime mortar. For the first time, tenants' houses with fully load-bearing

walls were constructed without the use of crucks. This made possible the building of houses with two or even three stories, instead of a single storey with, at best, a low, cramped loft. It also switched the emphasis and cost of construction away from the roof timbers and towards the walls. A saving in the quantity of timber used would have partly offset the extra work and expense involved in building a house with lime-mortared walls. However, the introduction of houses of this type appears to have been associated with a new outlook towards agriculture in general which favoured long-term capital investment rather than short-term saving. Despite the high initial cost of such houses, there would have been a long-term saving in the tenants' time and the proprietors' money with a reduction in the constant repairs which were a feature of less durable structures. The concept of permanency in rural housing was changing from a dwelling that would stand for the duration of a short lease to one which might last two generations or more. The spread of such houses may have been encouraged by the growing tendency to grant written leases for periods of up to nineteen years, particularly in arable areas, giving tenants more security and a greater stake in the land they farmed (Whyte 1974: ch. 6). Lime-mortared houses may have reflected the proprietor's desire to increase his rental by encouraging the better tenants with more congenial conditions. It could also indicate a willingness on the part of the tenant to sink more capital into his holding once his tenure was guaranteed.

Although there is widespread evidence for the use of lime mortar for tenants' houses, as has been discussed above, only one inventory gives sufficient detail to allow the full implications of its use to be appreciated. This is a survey of the barony of Lasswade, near Edinburgh, undertaken in 1694 (S.R.O. GD 18 722). It indicates that the houses of the larger tenants, on holdings with 65-130 acres of arable land, were of two, and in one case three, stories, with lime-mortared walls. They had several rooms with up to four on the first floor, and glazed windows. Sketches of the plans of some of the farmsteads accompany the survey. They show that while traces of the long-house plan survived in the layout of the main block, some of the outbuildings were grouped into separate wings forming L-shaped steadings or, in one instance, a Z-plan. It is significant that the best of these houses had been built as recently as 1693. It is also interesting to note that the descriptions of the cottars' houses associated with these farms do not differ materially from those found elsewhere. This suggests that, with the increasing trend towards commercialisation in agriculture, rural society was becoming more distinctly stratified.

This estate was notable for its advanced attitude towards agriculture. The farms associated with these houses were set in long lease and improvements such as liming had been in use for some time (S.R.O. GD 18 695, 722). The presence of a large and probably expanding market for grain in the city of Edinburgh, within easy carriage of Lasswade, may have helped both tenants and proprietor to prosper.

However, care must be taken not to view this example out of context. The advanced design of these houses was probably uncommon in Scotland at this time and may have been unique. The combination of advantages enjoyed by the tenants of Lasswade—

fertile soils, a large market nearby, a progressive proprietor, and a supply of coal and limestone close at hand—cannot have occurred widely. In pastoral areas it has been suggested that the economic developments which correspond to the growth of grain production, namely the droving trade in sheep and cattle, were concentrated in the hands of the proprietors and that profits did not filter down to the tenants in the same way (Whyte 1974:269-70). As a result, there was less need for proprietors to grant their tenants longer leases, and consequently, tenants in pastoral areas are likely to have possessed houses of more modest appearance. As there was less need for large clusters of specialised buildings on such farmsteads, the long-house plan probably continued to be standard in pastoral areas after it had been replaced by the courtyard farmstead in arable districts.

Nevertheless, the new types of houses and farmstead layouts which developed in some areas in the latter part of the seventeenth century may be justly considered as the immediate forerunners of the improved farmsteads which became increasingly common in Scotland towards the end of the eighteenth century. The wide cross-section of house-types and standards of construction which have been described, as well as the regional variations in building techniques, indicate that it is misleading to present an over-generalised picture of the peasant house in Lowland Scotland before the eighteenth century. As in most peasant societies, there were richer and poorer husbandmen and this appears to have been closely reflected, in this area, in the character of their dwellings. There were major contrasts in the size and layout of farmsteads between arable and pastoral districts as a result of the storage requirements of different rural economies. Differences in the pace and character of agrarian change between such areas, together with the contrasting roles of the tenantry in increasing the profits of the estate, led to variations in the quality and durability of houses. Superimposed upon this were differences caused by inequalities in the access to building materials. Further work, particularly among estate papers still in private hands, will almost certainly clarify this picture and will establish some of the regional variations much more securely than has been possible in this introductory survey.

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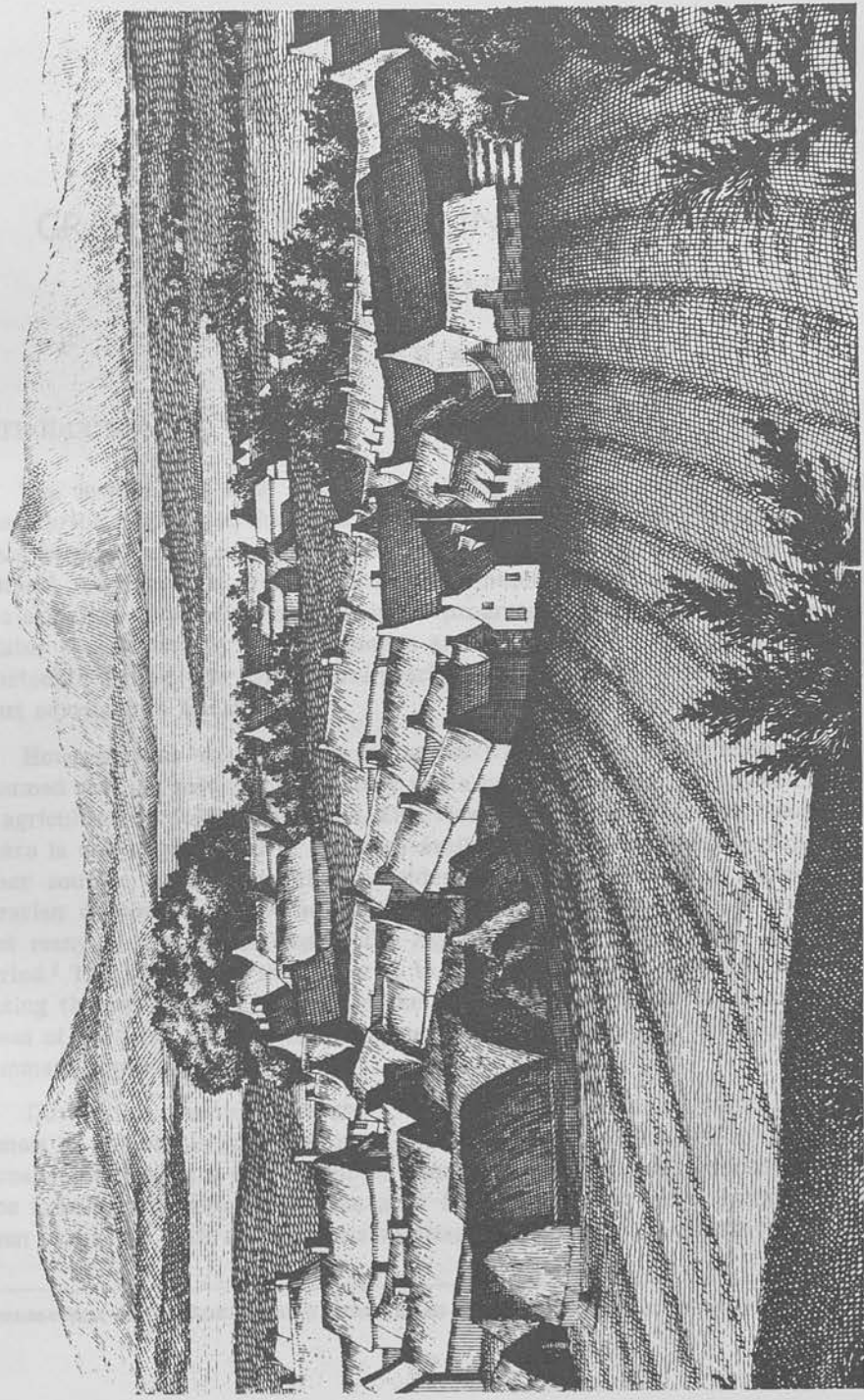


PLATE I A seventeenth-century farmstead (left foreground) and arable rigs (left foreground) and arable rigs: part of a south-west view over Alloa and the Forth, in John Slezer's *Theatrum Scotiae*, 1693.

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without any following and with animal manure as the chief fertilizer. Areas of the pure extensive outfields were secured by the folding of livestock for one summer and were then sown with oats for a succession of years until the field was exhausted, and plots had fallen to a point beyond which it was not worthwhile to continue cultivation. The land was then left to recover naturally.

GRAIN PRODUCTION IN EAST LoTHIAN IN THE SEVENTEENTH CENTURY

By IAN D. WHYTE

INTRODUCTION

The lowlands of East Lothian have long been recognised as one of the most fertile regions of Scotland. Due to their rich soils and equable climate, grain production has been important here for many centuries. During the Agricultural Revolution in the eighteenth and nineteenth centuries, East Lothian was a major centre of innovation where progressive landowners improved their estates by introducing new techniques and more efficient organisation. By the nineteenth century the agricultural practices of the county were regarded as the most advanced in Europe.¹

However, this was far from being the whole story. It has generally been assumed that the seventeenth century was a period of stagnation or even decline in agriculture throughout Scotland. This view has only recently been challenged.² There is now a good deal of evidence available, from private estate papers and other sources, to indicate that considerable development took place in the agrarian economy of Lowland Scotland at this time. Recent work has shown that many of the foundations of the Agricultural Revolution were laid in this period.³ The purpose of this paper is to examine the changes which took place during the seventeenth century in the agriculture of one of the best-favoured areas of Scotland, with particular reference to the production of grain, its main commercial product.

During the seventeenth century, in East Lothian as in the rest of Scotland, almost all the arable land was organised within an infield-outfield system. Traditionally this has been considered as a means of low-yield subsistence cropping.⁴ The infields were situated on the most fertile lands and were thought to have been cultivated with a continuous rotation of bere (four-row barley)/oats/oats,

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without any fallowing and with animal manure as the chief fertilizer. Areas of the more extensive outfields were manured by the folding of livestock for one summer and were then sown with oats for a succession of years until the land was exhausted, and yields had fallen to a point beyond which it was not worthwhile to continue cultivation. The land was then left to recover naturally. The yields produced by this system were generally thought to have been low and to have only provided a bare subsistence for the cultivators in most years.

Such primitive practices still survived in many parts of Scotland in the seventeenth century⁵ and they probably occurred in East Lothian on the higher ground fringing the Lammermuirs. However, it should not be assumed that an infield-outfield system was necessarily uniformly inefficient or inflexible. Throughout the lowlands of the county the system described above had given way to more advanced methods of cultivation by the end of the century.

Where environmental conditions were favourable, seventeenth-century farmers had two principal means available for increasing crop yields within an infield-outfield system. They could use new fertilizers to supplement animal manure, or they could devise improved rotations which took less out of the soil. Ideally, they would combine both of these methods for greatest effect.

NEW FERTILIZERS

One of the most important innovations in arable farming during the seventeenth century was the use of new fertilizers. Prior to this, with animal manure, the success of the system had depended largely upon the maintenance of a precarious balance between the number of livestock kept and the amount of fodder which could be produced to support them over the winter. This imposed severe constraints upon the flexibility of arable farming, and it was not until the adoption of other fertilizers that it was possible to break this vicious circle.

One such fertilizer was seaweed. Lord Belhaven, in his celebrated treatise upon agricultural improvement, implied that seaweed was in general use in the coastal districts of the county by the later seventeenth century.⁶ As elsewhere in Scotland, there appears to have been a close association between the use of seaweed as a fertilizer, a concentration upon the production of bere, and the cultivation of sandy soils.⁷ Modern research has shown that one of the main nutrients provided by seaweed is potassium. Sandy soils, to which bere is particularly suited, are especially deficient in this mineral and it has been shown that barley sown in such situations benefits greatly from its addition.⁸ This connexion appears to have been appreciated, though not understood, by seventeenth-century farmers in East Lothian. It gave rise to distinctive rotations

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concentrating on bere in coastal areas where seaweed was available. At Gullane, rentals imply a rotation of bere/bere/oats/oats⁹ and there is evidence to suggest that one of bere/bere/oats was in operation at North Berwick.¹⁰

Another fertilizer which became increasingly appreciated during the seventeenth century was town refuse. Belhaven again implied that it was a common practice to carry nightsoil, ashes, stable litter and other waste products out to lands within about three miles of a burgh.¹¹ Town refuse was probably used in this way around the larger East Lothian burghs such as Haddington, North Berwick and Dunbar.

However, the fertilizer which made the greatest impact upon the agriculture of the county in the seventeenth century was lime. The origins of liming in Scotland are obscure, but it does not appear to have been widespread before the opening years of the century.¹² However, there is a considerable body of evidence pointing to a great expansion of liming in parts of Lowland Scotland in the 1610s and 1620s.¹³ This expansion took place in those areas which had ready access to Carboniferous limestones. In East Lothian these strata outcrops occurred in the west of the county from Aberlady to Humbie and in the east between Dunbar and Thornton. There were also small but important outcrops at North Berwick, Tynninghame, and at Kidlaw, south west of Gifford.

There is ample evidence that many farms which had immediate access to limestone were burning it and using lime for agricultural purposes in the earlier part of the century. The difficulty of transporting by land the large quantities of lime which were required, restricted the area which could benefit from its use. However, the value of lime was such that it was transported up to four or five miles from its source.¹⁴ When the area which could have been supplied in this way is examined, it is clear that the greater part of the more fertile districts of East Lothian were sufficiently close to outcrops of limestone to have benefited. The only part of the county which was probably too distant was a narrow belt of country stretching from Athelstaneford to Garvald. This is not to say, however, that every farm within these areas actually had the use of lime. This would have depended upon the relations between their proprietors and the owners of the lands on which the limestone occurred.

The effects of liming were twofold. Firstly, it allowed the intensification of cropping on the existing arable area, as well as improving crop yields generally.¹⁵ Secondly, it allowed the extension of cultivation on to soils whose acidity probably presented too great an obstacle to traditional techniques. Liming appears to have increased crop production on both infields and outfields, depending upon the practice of particular estates. Belhaven did not recommend the liming of infields,¹⁶ but this was done elsewhere, particularly in preparation for

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peas.¹⁷ This was highly significant; peas were an uncertain crop in a short, wet summer,¹⁸ but they benefited greatly from a lime-enriched soil.¹⁹ Their improvement by liming would have caused an increase in soil fertility through the nitrogen-fixing properties of the symbiotic bacteria in the root nodules of the legumes. This would have improved the yields of succeeding crops, particularly the one immediately following, which was generally wheat or bere. On outfields, liming increased the number of crops of oats which could be taken before yields began to fall off. The effect of this was to increase the area of the outfield which was under crop in any year by up to 25%.²⁰

The role of liming in expanding the arable area was also important. It appears to have made a great impact in Midlothian, allowing the extension of cultivation on to the high rolling plateaus which lie below the escarpment of the Moorfoot Hills.²¹ This type of country does not occur as widely in East Lothian, but it is likely that there was some expansion of the arable area by means of liming in a belt of country along the edge of the Lammermuirs, particularly in Humbie parish. Parry has shown that there was a widespread retreat of the margin of cultivation in the higher parts of the Lammermuirs at this time due to deteriorating long-term climatic conditions.²² However, this may have been balanced by an expansion of agriculture on poorly-drained acid soils at lower levels by the techniques described above.

The effects of liming on the rents of the farms involved varied from the substantial to the spectacular. A series of parish reports produced in 1627, a few years after the introduction of liming in the western part of the county, provides some striking details. Rents of coastal farms such as Longniddry and Seton had risen by about 50%.²³ In Ormiston parish, the increases were between 100% and 150%.²⁴ Along the foot of the Lammermuirs, the changes were most spectacular of all with rises of up to 420%.²⁵ The differences between coastal and upland farms may be attributed to the ways in which liming was used. In fertile lowland areas, its main effect would have been to raise yields, for most of the land would already have been under cultivation. Increases in rents in such areas would have been relatively modest. In high-lying districts however, liming would have allowed the more frequent cropping of extensive outfields and the intake of new land on farms which previously would have been mainly pastoral. The proportional rise of rent in such areas would therefore have been much greater.

CROP ROTATIONS

The old infield rotation of bere/oats/oats received much criticism from later writers. The taking of two successive crops of oats was seen as a particu-

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larly pernicious practice which exhausted the soil and kept yields at a low level.²⁶ There were two means by which the East Lothian farmer of this period could avoid this. One was to introduce a fallow course into the rotation, preferably between crops of oats or in place of one of them. The other was to sow a legume course instead of fallowing. The former solution does not appear to have been popular; bare fallowing on the infield was probably considered a waste of potentially productive ground. While rotations of bere/oats/fallow are known to have been used in Fife,²⁷ no example has come to light from East Lothian. The alternative of replacing a crop of oats by a legume course was more popular. The moderate rainfall and high sunshine hours of the East Lothian climate suited the cultivation of beans and peas, and a rotation of bere/oats/legumes (beans, peas or a mixture of the two) was standard throughout those parts of the county where wheat was not grown.²⁸

Wheat was primarily a commercial crop which had no place in the diet of the ordinary tenant farmer.²⁹ As a result, it could not replace oats or bere in the rotation but had to be added to them. This gave rise to a four-course rotation of legumes/wheat/bere/oats. This rotation was standard in the wheat-growing areas of the county.³⁰ It appears to have been well balanced. Where lime was available, it was usual to apply it in preparation for the legume course.³¹ This would have improved the fertility of the succeeding crop as discussed above. It is probably no coincidence that wheat, the most valuable commercial crop, followed legumes in every example of this rotation known from East Lothian. Thus, every effort was made to maximise the yield of wheat, the crop on which the greatest profit could be made. This rotation has all the characteristics of one geared towards commercial production and not subsistence.

CROP YIELDS

The effects of these new fertilisers and rotations on crop yields, the end-product of all arable farming activities, must now be considered. It has frequently been suggested that under the pre-Improvement system of agriculture in Scotland, break-even yields of three to one, or little more, were standard. With rents being commonly fixed at about a third of the average product of a holding, such a yield left a third for rent, a third to maintain the tenant's family, and a third for seed. However, such low yields have generally been associated with traditional infield rotations of bere/oats/oats with animal manure as the main fertilizer, or with outfields which were only manured by occasional folding. One would expect something better from the systems of farming which have been described above.

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Very little information is available regarding yields in East Lothian at this time. Seaweed is elsewhere claimed to have produced yields of up to 16 to 1 when regularly applied for bere on light soils.³² There are indications that town refuse may have given yields of around 12 to 1.³³ The evidence which is available for East Lothian suggests that yields of 9 to 1 or more were quite common on infields in many parts of the county under the improved systems described above.³⁴ The most detailed example of the yields which could be obtained from a combination of a four-course rotation, including wheat and legumes, with liming, comes from outside the county. However, the details are probably comparable with East Lothian. On the Dundas estates at South Queensferry, between 1655 and 1662, the average yield for infield oats was 8.7 to 1, for outfield oats 8.4 to 1, and for bere 12 to 1.³⁵ The lower yield of 5.3 to 1 for wheat may have been due to the fact that, in this instance, the legume course was followed by bere, not wheat. Caution is necessary when applying such evidence in a wider context, but the examples quoted above suggest that under the new systems of farming which developed in East Lothian during the seventeenth century, average yields were far from being at a bare subsistence level.

This tends to undermine the traditional concept of the infield-outfield system as an inefficient means of low-yield cropping. When the sowing of legumes, liming, and the cultivation of a valuable commercial crop like wheat were combined, a balanced and effective rotation was produced. Such a rotation was not as developed as the later Norfolk system. However, it lay closer to it than to a rotation of bere/oats/oats with animal manure as the main fertilizer.

MARKETING

The increasingly large quantities of grain which would have been produced in East Lothian from the early 1620s onwards by the techniques described above required outlets for their sale. East Lothian was well served by licensed market centres at the opening of the seventeenth century compared with other areas of Scotland. There were ten burghs in the county where commodities like grain could be bought and sold.³⁶ However, the increasing commercialisation of the rural economy which is implied by the development in grain production appears to have created a demand for a more closely spaced network of market centres. Between 1600 and 1650, three new burghs of barony were created, at Dirleton, Drem and Innerwick.³⁷ However, the expansion accelerated after the Restoration with the authorisation by Parliament of nine new centres for markets and fairs which were not accorded burghal status. New markets like Painstoun and Salt pans,³⁸ in the western part of the county, probably reflected developments in the coal and salt industries rather than in agriculture. The others, however,

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were scattered fairly evenly throughout the lowland areas of East Lothian. Places like Stenton, Athelstaneford and Oldhamstocks,³⁹ which had probably been nucleated settlements for centuries, were at last granted the official status of market centres.

The growth of these centres may have been a product of the demand for more marketing outlets, but it also influenced the rural economy itself. The increase in the number of market centres encouraged proprietors to begin commuting some of their rents in kind into money as, with the denser network of rural trading centres, it was now easier for tenants to market their produce themselves and pay the proprietor a money rent in place of grain.⁴⁰

However, the burghs of East Lothian provided in themselves only a limited market for grain. The nearest and most easily accessible large consumer was Edinburgh. It is notoriously difficult to estimate trends in the population of Scottish towns at this period, but there are some indications that the population of Edinburgh was increasing in the later seventeenth century.⁴¹ It is also clear that manufacturing and commercial activity were expanding. The city's brewing industry, for instance, was described as the greatest consumer of bere in the country in 1682.⁴²

All this resulted in an increasing flow of grain into the city from East Lothian. Estates in the western parts of the county sent their grain to Edinburgh overland, using the carriage services of their tenants.⁴³ Most of this traffic occurred between Christmas and Candlemas (February 2nd), and due to the poor state of the roads at this season, pack horses rather than carts were used.⁴⁴ Areas which were further than about twelve or fourteen miles from the city — the greater part of the county — shipped their grain to Leith. This coastal traffic was in existence in the earlier part of the century, for the Baillie of Lochend estates at Dunbar were shipping consignments of grain to Edinburgh in the 1640s.⁴⁵ However, there is not enough known about this period to allow an assessment of the effects of the great increases in production which must have resulted from the widespread adoption of liming earlier in the century.

The growing demand of the Edinburgh market in the years following the Restoration is suggested by the pattern of trade on the Dirleton estates. A series of contracts between the proprietor, Sir John Nisbet, and various merchants, for the sale of the estate's grain is available from the 1660s onwards.⁴⁶ During the 1660s and 1670s, most of the grain was sold in fairly small consignments of up to about 300 bolls (about 15 tons) to local merchants in places such as Tranent, Haddington and Prestonpans. After about 1680, however, the pattern changed towards the sale of larger consignments of grain of up to about 2,000

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bolts (about 100 tons) to merchants in Leith and Edinburgh. This change coincided with the increasing involvement of other east-coast estates in Angus and the North-East with Edinburgh merchants.⁴⁷ It indicates a considerably increased flow of grain into the city, not merely for local consumption, but also for export abroad.

East Lothian exported some of her grain direct. The principal foreign markets were Scandinavia, the Low Countries, France, and, to some extent, England.⁴⁸ The port books indicate that relatively small quantities of grain were exported in the late seventeenth century compared with other customs precincts. In 1685, a bumper year for grain exports, the East Lothian precinct came only sixth in the list of exporters.⁴⁹ The East Lothian precinct was not as large as some, but considering the fertility of the area and its concentration on commercial production, this position is a surprisingly low one. It suggests that a large proportion of the county's grain was sent abroad via Leith, the leading exporter.

CONCLUSION

To summarise, it can be seen that grain production in East Lothian developed significantly during the seventeenth century. The use of new fertilizers, particularly lime, allowed both an intensification and an expansion of arable farming over large areas of the county. This was combined with the widespread use of a balanced and effective commercial four-course rotation. These systems led to a general improvement in crop yields. The increased production of grain and the growing commercialisation of agriculture raised rents and led to a demand for a denser network of market centres. Rents in turn began to be commuted due to the improved access to rural trading centres. The growing Edinburgh market was a major outlet for the county's surplus grain, particularly after the Restoration. The time lag between the development of liming in the 1620s and the surge forward in commercial farming which appears to have taken place after 1600 may well have been due in part to the disruptive effects of the Civil Wars and the Cromwellian Occupation, which are known to have delayed other developments in the Scottish economy.⁵⁰

From this, it is clear that the lead in agricultural innovation which East Lothian possessed during the eighteenth and nineteenth centuries had not arisen overnight. Developments in the agrarian economy were comparatively modest in the seventeenth century but were no less significant. This period saw the gradual rise of the first real commercial agriculture in Scotland, and East Lothian, due to its physical advantages, the nearness of the Edinburgh market, and the enterprise of the proprietors of its many small estates, was even then setting the pace of agrarian change.

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SCOTTISH HISTORICAL GEOGRAPHY — A REVIEW

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Studies of the historical geography of Scotland extend back for some 80 years to the beginnings of modern geography. Despite this, research has lagged behind English historical geography for a variety of reasons. However, no attempt has yet been made to examine the ways in which the subject has developed or to assess its character. The purpose of this review is to trace its growth, to outline its strengths and weaknesses at the present time, and to offer some prospects for future research.

HISTORICAL DEVELOPMENT

The first work which was a direct forerunner of modern Scottish historical geography was published early in this century. Before this, however, there was an ancestry of historical topography, the relation of historical events and antiquities to the places in which they occurred. In the nineteenth century, with the accent upon descriptive rather than analytical studies, this took the form of gazetteer writing. These gazetteers presented historical sketches of districts before describing their modern aspect. There was no attempt to follow the past into the present. This trend continued into the twentieth century with the 'Cambridge County Geographies' in which potted county histories and descriptions of antiquities were sandwiched between physical and human geography. Historical geography was later to occupy this niche more firmly with various systematic texts.

Historical elements were more closely integrated in the regional descriptions which were published up to the 1930s (e.g. Stevens 1912, Scott 1915, Duff 1929). However, increasing specialisation led to the appearance of studies which were concerned exclusively with the time element in Scottish geography. The term 'historical geography' in a Scottish context was used as early as 1912 (Kermack 1912).

In the 1920s and 1930s various strands of the subject are discernible, some forming the foundations of modern research. There was an early pre-occupation with cartographic sources (Inglis 1918a, b, 1919). Some important studies of the development of Scottish cities, industries and communications were made (e.g. Neilson 1921, Lindsay 1921, Power 1921, and McIntyre 1921). The 'Highland Problem' was already attracting attention (Mathieson 1924, M'Clement 1927) and studies of rural settlement and agrarian change were well established (e.g. Cadell 1929).

At this stage few people thought of themselves as 'historical geographers'. Writers such as Geddes were all-round geographers and this was reflected in the diversity of their output. Topics were viewed on a broad front: research was at an early stage of problem definition and it was mainly the most obvious, accessible printed sources which were utilised. Some studies of less likely sources were produced however, such as Taylor's (1933) account of transport problems in the early Stuart period based on the travels of John Taylor. Research of this kind set a pattern for subsequent work on the geographical interpretation of historical sources, an approach which continues to be important. It is wrong to dismiss this early work as superficial: in fact a good deal of important research was undertaken forming the basis for later detailed studies. This is not always appreciated as such work has made its impact mainly through its influence on a second generation of research conducted during the 1940s and 1950s.

During the 1950s a good deal of work was published whose influence has been important up to the present day. In particular, the work of Lebon and Third set a trend in the study of rural landscape evolution, one of the strongest branches of the subject. As the basic problems became clearer, detailed regional and local studies were undertaken to confirm or refute general hypotheses. This second phase of research is far from complete: conflicting views on runrig, the origin of the rural settlement pattern, or the development of the Highlands continue to be debated.

Having outlined the development of the subject, the character of the published work will be considered before an analysis is made of the problems which research has faced. The various approaches which historical geographers have adopted towards their subject are well known.¹ However, it is more difficult to distinguish them in practice. Most research in Scottish historical geography has been concerned with following changes through time in a regional or systematic context. There have been virtually no attempts to present a composite picture of the geography of a past period, though many studies have considered one aspect of geography in a particular time context. The areal basis has varied from surveys of the entire country for a limited topic, through macro-regions such as the Highlands, to counties, islands, estates and parishes. In the following survey a systematic treatment has been adopted except for the Highlands and Islands which in many ways are so distinctive as to require separate consideration. The survey makes no claim to completeness: it merely identifies the main areas of activity and pinpoints some of the trends which have occurred. Likewise, the bibliography is not designed to be encyclopaedic, but simply a guide to the published work.

SURVEY

Population Geography

The characteristics and fluctuations of population permeate every aspect of historical geography. Many works which are mentioned elsewhere in this review have been concerned in some degree with the historical geography of population, but some specialist studies have also been carried out. Scotland compares badly with England as there are few records of population before the first proper censuses. However, the census carried out by Webster in 1755 and the poll-tax returns for 1695-6 (complete only for Renfrewshire and Aberdeenshire) have been utilised, while supplementary data have been extracted from other sources such as the Old Statistical Account and Monro's sixteenth-century description of the Western Isles (Moisley 1966).

We have few data on population before 1695. The total population of Scotland, or of its major towns, for any period before the eighteenth century is a matter of conjecture. We cannot even be sure of overall population trends during the sixteenth and seventeenth centuries. However, the poll-tax returns of 1695-6 are a useful starting point. Work on them by Walton (1950) and Macintosh (1956) shows a rural population whose distribution had probably not altered much from the time of Pont (Lebon 1952) or indeed much earlier.

Studies of population change from the late seventeenth or early eighteenth centuries to the present day, using census material as well as earlier, less reliable, sources have been undertaken by Walton for Aberdeenshire (1950), Macintosh for Renfrewshire (1956) and Dewdney for Fife (1955). Population movements within Scotland between 1851 and 1951 have been studied by Osborne (1958), while Wood (1964) and Cameron (1970) have considered the role of emigration. Population changes since the late eighteenth century have been particularly significant in a Highland context. Local studies have brought this out forcibly, notably those of Storrie (1962) for Islay, Robertson (1967, 1973) for Kintyre and Great Cumbrae, Moisley (1966) for the Hebrides, and Coull (1966b) for Westray. Coull (1967) has also made an interesting comparison of demographic trends in Shetland and Faroe.

Rural Geography

The study of rural settlement has occupied a prominent position in English historical geography. It has not proved quite as significant in a Scottish context due to contrasts in the evolution of rural landscapes and settlement between the two countries. The Scottish rural landscape underwent drastic changes in the late eighteenth and early nineteenth centuries. The extent of these and the degree to which there was a legacy from earlier landscapes have been debated (Whittington 1975). However, it is clear that most traces of pre-improvement rural settlement in Scotland have been swept away. Studies of settlement evolution in Scotland are thus hampered by a lack of continuity, unlike England where a village can often be traced back to Anglo-Saxon times, sometimes with prehistoric antecedents on the same site. The failure to achieve this in Scotland is also due to the paucity of early documentary sources, while there have been few excavations of rural settlement sites. In Scotland no surviving example of the 'peasant house' as Gailey (1962b) has termed it, pre-dates the eighteenth century. A recent analysis of

seventeenth-century building construction based on documentary sources (Whyte 1975) indicates why. Settlement studies, often linked with the changing rural landscape, have thus concentrated on the eighteenth century, a period of rapid change. The breakdown of the *ferme toun* and the traditional agricultural system in favour of the modern farmstead and consolidated holding has been considered by many writers, particularly Lebon (1946b), Kay (1962), Caird (1964), and Dodgshon (1972).

The planned village has also received attention. This settlement form is not confined to Scotland, but in the context of eighteenth and nineteenth-century economic development it has made a unique contribution to the Scottish cultural landscape. Geddes first examined planned villages systematically (1945a, b). The topic was later discussed in more detail by Houston (1948). Work has continued with a study of the North East by Lockhart (1974) and by Wood (1971) of a Dumfriesshire case study.

Crawford has remarked that more is known about Scottish rural settlement during the Iron Age than during the seventeenth century.² The obliteration of surface remains and the paucity of large-scale maps has meant that to reconstruct settlement patterns the historical geographer must turn to the spade or the manuscript. Due to the difficulty of acquiring the necessary skills without a formal archaeological training, few historical geographers have attempted excavation. The work has been led by Fairhurst, who has contributed greatly to our understanding of Highland rural settlement in the eighteenth and nineteenth centuries. His excavations at Rosal (1967c) and Lix (1968a) have shown what can be achieved by a combination of excavation, field survey and the use of cartographic and manuscript material. His general studies of Highland rural settlement (1960, 1964, 1967b) have fitted this work into a spatial context. Gailey's (1962a, b) papers on the peasant house and settlement changes in the South West Highlands have also utilised field survey. However, the evidence which this research has produced of changes in settlement size, morphology, and building construction demonstrates the dangers of trying to project eighteenth-century conditions back into the past, as Fairhurst (1960) has admitted.

Few geographers have ventured into the study of prehistoric settlement patterns. Morrison (1973a), using underwater archaeological techniques on crannog sites in Loch Awe, related them to the above-surface environment. His environmental reconstruction of the Norse site at Jarlshof (1973b, 1974a) demonstrates the breadth which a geographical approach can lend to archaeological work. In addition, Kirk (1957) has examined the early agricultural colonisation of Scotland.

The use of manuscript material for the study of pre-eighteenth century settlement is still in its infancy. A survey of seventeenth-century rural housing (Whyte 1975) illustrates some of the problems involved in generalising about building construction. It is easier to produce a relative chronology of developments than to distinguish regional variations. However, the use of as yet unexplored sources may clarify the picture to an extent where this may become possible. Wider studies of rural settlement before the eighteenth-century in its economic context have been rare, but Parry's (1973, 1975a, 1976) work on fluctuating cultivation limits and settlement in the Lammermuirs from 1600 to 1900 has been notable. His use of field survey, aerial photo-

graphs, manuscript and cartographic sources has produced a composite picture of changes at the margin of cultivation over a considerable area, which he has convincingly related to climatic change.

Landscape Evolution

The study of the changing rural landscape of Scotland from the mid-eighteenth to the mid-nineteenth century, the period of the classical 'Agricultural Revolution', has occupied an important place in Scottish historical geography. The fascination of this period and topic is obvious: in it the Scottish rural landscape was completely transformed. The traditional agricultural system was swept away and replaced by a new one of order and regularity. The change took barely two generations in many areas. The resulting social upheavals were equally significant for the development of Scottish rural society. The changes were well documented by the improvers themselves, by estate papers, travellers' accounts, surveys and the descriptive literature of the period, notably the Statistical Accounts and the Board of Agriculture Reports.

The first analyses of this topic were those of East (1937), Geddes (1938) and Lebon (1946a, b). These introductory studies using the more accessible printed sources outlined the problem. Later detailed work developed the potential of individual sources like the O.S.A. (Morgan 1968) or estate plans. (Third 1955, 1957). However, articles by Kay (1962) and Caird (1964) were more wide-ranging. Detailed case studies using estate papers and plans have also been undertaken (Whittington 1965, 1973). The focus of interest has varied: Caird (1964) was particularly concerned with the geometry of the new landscape, and Whittington (1973) with the break-up of runrig. Individual aspects of change have been pinpointed and their contribution to the overall pattern analysed, such as the division of commonties (Adams 1967, 1971a, b, 1973) or the role of the land surveyor (Adams 1968, 1975).

Research has emphasised the lack of continuity between the old and new landscapes. Caird summarised this idea (1964) when he described the Scottish rural landscape as being one of revolution not evolution. This view has been partly conditioned by contemporary sources which emphasise the degree of change and play down the element of continuity in the rural landscape and economy, intentionally or otherwise. Contemporary observers have perhaps been taken too much at their word and the adverse comments of seventeenth-century English travellers in Scotland given undue prominence. It has been assumed that rural society was stagnant or even in decline during the seventeenth century, and that agrarian change was not significant until the later eighteenth century.

However, continuity was stressed by Lebon (1946a, b). In central and northern Ayrshire he distinguished between 'evolved' landscapes where there was significant continuity, particularly in farmstead location, property and field boundaries, and 'replanned' landscapes where reorganisation had been more thorough. The argument for continuous evolution in Scottish agrarian society through the seventeenth and eighteenth centuries has been put forward by Whittington (1975). Work on seventeenth-century estate papers by Whyte (1974) has supported this viewpoint. However, the need remains for detailed research spanning the seventeenth and eighteenth centuries. The first of this

Dodgshon's (1969, 1972, 1975a, c) work on Berwickshire and Roxburghshire, has challenged many established theories and his study of sun-division in eastern Scotland (1975d) has demonstrated interesting parallels with Scandinavia.

The 'problem' of runrig has loomed large in studies of the Scottish rural landscape on the eve of the Agricultural Revolution. Its origin, nature and disappearance have occupied a prominent place for several reasons. There was much confusion in the early literature about the definition of runrig which made the problem more complex. The term has been seen as synonymous with the infield-outfield system and more loosely with ridge and furrow ploughing. Gray's work³ gave it cultural overtones. There was a failure to distinguish between inter-related but distinct elements of the rural landscape: the field system (infield-outfield), the technology of ploughing (ridge and furrow), and the system of land organisation (runrig). Confusion was increased by references to runrig which were mainly late in date, relating to its final phase when consolidation and enclosure were removing it. It is difficult to decide how representative such examples were of the system in earlier times. The references frequently relied on hearsay and tradition and their judgements are therefore suspect.

These problems are compounded by the paucity of earlier references (Whyte 1974). However, the recent work of Whittington (1970, 1974) and Dodgshon (1972, 1975a, b) has clarified the position and provided guidelines for future work. Dodgshon has demonstrated the importance of the distinction between tenant and proprietary runrig and has shown how tenant runrig arose, how it operated and how it was removed. The removal of proprietary runrig is better documented though its origins are still obscure. We are now closer to an understanding of runrig and its place in the agricultural system. However, more work is necessary to establish regional variations, to allow its extent to be gauged and its evolution to be traced. A local study of the Carse of Gowrie by Hodd (1974) has been published along these lines.

Urban Geography

The historical geography of Scotland's towns has been badly neglected. General accounts of the development of the major cities have been written: Glasgow (Gregory 1921, Miller 1958), Aberdeen (Coull 1963a), Dundee (Lythe 1938, Turner 1968), Perth (Pocock 1969) and Edinburgh (Inglis and Cowan 1919). These have emphasised the elements of site and situation, communication and the distribution of resources in an historical context. However, little work has been done on urban morphology. Regional studies such as that of Winn-Green (1936b) of the Moray Firth burghs and Geddes (1947) of Grantown on Spey have been undertaken, and Whitehand and Alauddin (1969) have considered Scottish urban morphology in general terms, bringing out broad spatial and temporal contrasts. Recent detailed studies have included Luther-Davies' (1974) work on Kirkwall and Stromness and Lockhart's (1974) research on planned settlements. Whitehand and Alauddin urged that detailed case studies of representative examples be investigated. The first of these, by Brooks and Whittington on medieval St. Andrews (1977), in the tradition of Conzen's work,⁴ has recently appeared. Their imaginative use of a combination of cartographic, documentary, topo-

graphical and archaeological material has shown how the apparent poverty of early sources can be overcome and the origins and stages of growth of a burgh from the twelfth century onwards be established.

Some aspects of urban development have been tackled in detail: for instance, the port development of Glasgow (MacIntyre 1921) and Greenock (Kinniburgh 1960), but the disparity in the dates of these articles demonstrates a lack of continuity in research. However, the first general survey of the historical geography of urban Scotland has now been produced (Adams 1978) and this may stimulate further work by pinpointing directions for future research.

Industry

Research on the historical geography of industry has been closely linked to the urban geography of individual cities and has usually been generalised, though some specialist studies have been made. Lindsay (1975) examined the eighteenth-century charcoal iron industry while Warren (1965) traced the locational problems of the iron and steel industry from the opening of the Carron Iron Works in 1760, a topic which has also been considered by Cadell (1904). Coal mining has attracted little attention apart from Lebon's (1933) study of the Ayrshire coalfield, and Godwin's (1959) analysis of the evolution of mining landscapes. Few of the other traditional industries of Scotland have received attention, though Adams (1965) has discussed the fortunes of the salt industry in the Firth of Forth, while the early development of the fishing industry has been considered by Coull (1969, 1977). In contrast, the textile industries have been studied in detail by Turner who has considered linen (1972), jute (1966) and woollen textiles (1964), along with more general studies (1953, 1957) and an analysis of the role of water power in these industries (1958).

Communications

The historical geography of transport in Scotland has been little studied although the limitations of communications at different periods have been discussed by many writers. The military roads of the Highlands have been considered by Mathieson (1924) and the Roman road network by Fairhurst (1955). Both these relate to limited periods of use and specialised functions, and are thus easy to identify and map. Hardly any research has been done on overland communications between Roman times and the advent of modern road construction. Moir's (1957) work on the statute labour roads of the seventeenth and eighteenth centuries was more historical than geographical. Fraser (1920) considered the Mounth passes, again primarily from a historian's viewpoint. The problems of identifying, mapping and dating old road networks have been discussed by Whyte (1975) for part of the Borders. It is difficult to date the construction and use of such roads and it is hard to tie in features on the ground with cartographic and documentary evidence. No attempts to do this have yet been made. Nor has work on pre-eighteenth-century transport technology, the influence of the turnpike network, or the coaching era in Scotland been forthcoming.

Scottish canals have been left largely to economic historians, apart from Cadell's (1923) early paper. Likewise, the development of the railway net-

work and its influence on the contemporary Scottish economy has been neglected, save for O'Dell's article of 1939. More recently, Adams (1972) has demonstrated the value of detailed studies of the context and influence of particular railway lines.

The Highlands and Islands

The Highlands and Islands have always fascinated geographers and this has been especially true in historical geography. There has been a pre-occupation with the study of the "Highland Problem": the forces which led to economic and social change from the mid-eighteenth century onwards. In 1911 Stewart published a paper on changes on Lochtayside, while Duff (1929) wrote a comparable account of Wester Ross. Later work concentrated on depopulation and emigration (Ross 1934, Mathieson 1938) and the problems of communication within the Highlands in the past (Fraser 1920, Mathieson 1924). More recently, Turnock's (1967a, b, c) detailed work on Lochaber and Morar (1969) formed part of a wider study of Highland development from the mid-eighteenth century onwards (1970). O'Dell and Walton's (1962) book on the Highlands and Islands devoted eight chapters to the historical development of the area. It was heavily weighted towards the post-1745 period but their attempts to look at the region in earlier times were useful, if generalised.

Other regional studies have traced landscape evolution, social and economic change from the eighteenth century onwards. Among these may be mentioned O'Sullivan's (1973) account of land use changes in the Forest of Abernethy and Moisley's work on North Uist and Uig (1961, 1962). The origin and nature of the crofting system have been studied by Coull (1963, 1968, 1969) and Moisley (1962). Storrie has discussed settlement in Barra (1962a) and Arran (1967a, b) and has written a wide-ranging account of settlement evolution in the West Highlands as a whole (1965). Changes in population distribution and settlement patterns due to depopulation have also received attention: for example Storrie (1962b) on Islay and Robertson (1967) on Kintyre. The changing position of the tenant in rural society has been examined by Geddes (1948) and Gailey (1961).

Other writers have selected particular aspects of the changing Highland economy for scrutiny: the kelp industry (Rymer 1974), shielings (McSween 1969, McSween and Gailey 1961, Miller 1967), common grazings (Coull 1968) and woodland management (Lindsay 1974, 1975, 1976a, b, c). There has, however, been little attempt to go back beyond the mid-eighteenth century. There are difficulties with source materials here, but Mather (1970) has made a contribution with his study of Glen Strathfarrar.

Allied to work on the Highlands has been research concerned with the Northern Isles. Many local studies of the evolving crofting landscape have been made including those of Coull (1964) on Walls and Westray (1966a) and Thomson (1970) on Fetlar. A detailed analysis of landlord-tenant relationships in nineteenth-century Shetland has been carried out by Wills (1975). More research on the Northern Isles at earlier periods has been forthcoming than for the Highlands. O'Dell (1939) wrote a general account of Shetland's historical geography while a recent study of Orkney by Miller (1976) had a strong historical element. Shetland's geographical location has

been considered in general (Small 1969) and in relation to the Norse expansion (Small 1968, Morrison 1973c, 1974a).

CONCERN WITH SOURCES

It is sometimes alleged that historical geographers are preoccupied with sources and do not pay enough attention to methodology. However, faced with the impossibility of collecting their own data they have to use sources which are generally incomplete, and whose purpose, accuracy, and bias are often only discernible after intensive scrutiny. Many of these difficulties can never be fully resolved. Thus, studies which evaluate sources and apply them to the solution of geographical problems assume great importance. Such work may frequently pinpoint a source which has previously been disregarded and bring it to the attention of others who may use it to solve a greater range of problems. The development of the use of the manuscript estate map in Scotland is a good example (Adams 1976). The distinction between source-oriented and problem-oriented studies is harder to make in practice as the study of a problem and the evaluation of sources to help solve it frequently go together. More will be said later regarding the types of material which have been used but it is appropriate to consider here the most important analyses of individual sources.

In terms of cartographic material, Scotland is poorly off compared with England. However, historical geographers have explored the available sources and demonstrated their potential to workers in related fields. Indeed, the study of the early manuscript maps of Scotland was one of the original and strongest lines of research. The maps of Pont, the Gordons and Blaeu attracted attention early in this century (Cash 1901, 1907, Reid Tait 1930), as did those of Adair (Inglis 1918a), while more general surveys were also produced (Inglis 1918b, 1919). Much of this work was purely descriptive however and was more concerned with the cartographer's art (Taylor 1930, Shearer 1905) and surveying techniques than with the maps as historical sources. Recently the trend has been towards a more analytical approach. The maps of Pont and Blaeu have been used to reconstruct contemporary settlement patterns (Lebon 1953, Stone 1968, 1970, 1973). The small scale of these maps might be thought to preclude detailed analysis, but Parry (1973), in the context of settlement changes in the Lammermuirs, has shown that they can be used with effect provided that their limitations are recognised. Parry has also produced a study of eighteenth and nineteenth-century county maps in a similar context (1975b).

The Military Survey has caught the imagination of geographers due to its uniqueness in covering the whole mainland at a time when agrarian change was beginning to accelerate in the more progressive areas. O'Dell (1953) used it to map the extent of open-field and enclosed land, plantations and natural woodland. Skelton (1967) has produced a more recent study of the survey and its potential as a source while Miller (1956) has highlighted Roy's varied career.

Another cartographic source whose potential has been demonstrated by historical geographers is the manuscript estate plan. Geddes (1938) first indicated its usefulness and his work was later amplified by Third (1955, 1957). Estate plans have become a major source for studying the changing landscape

of the eighteenth and nineteenth centuries and this is reflected in the work of Moisley (1961), Storrie (1961) and Fairhurst (1964b, 1968b). The Scottish Record Office's collection of 50,000 plans of estates, railways, canals and industrial concerns is being indexed in a descriptive catalogue (Adams 1966, 1970, 1973, further volumes in preparation). Adams has also examined the role of the land surveyor in changing the agrarian landscape and rural society (1968, 1975).

Two frequently used sources which are unique to Scotland are the Old and New Statistical Accounts of the 1790s and 1830s. Their attraction is obvious: their coverage of the country is complete, though variable, and the unit of analysis, the parish, lends itself to mapping at a small scale. A great deal of work has been done using them on their own or in conjunction with other data. Indeed, most studies of later eighteenth-century and early nineteenth-century Scotland owe a greater or lesser debt to them. Geddes (1959) first analysed the Statistical Accounts and Morgan (1969) evaluated the O.S.A. as a source for historical geography while Leeming (1963) applied the technique of social accounting to the O.S.A. in a study of differences in economic activity within Scotland.

Other sources have not been used to the same degree, but some have been applied to geographical problems. Emery (1959) has discussed the value of the parish reports of the 1720s and (1958) the writings of the seventeenth-century chorographers Robert Gordon and Sir Robert Sibbald. Walton (1950) has analysed the population distribution of Aberdeenshire based on the 1696 poll tax returns, a classic example of what can be achieved in terms of mapping a non-cartographic source. Storrie (1962b) and Robertson (1967) have used the nineteenth-century census enumerator's books to study the distribution and change of population in Islay and Kintyre. Coull (1977) used a miscellany of early topographical accounts in his reconstruction of the pre-eighteenth century Scottish fishing industry.

LACK OF GENERAL WORKS

No historical geography of Scotland has been written along the lines of Darby's well-known study of England⁵. The production of a major summary of Scottish historical geography must lie a long way in the future due to a lack of specialist studies and the absence of a solid foundation on which to build. The lack of detailed monographs is notable: most of the output has been in the form of papers in academic journals with the occasional extended essay.

The only general work which has been attempted so far has been Millman's study of the Scottish landscape (1974). His bias towards the period since 1750 is evident and reflects the paucity of work on earlier periods. Perhaps, as Lebon (1946b) has suggested, the contribution of pre-improvement times to the evolution of the Scottish landscape has been underrated. In a study like Darby's, emphasising past geographies, more weight is inevitably given to earlier times. Little work on periods prior to the eighteenth century has yet been undertaken. A book comparable to Darby's in breadth or stature may never be written, although considering the advances which have been made in recent years this may be unduly pessimistic.

PROBLEMS

One difficulty which has hindered the development of the subject in Scotland is the poverty of documents and artefacts compared to England and other European countries. Various reasons for this have been advanced. Edward I and Cromwell have been blamed for the destruction of much early documentary material. The turbulent character of Scottish society before the eighteenth century also had its effects. Scotland was relatively backward with a simple economy in contrast to England, and the keeping of records centrally or locally was adopted belatedly. Many sources only become abundant from the eighteenth century onwards. In addition, as Webster has shown,⁶ much early documentary material is known to have been lost. The rate of destruction has frequently been high even in recent times. Random misfortune such as the loss of most of the Eglinton papers may leave a permanent spatial gap in the historical record and one generation may discard as useless material which may afterwards be valued as an important source.

A related problem is uneven temporal coverage. Sources are relatively abundant for the later eighteenth and nineteenth centuries, but the quantity of material diminishes rapidly for earlier periods. The difficulty of finding undisturbed settlement sites has already been mentioned. Where such sites exist, excavation may provide few results due to the poverty of artefacts and evidence of date.⁷ The re-occupation of sites at widely differing periods also presents problems.

Cartographic evidence of any kind before the Military Survey is sparse. For the seventeenth century and earlier, large-scale maps are entirely lacking. The small scale of the surveys of Pont and the Gordons limits their usefulness. Large-scale maps first become common in the later eighteenth century, a period when the landscape was changing rapidly. Thus it is dangerous to use them in attempts to establish earlier patterns.

The poverty of field evidence and documentation prior to the eighteenth century has produced several results. There has been a concentration of attention on periods for which sources are abundant and most easily handled. This has produced a focus on the mid-eighteenth to early nineteenth century, the period of the Military Survey, the Statistical Accounts, the Board of Agriculture Reports and the writings of the Improvers. The developments which took place in Scotland at this time were important and far-reaching. However, the period following it, the mid-late nineteenth century, although one of significant change and copious documentation, has not been accorded the same attention. Equally, the early eighteenth, and especially the seventeenth centuries, have been treated very superficially.

When earlier periods have been considered at all there has been a tendency to use the readily available and easily assimilable later material and project backwards from it. Many late eighteenth-century sources deal with the supposed character of Scotland at earlier times. They have considerable failings in this respect and if their comments are accepted uncritically they may be misleading. Firstly, they describe conditions a century or more in the past. Secondly, many of them are biased, deliberately or accidentally. Later eighteenth-century writers were not necessarily well informed about earlier periods. Sometimes they demonstrably use hearsay and tradition. Even their descriptions of archaic features in the contemporary landscape

must be treated with care. The tendency to take conditions which occurred in a few places and project them backwards in time and more widely in space is dangerous. Even the early eighteenth century was a period of accelerating change and conditions at that time did not necessarily mirror those of past centuries.

The tone of the Improvers, when considering traditional Scottish society, was invariably scathing: they had a case to prove and a public to influence. Like other writers of propaganda they supported their arguments by the selection and even distortion of evidence. Over-reliance on their veracity has perhaps led to the treatment of the seventeenth century as a period of stagnation. On looking back from a time of rapid change, any past period will seem unchanging and any progressive elements which existed will be diminished.⁸ This may well have been the case with Scottish historical geography.

The reluctance to consider earlier periods directly and the reliance on later sources have been partly due to the belief that insufficient source material existed to allow detailed studies. However, there has been a reluctance to search for relevant material in Scottish archives. Many sources are only beginning to be appreciated; estate papers and local court records are examples. However, these are laborious to use and require expertise in palaeography. Understandably they have been disregarded by earlier workers in favour of more tractable material.

Where contemporary sources for earlier periods have been used they have often been drawn from a limited range of edited and published material. This is essentially the late eighteenth-century trait intensified, and considerable misunderstandings have resulted. For instance, because of the publication of a number of monastic cartularies, more is definitely known about medieval monastic estates than seventeenth-century lay ones. Yet even here only a small proportion of the evidence has been worked over and the bulk of the material awaits study.⁹ Many of the early sources which have been published by historical clubs are not representative of the bulk of the material from which they have been selected. Thus, the frequently-quoted accounts of English travellers in Scotland during the seventeenth century¹⁰ are so chauvinistic as to be totally misleading if taken in isolation. The way in which present views have been coloured by a limited corpus of material is emphasised by Smout.¹¹ He has suggested that if only one manuscript, Sibbald's account of changes in seventeenth-century Scotland,¹² had been published, to be set alongside the criticisms of the Improvers, our ideas would be completely different.

Clearly there is a need for the study of other sources such as burgh records, Testaments and local court records. These, not having been produced to influence people about contemporary matters, are less likely to be misleading. With such documents the bias is at least transferred from the author to the reader. Too narrow a base of data has been used. This state of affairs is inevitable with the subject still, in many ways, at a pioneer stage, but it must be improved upon by future generations of scholarship.

In this context the Scottish historical geographer is hampered by the difficulty of mapping his work. English historical geographers are fortunate in that cartographic sources, and surveys which lend themselves to mapping

like medieval tax returns and Domesday Book, reach much further back into the past than Scottish sources. The poll tax returns of 1696, existing in complete form for only two counties, are a poor substitute. Before the eighteenth century, property boundaries were described verbally, not cartographically. Such descriptions are of little use for mapping. Pre-enclosure boundaries were mostly undemarcated lines between impermanent marks: cairns, stones, trees, even bushes. The later transformation of the Scottish landscape has removed most of these. Pre-enclosure field names have likewise vanished. Thus, it is difficult to plot farm boundaries, or even estate boundaries, with any accuracy except in hill areas where marches often coincided with watersheds.

At the small scale the problem is not so bad. As Lebon (1946) has indicated, a high percentage of settlement names can be traced from pre-Improvement rentals to early Ordnance Survey maps. However, mapping is made less accurate by the fragmentary character of most sources. Rarely, before the advent of census data, is a total or near-total distribution available for the entire country or for parts of it. Even Roy's map does not cover the whole country and the Old Statistical Account, which does, is variable in quality (Morgan 1969, Turner 1972). This restricts the depth of analysis and the conclusions which can be drawn. In other cases it may be necessary to map incomplete distributions which are doubly biased by accident of survival and by the method of sampling which has been used. How far do these reflect reality? To what extent does 'background noise' resulting from differential destruction and the randomness of references in surviving documents outweigh the benefits of analysis? These difficulties must be at least partially resolved if any confidence is to be placed in research.

They also limit the use of quantitative techniques for solving historical problems. There are drawbacks even for the nineteenth century when data which superficially seem ideally suited to this approach become available. There is a danger of becoming so caught up in the analysis that the limitations of the quality of the data, and the problems of their interpretation, are ignored or under-estimated. There may be more danger in a quantitative geographer being a bad historian than in an historical geographer being a poor statistician. In the case of pre-nineteenth-century material, the problems of evaluating the data are compounded by their incompleteness. Statistical techniques for predicting missing data are available, but these are only justifiable where coverage is of the order of 90% or more. In a Scottish context, this happy situation is rare. Before the eighteenth century it is unusual for quantitative data of any kind to be available. However, even given the poor quality of much of the data with which the Scottish historical geographer is concerned, greater use could be made of many analytical techniques, particularly of non-parametric statistics. From the eighteenth century onwards there is more scope for the use of quantitative techniques than might be supposed. Many types of official documents, such as customs records, are virtually continuous and are suited to this approach, while it is probable that many less obvious sources could be tackled in a similar way. Nevertheless, the use of such techniques does not belong to the first stage of problem definition in any field. Scottish historical geography may only now be sufficiently mature for this approach to be fully warrantable.

Another difficulty which has had an all-pervading influence has been the limited number of workers in the field. There are only six geography departments in Scotland compared to some 50 or so in universities and polytechnics throughout England and Wales. The majority of these teach historical geography and employ staff whose interests are in this field. The paucity of Scottish specialists has caused a lack of continuity in research, while historical geography in England and Wales has benefited from economies of scale. Techniques which have been developed for solving one type of problem in a specific area may be readily applicable elsewhere in England. This is especially true as similar sources are available in a variety of record offices. With so many people in this field, the refinement of research techniques is a more rapid and continuous process than in Scotland, where different problems and sources restrict the adoption of methodology from outside. Because of these limitations, historical geography in Scotland, in the sophistication of its approach, the nature of the problems which have been tackled, and the depth to which they have been studied, is a long way behind similar work in England and is likely to remain so.

PROSPECT

The foregoing survey and discussion have indicated various directions which future research might profitably take. It is convenient to draw these themes together and suggest a framework for the future.

It is clear that the work which has been accomplished to date is patchy in its coverage: there have not been enough workers active to establish the subject on firm foundations. Research is still at an early stage and there is a need for detailed systematic studies. Some areas in which lack of knowledge is greatest have emerged from the survey. Urban historical geography has been particularly neglected, and the historical geography of transport has received little attention. Our knowledge of the economic and industrial geography of Scotland even during the Industrial Revolution is still scanty. In terms of rural landscape and settlement more has been accomplished but even here we are far from establishing the basic frameworks of the character and evolution of settlement and the agrarian economy. A series of detailed studies using a wide spectrum of source material and pushing back into the past from the better-documented eighteenth century would be particularly useful, either to confirm the general pattern or to modify it in the light of regional variations.

It is also apparent that more work is required on earlier periods. The concentration on the late eighteenth and nineteenth centuries has been inevitable. However, if our understanding of the historical geography of Scotland is to increase then the origins and evolution of both urban and rural landscapes must be more securely established. Such work would allow us to view later periods with better perspective. Research on the seventeenth century would be particularly valuable in this respect, but there is also a need for geographers to grapple with the problems of the Middle Ages and earlier times.

To accomplish these objectives, another phase of source-evaluation will probably be necessary. Material which has already been used by historians could be examined from the spatial viewpoint. In addition, many archival

sources have been little used as yet for any historical study, and much of this material could prove valuable to the geographer.

The difficulties of geographers undertaking excavation have already been considered. However, data from excavations and field surveys may be amenable to techniques of locational analysis. This leads to the question of the types of analysis which might be conducted. There is a need for a refinement of techniques to extract maximum information from recognised sources and to open up new ones. For periods and data which have already been studied, a quantitative approach, used with discretion, may form the next major phase of research. Many techniques which have been developed to solve modern problems might be profitably applied to the past. In addition, there are many sources even for the later period, which remain unexplored, some of which would be suited to statistical analysis. For periods where little work has been undertaken, a preliminary framework must be established to provide a context for such techniques so that they can be used effectively. However, even for earlier periods, the possibilities of mapping material which superficially might seem to offer little scope for a cartographic treatment are probably considerable, and there is plenty of room for experiment.

These suggestions have been framed in terms of specific, detailed research. It is logical to start with this approach and move towards definitive works based on a solid foundation of scholarship. However, this does not mean that there is no immediate place for the general study in Scottish historical geography: indeed, the reverse may be the case. Well-written general works, summarising current knowledge and presenting the contradictions and shortcomings of existing work would be of great value, especially in directing future research. There is a depressing lack of such over-views. Work of this sort would bring purely Scottish problems before a wider audience for criticism and comment. The specialist from another field might, with a broader perspective, be better able to pick out the essential features of a problem. Scottish historical geography is always open to the accusation of being parochial. It may not be too unfair to suggest that there is an element of truth in this and that a consideration of Scottish problems in a wider European context would be beneficial. If research is to be of value to scholarship as a whole it should be applicable to more general problems on a broader front.

This study has attempted to present a balanced view of the character of Scottish historical geography and some of the difficulties it has faced. It is designed to be neither optimistic or pessimistic. Long-term predictions are not part of its remit. Although various possibilities for the future have been suggested, this is largely a topic for speculation. However, no matter what uncertainties exist, one thing is clear: Scottish historical geography is not likely to lack problems, nor possible ways of solving them, for a long time to come.

¹ For a recent survey see A. R. H. Baker (Ed.) *Progress in Historical Geography*. Newton Abbot, 1972.

² I. A. Crawford. *The Divide Between Medieval and Post-Medieval in Scotland*. *Post-Medieval Archaeology* I, 1967, p.87.

³ H. L. Gray. *English Field Systems*. London, 1915.

⁴ Eg. M. R. G. Conzen. Alnwick, Northumberland. *A Study in Town Plan Analysis*. *Trans. Inst. Brit. Geogr.* 27, 1960.

- ⁵ H. C. Darby (Ed.) *A New Historical Geography of England*. Cambridge, 1973.
⁶ B. Webster. *Scotland 1100-1603*. 'The Sources of History' series. London, 1975.
⁷ J. G. Dunbar and G. Hay. Excavations at Lour, Stobo. *Proc. Soc. Ant. Scot.* 94, 1960-1, pp. 196-210.
⁸ I. Carter. Economic Models and the Recent History of the Highlands. *Scottish Studies* 15, 1971, p. 101.
⁹ B. Webster, 1975, op. cit., p. 214.
¹⁰ E.g. those collected in P. H. Brown. *Early Travellers in Scotland*. Edinburgh, 1891.
¹¹ T. C. Smout. *Scottish Trade on the Eve of the Union, 1660-1707*. Edinburgh, 1963, p. 280.
¹² Sir Robert Sibbald. Discourse Anent the Improvements May Be Made In Scotland For Advancing the Wealth of the Kingdome. 1698. National Library of Scotland MS. 33.5.6.

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11. V. Gaffney, *The Lordship of Strathavon* (Third Spalding Club, Aberdeen, 1960), 147
12. See introduction to I. H. Adams, *Descriptive list of plans in the Scottish Record Office* (HMSO, Edinburgh, vol. 2, 1970)
13. Gaffney, *op. cit.*, 149-50
14. Scottish Record Office RHP 1022 and 1023 respectively
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16. E. Cregeen, *Argyll Estate Instructions 1771-1805* (Scottish History Society, 1964), xi
17. I. D. Whyte, 'The development of written leases and their impact on Scottish agriculture in the seventeenth century' (forthcoming)
18. V. Wills, *Reports on the annexed estates 1755-1769* (HMSO, Edinburgh, 1973); for details of the estate surveys see I. H. Adams, *Descriptive list of plans in the Scottish Record Office* (HMSO, Edinburgh, vol. 3, 1974, introduction)
19. I. H. Adams, *The mapping of a Scottish estate* (Educational Studies Dept, Univ. of Edinburgh, 1971)
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22. M. L. Parry, 'Changes in the upper limit of cultivation in south-east Scotland 1600-1900', unpubl. Ph.D. thesis, Univ. of Edinburgh, (1973)
23. M. L. Parry, 'The abandonment of upland settlement in southern Scotland', *Scott. Geogr. Mag.* 92 (1976), 56-7
24. B. L. H. Horn, *Letters of John Ramsay of Ochertyre 1799-1812* (Scottish History Society, 1966), 121
25. James Ramsay McCulloch, *Literature of political economy* (London, 1845), 219
26. *Scots Mag.* 36 (1774), 161

I. D. Whyte (University of Glasgow) writes:

Whittington's article¹ has brought to the surface a problem which has been widely discussed in Scotland in recent years. In his reply,² Parry points out that certain developments in Scottish agriculture such as enclosure were limited to particular

areas before the mid-eighteenth century and even in these districts affected only a small proportion of the agrarian landscape, and Mills³ comes down firmly in favour of the traditional view of the Scottish 'Agricultural Revolution'. However, I believe that Parry has viewed agricultural improvement upon too narrow a front while Mills has been misled by the sources he has quoted.

The changes which profoundly altered Scottish agriculture between the seventeenth and early-nineteenth centuries involved essentially the replacement of a subsistence-orientated farming system by a more commercialized one. They can be broadly divided into technical changes (for example, enclosure, new crops and rotations, improved implements) and organizational changes (the re-shaping of rural society and the modification of farm structures to produce more commercially efficient units of production).

To some extent these two facets of change could be introduced independently. However, for technical changes to be fully effective they had to be accompanied or preceded by some re-organization of rural society and farm structures. There is a strong case for viewing this as the most important contribution of the seventeenth and early-eighteenth centuries to agrarian change in Scotland. Limited technical innovations did occur,⁴ but organizational changes were of greater importance in providing the groundwork for the more spectacular developments of the later-eighteenth century.⁵

Technical changes are easier to identify from historical sources than organizational ones. The former tended to catch the imagination of contemporary writers while the latter often passed unnoticed.⁶ One reason why organizational change has received so little attention has been the tendency for historical geographers to rely upon later, secondary sources when seeking the origins of agrarian change in Scotland. The writings of the Improvers, the Old Statistical Account, the Board of Agriculture Reports all refer to pre-Improvement agriculture in Scotland. However, the Improvers had a vested interest in contrasting earlier farming systems unfavourably with their own and other writers of this period were not necessarily well informed about conditions a century or so earlier. Little progress has yet been made in analysing the abundant primary source material for the pre-eighteenth-century Scottish rural landscape,⁷ but work by the author has demonstrated the importance of some aspects of organizational reforms in Scottish agriculture before the Union of 1707, particularly with reference to tenure and farm structure.⁸

The differences in the social distribution of land ownership between England and Scotland referred to by Mills⁹ were important. However, the tenantry were not as insecure or downtrodden as has sometimes been suggested. A study of some 3000 written leases together with other estate documents indicates that the granting of written leases first became common on many Scottish estates in the early-seventeenth century. By the later-seventeenth century long leases of up to 19 years duration were quite frequent. Leases of over 10 years length comprised 45% of the total for the 1690s. That surviving leases are only a small proportion of those which once existed is shown by estate rentals where details of tenancy are given.¹⁰ Tenants with written leases, often for substantial periods, were probably in a majority on many Scottish estates by the end of the century. On some estates proprietors were encouraging their tenants to take written leases. During the course of the century the bargaining power of the tenantry seems to have been strengthened by the trend towards commercial production. Instances occur of proprietors inducing tenants to accept 19-year leases by offering them some remission of rent.¹¹ By the early-eighteenth century the first 19-year improving leases had appeared.¹² The annual leasing of holdings on a verbal basis was uncommon by the late-seventeenth century in lowland Scotland.

The multiple-tenant farm has been seen as the standard model of farm structure for pre-Improvement Scotland, yet in many parts of the country such farms were already anachronisms by 1707. The importance of the large single-tenant farm cultivated not by the co-operative effort of several tenants but by hired labour is clear

from estate rentals.¹³ The Poll Tax records for Aberdeenshire show that in 1696 such farms were dominant in most of the lowland parishes of the county. It was mainly areas on the margins of the Highlands which perpetuated the old farm structures.¹⁴

Trends of this kind are only evident from detailed studies of the primary source material, few of which have so far been undertaken. More detailed work will be necessary before the picture becomes clearer and regional variations emerge. However, even this limited introductory work suggests the need to re-assess the progress and nature of agrarian change in Scotland. It cannot be doubted that the second half of the eighteenth and the early-nineteenth century saw the most rapid and dramatic changes in the rural landscape. Nevertheless, the extent to which they were based on earlier, less spectacular groundwork requires further examination.

Notes

1. G. Whittington, 'Was there a Scottish Agricultural Revolution?', *Area* 7 (1975), 3, 204-6
2. M. L. Parry, *Area* 8 (1976), 3, 238-9
3. D. Mills, *Area* 8 (1976), 3, 237
4. T. C. Smout and A. Fenton, 'Scottish agriculture before the Improvers—an exploration', *Agric. Hist. Rev.* 13 (1965), 73-93
5. I. D. Whyte, 'Agrarian change in lowland Scotland in the seventeenth century', unpubd Ph.D. thesis, Univ. of Edinburgh, (1974)
6. R. A. Dodgshon, 'The removal of runrig in Roxburghshire and Berwickshire 1680-1766', *Scott. Stud.* 16 (1972), 121-7
7. I. D. Whyte, 'Scottish historical geography: survey and prospect', *Res. Pap.* 8, Dept of Geography, Univ. of Edinburgh (1976), 19-22
8. I. D. Whyte, (1974) *op. cit.*, 247-327
9. D. Mills, (1975) *op. cit.*
10. I. D. Whyte, (1974) *op. cit.*, 255-8
11. J. Dodds, *Diary and general expenditure book of William Cunningham of Craighends* (Scottish History Society, 1887), 4
12. *The Caldwell Papers* (Maitland Club, 1854), 300
13. I. D. Whyte, (1974) *op. cit.*, 294-5
14. *Ibid.*, 287-91

Written Leases and their Impact on Scottish Agriculture in the Seventeenth Century*

By IAN D. WHYTE

FROM the sixteenth-century historian John Major¹ onwards, most people who have written about Scottish rural society before the classic period of improvement in the later eighteenth century have stressed the detrimental effects of insecurity of tenure on the condition of the tenantry and standards of husbandry. This topic is particularly important in a Scottish context because of the polarization of rural society into two contrasting classes: the landlords, and the tenants. Scotland was notably deficient in small owner-occupiers compared with England.² There was no direct equivalent of the English copyholder, and the only group of tenants who had managed to acquire any rights of hereditary occupation, the kindly tenants, were becoming increasingly rare during the sixteenth century.³ The ways in which the ordinary tenants held their land thus assume considerable importance for the study of pre-improvement agriculture in Scotland.

In the past, two assumptions have been made regarding tenure in the pre-improvement period. The first is that husbandmen were almost all tenants-at-will, holding their land without written leases, and liable to eviction with little warning at the whim of the proprietor.⁴ The second is that where written leases were granted, they were invariably for very short periods: some writers have postu-

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¹ John Major, 'Description of Scotland, 1521' in P. H. Brown, *Scotland Before 1700*, Edinburgh, 1893, p. 45.

² T. C. Smout, *A History of the Scottish People, 1560-1830*, 1969, p. 128.

³ I. F. Grant, *The Social and Economic Development of Scotland Before 1603*, Edinburgh, 1930, p. 248; Smout, *op. cit.*, pp. 137-8.

⁴ E.g. W. Ferguson, *Scotland, 1689 to the Present*, Edinburgh, 1968, p. 73; Smout, *op. cit.*, p. 137; R. Mitchison, *A History of Scotland, 1970*, p. 296.

lated a system of annual leasing,⁵ while others have extended the normal duration of a written lease to three or five years.⁶

It has been claimed that the principal effect of this situation was to prevent agricultural improvement on the part of the tenant by denying him a long-term stake in the land which he farmed. Thus, Thomas Morer, visiting Scotland in 1689, attributed the lack of enclosures to the supposed prevalence of short leases.⁷ Late seventeenth-century Scottish writers, such as Lord Belhaven and Andrew Fletcher of Saltoun, favoured the granting of longer leases as an incentive to improvement.⁸ Under such conditions of insecurity it has been assumed that a tenant would have had no incentive to invest labour or capital in his holding. Conversely, the introduction of written leases, particularly for substantial periods of time, has been viewed as a major step in agricultural improvement, and has been regarded as an innovation of early eighteenth-century improvers such as Cockburn of Ormiston and Grant of Monymusk.⁹

Most writers have considered that the introduction of written leases into Scottish agriculture in significant numbers was an eighteenth-

⁵ E.g. H. Fairhurst, 'The Study of Deserted Medieval Settlements in Scotland', in M. W. Beresford and J. G. Hunt (eds.) *Deserted Medieval Villages*, 1971, p. 232.

⁶ E.g. Grant, *op. cit.*, p. 254; J. A. Symon, *Scottish Farming, Past and Present*, 1959, p. 67; H. Hamilton, *An Economic History of Scotland in the Eighteenth Century*, Edinburgh, 1963, p. 51; J. E. Handley, *Scottish Farming in the Eighteenth Century*, Edinburgh, 1953, p. 85; Smout, *op. cit.*, p. 137.

⁷ T. Morer, 'A Short Account of Scotland, 1689', in P. H. Brown, *Early Travellers in Scotland*, Edinburgh, 1891, p. 267.

⁸ John Hamilton, Lord Belhaven, *The Countrey-Man's Rudiments or an Advice to the Farmers of East Lothian How to Labour and Improve their Ground*, Edinburgh, 1699, p. 36; Andrew Fletcher of Saltoun, *Two Discourses Concerning the Affairs of Scotland*, 1698, Second Discourse, p. 38.

⁹ E.g. Symon, *op. cit.*, p. 107; Smout, *op. cit.*, p. 274.

century phenomenon.¹⁰ Only Donaldson has suggested that their development might extend back into the seventeenth century.¹¹ However, as with other aspects of pre-improvement agriculture, modern writers may have been unduly influenced by the unfavourable and sometimes uninformed comments of the Improvers themselves on the practices of their predecessors.¹² The seventeenth century has often been dismissed as a period of stagnation or even decline in Scottish agriculture.¹³ However, the study of contemporary estate papers and other sources, rather than later, potentially biased material, has demonstrated that significant developments did occur in Scottish agriculture at this time.¹⁴ This in itself suggests the need for a re-examination of the question of tenure. If agriculture was changing to the extent which the evidence seems to indicate, then it is possible that such changes were accompanied, and perhaps partly initiated, by improvements in the tenurial position of the husbandmen. However, in addition, when considering the traditional theories of pre-improvement tenure in Scotland it is necessary to account for the bundles of written leases, or tacks as they were known, which bulk large in many collections of estate papers in the Scottish Record Office and in the National Register of Archives handlists. These leases, together with other seventeenth-century estate papers, have so far received little attention.

This paper assesses the question of tenure in seventeenth-century Scotland based on a survey of contemporary manuscript evidence, particularly written leases, contained in collections of private estate papers in the Scottish

Record Office and National Library of Scotland. Some 3,000 leases from over 100 estates have been used. Other leases are concealed by the generalized catalogue entries of some S.R.O. handlists, and it is probable that considerably greater numbers survive in private hands. Nevertheless, it is hoped that the sample is sufficiently large to allow some firm conclusions to be drawn.

OCCURRENCE AND CHARACTER OF THE LEASES

An examination of surviving leases supports Donaldson's theory that their introduction in significant numbers first occurred in the early seventeenth rather than the early eighteenth century. Scattered leases of holdings on lay estates have survived from the sixteenth century, and there are even a few from the fifteenth century. These are rare, however. Records such as the rental book of the abbey of Coupar Angus show that written leases were granted on some Scottish monastic estates in the early sixteenth century.¹⁵ These estates were noted for their progressive approach to agriculture and estate management, and appear to have been ahead of lay estates in this practice,¹⁶ but such organization did not survive the Reformation. Written leases seem to have been the exception on lay estates in the second half of the sixteenth century. It seems reasonable therefore to conclude that while written leases were known before the end of the sixteenth century, there was no continuing tradition of granting them in significant numbers. However, the dates of surviving tacks suggest that a substantial increase in the numbers granted occurred in the early seventeenth century.

The missing data problem arises here. What proportion of the tacks that once existed is represented by those now extant? How typical are they either of individual estates or in aggregate? To what extent does the graph in Fig. 1 show the differential destruction of tacks, with fewer

¹⁰ E.g. R. A. Dodgshon, 'Agricultural Change in Roxburghshire and Berwickshire, 1700-1815', unpub. Ph.D. thesis, Univ. of Liverpool, 1969, p. 43.

¹¹ G. Donaldson, *Scotland, James V-James VII*, Edinburgh, 1965, p. 239.

¹² This tendency has been considered in I. D. Whyte, 'Agrarian Change in Lowland Scotland in the Seventeenth Century', unpub. Ph.D. thesis, Univ. of Edinburgh, 1974, pp. 4-13.

¹³ E.g. Handley, *op. cit.*, p. 11.

¹⁴ T. C. Smout and A. Fenton, 'Scottish Agriculture Before the Improvers—An Exploration', *Ag. Hist. Rev.* XIII, 1965, pp. 73-93; Whyte, thesis.

¹⁵ C. Rogers (ed.), *The Rental Book of the Cistercian Abbey of Coupar Angus*, Grampian Club, 1880.

¹⁶ T. B. Franklin, *A History of Scottish Farming*, 1952, chs 3-4.

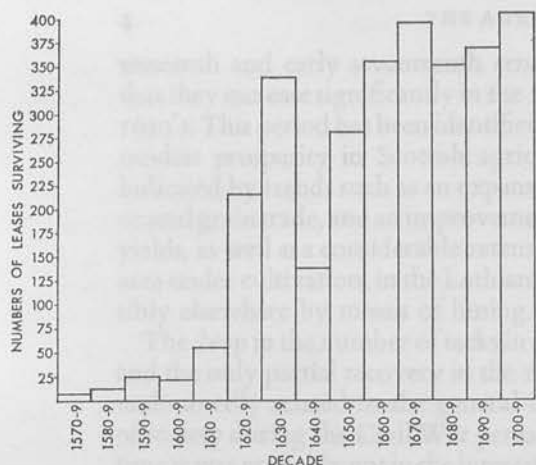


FIG. 1. Numbers of leases surviving per decade.

surviving from the earlier part of the seventeenth century, or how far does it reflect a real increase in the number of written leases which were being granted? In order to answer these questions it is necessary to reach some conclusions regarding the survival rate of tacks. If it is to be maintained that written tacks were granted in significant numbers in Scotland during the seventeenth century, then it must be shown that the surviving ones form only a small proportion of those which once existed. Otherwise it might be justifiable to conclude that nearly all tenants for whom written leases have not survived held their land by verbal agreements.

These problems can be partially solved. Although leases were formal legal documents, they did not have the same survival value as charters or sasines. Such documents might have had to be consulted in disputes a century or more after they were written; as a result they were carefully preserved. Tacks, on the other hand, were of little value once they had expired. Their survival was thus more a matter of chance. It is significant that they tended to survive in direct proportion to other categories of estate documents, such as accounts and rentals, whose usefulness was equally short-lived.

The suggestion that large numbers of tacks have been destroyed is confirmed by evidence from certain estates. It was the practice in some

rentals, as will be considered below, to record whether the tenants held their land by written or verbal agreements. In all cases where such rentals occur, very few, and in several cases none, of the corresponding written leases have survived. This indicates that a high proportion of the tacks which once existed have failed to survive, and that the prevalence of the granting of written leases cannot be judged solely from the numbers which are extant today.

The problem of whether the surviving leases are representative cannot be entirely resolved. The sample which has been studied is drawn from a large number of collections covering Lowland Scotland from the Solway to the Moray Firth, and a broad band of the southern Highlands from Argyll to Aberdeenshire. It is hoped that with such a wide spectrum of data any bias from individual estates will be minimized and that the sample will be a representative one.

It has been generally accepted by writers on Scottish agriculture from the seventeenth century onwards that the development of written leases encouraged other agricultural improvements. Therefore, if it can be shown that written leases were becoming increasingly common before the eighteenth century, one would expect this to have had a beneficial effect on other aspects of agriculture. However, it is unlikely that the relationship between tenure and improvement was a simple cause-and-effect one. As will be discussed in more detail below, it is also probable that the incentive to improve, generated by economic forces such as a growing demand for agricultural produce from either internal or external markets, would lead to a modification of tenurial arrangements as part of a general attempt to increase the efficiency of agriculture. One would expect therefore a fairly close correlation between the numbers of written leases being granted and other indications of prosperity or depression in the agrarian economy.

Fig. 1 shows the number of surviving leases in the sample for each decade from the late sixteenth to the early eighteenth century. It can be seen that tacks are infrequent for the late

sixteenth and early seventeenth centuries but that they increase significantly in the 1620's and 1630's. This period has been identified as one of modest prosperity in Scottish agriculture, as indicated by trends such as an expansion of the coastal grain trade, and an improvement in crop yields, as well as a considerable extension of the area under cultivation, in the Lothians and possibly elsewhere by means of liming.¹⁷

The drop in the number of tacks in the 1640's and the only partial recovery in the 1650's was undoubtedly related to the general instability of society during the Civil War period. At this time it was probably not in the interest of either landlord or tenant to be bound by a written tack for a specific period. On the Castlemilk estates in north Lanarkshire, for instance, the tenants were harassed by Montrose in 1645. In 1648 they were recorded as having fled when troops were quartered on them, and in 1650 they are mentioned as packing up in readiness to remove from the path of Cromwell's army.¹⁸ Clearly such conditions did not favour the stability of rural society which would have encouraged the granting of written leases. It is perhaps significant that the increase in the number of tacks in the 1650's occurred mostly

in the latter half of the decade, when Scotland, under the Protectorate, was peaceful if not exactly prosperous.

There was a considerable rise in the number of leases in the 1660's, following the Restoration, and then a fairly steady level was maintained into the early eighteenth century. The decades between the Restoration and the onset of the famines of the late 1690's were ones of relative prosperity for Scottish agriculture. This is shown by many trends, including the growth of the droving trade with England, the rise in grain exports, the proliferation of periodic market centres throughout the country, and the spread of planting and enclosure round many country houses.¹⁹ The relationship between the granting of written leases and periods of prosperity and improvement in Scottish agriculture at this time is thus confirmed.

Fig. 1 indicates an overall growth in the number of written leases which were being granted during the course of the seventeenth century. Detailed information is also available to show the relative importance of written and verbal agreements on some estates. Occasional rentals specify the character of tenure, thus

¹⁷ Whyte, thesis, pp. 394-98; Smout and Fenton, *op. cit.* pp. 82-4.

¹⁸ National Library of Scotland: MS. 8218.

¹⁹ Whyte, thesis, pp. 171-85; T. C. Smout, *Scottish Trade on the Eve of the Union 1660-1707*, Edinburgh, 1963, p. 213; Hamilton, *op. cit.*, pp. 88-90.

TABLE I
PERCENTAGES OF TENANTS WITH WRITTEN AND VERBAL TACKS OF CERTAIN ESTATES

<i>Estate</i>	<i>County</i>	<i>Date</i>	%written <i>tacks</i>	%verbal <i>tacks</i>	%not <i>known</i>	<i>Total no.</i> <i>of tenants</i>
Cassillis*	Wigtown	1622	23	70	7	72
Crawford†	Lanark	1638	80	20	0	58
Cassillis*	Wigtown	1655	51	38	11	55
Breadalbane (L. Tay)‡	Perth	1674	39	61	0	119
Penicuik§	Midlothian	1680	80	20	0	35
Hailes	E. Lothian	1682	55	45	0	30
Strathbran¶	Perth	1701	33	67	0	89
Balquholly**	Aberdeen	1705	70	17	13	25
Fyvie††	Aberdeen	1705	62	36	2	43

Sources: * S.R.O.: GD 25 9 47 bundle 7.
§ S.R.O.: GD 18 708.

** S.R.O.: GD 248 216.

† S.R.O.: GD 237 201.

|| S.R.O.: GD 16 1607.

†† S.R.O.: GD 28 2273.

‡ S.R.O.: GD 112 9 25.

¶ S.R.O.: GD 24 673.



allowing the proportion of tenants possessing written leases on certain estates in particular years to be calculated. Unfortunately, such rentals are rare, and only nine of the known ones give a sufficiently large sample of tenants for the exercise to be valid. They are shown in Table 1.

On six of the nine estates over 50 per cent of the tenants had written tacks, and on four of these six the majority was a substantial one. There is a tendency for the post-1660 rentals to have higher percentages of tenants with written leases than the earlier ones. In this context the two Cassillis rentals are interesting as they show an increase in the proportion of tenants with written tacks between the 1620's and the 1650's. The two exceptions to the pattern are the Breadalbane and Strathbran rentals. These estates, in the Perthshire Highlands, were relatively remote. Such areas were slow to innovate in agriculture. They perpetuated traditional farm structures, with many multiple-tenant farms leased to four, six, or even more tenants. This contrasted markedly with many Lowland estates where large, consolidated single-tenant farms were becoming common.²⁰

Any conclusions based on such a limited number of rentals must be tentative, but it seems likely that by the end of the seventeenth century tenants with written tacks outnumbered those with verbal agreements on many estates in Lowland Scotland. This conclusion is reinforced by supplementary evidence from two estates. At Penicuik 71 per cent of the holdings set by verbal agreement in 1680 were held with written tacks by the end of the century.²¹ At Fyvie a similar process was operating. There, 62 per cent of the tenants who held by verbal agreements in 1705 were recorded as being obliged to accept written tacks in the near future.²²

Nevertheless, while developments of this

kind may have been widespread, they were not universal. Some estates had not adopted written leases at all by the end of the seventeenth century. Notable among these were the Buccleuch estates, covering a large area of the Borders. On these estates tenants held their land from year to year, the holdings being reallocated at an annual meeting or "land setting."²³ This system survived into the nineteenth century: although continuity of tenure was assured in practice for most tenants by the paternalistic attitude of the proprietors, it was described as a considerable barrier to improvement.²⁴

What advantage was conferred by the possession of a written tack as opposed to a verbal agreement? The main benefit was probably that the respective positions and mutual obligations of proprietor and tenant were clearly stated in a form which was legally binding. The tenant possessed complete security of tenure for the duration of the lease provided that he complied with its provisions. Verbal tacks appear in some cases to have been granted for a specific number of years rather than continuing from year to year.²⁵ Presumably such agreements were made in the presence of witnesses who could be called in the event of a dispute. However, even a verbal lease of this kind was clearly unsatisfactory compared with a written one, and could not have conferred the same degree of security. A tenant farming on a year-to-year basis would have been in an even worse position.

A tenant possessing a written lease could be removed before its expiry only by a complex and protracted legal procedure.²⁶ He also had his rent fixed for the duration of the tack. He might, however, have to engage in shrewd bargaining at the outset to obtain the lease at a suitable rent. In many cases proprietors attempted to charge a higher rent for a holding in return for granting a written, and especially

²⁰ Smout and Fenton, *loc. cit.*, pp. 76, 79; W. M. Mackenzie, *The Scottish Burghs*, Edinburgh, 1949, p. 92; S. G. E. Lyth and J. Butt, *An Economic History of Scotland 1100-1939*, 1975, p. 25; Whyte, thesis, pp. 293-304.

²¹ Scottish Record Office (S.R.O.): Clerk of Penicuik muniments, GD 18 708.

²² S.R.O.: Hay of Yester muniments, GD 28 2273.

²³ S.R.O.: Buccleuch muniments, GD 224 953/3.

²⁴ J. Russel, *Reminiscences of Yarrow*, 2nd edn, Edinburgh, 1894, p. 66.

²⁵ S.R.O.: Hay of Yester muniments, GD 28 2273; Penicuik muniments, GD 18 708.

²⁶ E.g. S.R.O.: Biel muniments, GD6 1472 772.

a long, lease. Early seventeenth-century tenants on the Cassillis estates paid a substantial lump sum, or grassum, often equal to three years' rent, for the security of a nineteen-year tack.²⁷ The practice of "rouping" holdings, or granting them to the tenant who offered the highest rent, was common, and may frequently have led to tenants overestimating their ability to make a holding pay.²⁸

One of the most significant features of surviving leases is the penalty clause which bound both proprietor and tenant to pay a fine if either should fail to meet the provisions of the tack.²⁹ This emphasized the mutual obligations inherent in the contract. The written lease had assumed a standard format by the early seventeenth century which continued, with little modification, into the eighteenth and nineteenth centuries. Some seventeenth-century tacks, particularly of smallholdings, were slipshod documents, hastily written on scraps of paper, but most of them were carefully drafted and laid out. The detailed content of leases varied, particularly the clauses relating to farm management. Certain types of clause were characteristic of particular estates. Tacks on arable estates often emphasized the need for maintaining soil fertility through the specification of certain crop rotations and the provision of fertilizers, such as lime.³⁰ Tacks of Highland farms often contained clauses relating to the use of shielings.³¹ The main change which can be detected during the course of the century is for tacks to become longer and more explicit, leaving fewer loopholes for accidental or deliberate misunderstanding on the part of the tenant. This was especially true of clauses relating to the labour services which were required from the tenant.³²

²⁷ S.R.O.: Ailsa muniments, GD 25 9 73—the series of tacks for 1634.

²⁸ Fletcher of Saltoun, *op. cit.*, p. 35.

²⁹ E.g. S.R.O.: Airlie muniments, GD 16 28 254; Leven muniments, GD 26 5 42.

³⁰ E.g. S.R.O.: Haddo muniments, GD 33 58/61; Gordon muniments, GD 44 20 18.

³¹ E.g. S.R.O.: Murthly Castle muniments, GD 121, 121.

³² E.g. S.R.O.: Broughton muniments, GD 10 990; Boyd muniments, GD 8 927.

LENGTH OF LEASE

Previous writers have stated, almost without exception, that before the mid-eighteenth century leases, whether written or verbal, were issued only for short periods of half a dozen years or less. Only Third believed that at the start of the eighteenth century a few fortunate tenants possessed nineteen-year tacks.³³

When the lengths of surviving seventeenth-century tacks are examined, it appears that leases for more than five or six years were far from uncommon. For the purpose of this study leases have been divided into three classes: short leases of nine years' duration or less, medium-length tacks of ten to eighteen years, and long tacks of nineteen years or more. The nineteen-year lease became standard in many parts of Scotland during the Agricultural Revolution, and was considered to be the most desirable length of tack by the Improvers, representing a fair compromise between the interests of landlord and tenant.³⁴ The distinction between short- and medium-length leases seems most meaningful at about ten years. Some leases indeed were granted for nine or eleven years; the distinction between these is slight. However, most short leases tended to be for seven years or less, and many medium-length tacks were for fifteen years, producing a significant division.

Medium-length and long tacks together make up 36 per cent of the total surviving leases. When the percentage of longer leases is calculated for each decade some interesting variations emerge (Fig. 2). The very high percentage for the first decade of the century is probably a chance figure caused by the small size of the sample, but the increasingly high percentages from the 1610's to the 1630's require another explanation. This trend is probably due to the fact that some estates, when they first began to issue written leases in substantial

³³ B. M. W. Third, 'The Changing Rural Geography of the Scottish Lowlands, 1700-1820', unpub. Ph.D. thesis, Univ. of Edinburgh, 1953, 2.11.

³⁴ Sir John Sinclair, *General Report on the Agricultural State and Political Circumstances of Scotland*, 1814, 1, p. 191.

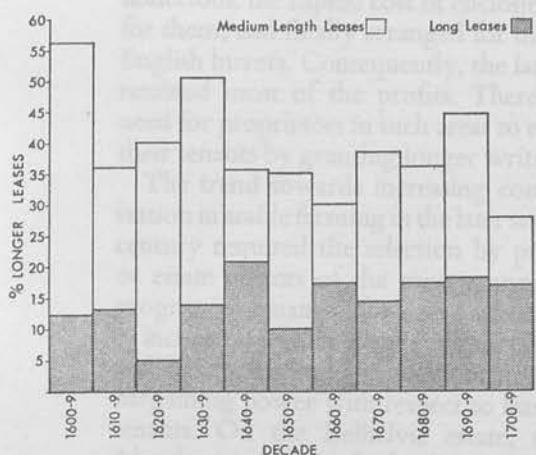


FIG. 2. Percentage of medium-length and long leases surviving per decade.

numbers early in the seventeenth century, experimented with granting longer leases. Many estates subsequently reverted to shorter written leases. Presumably the experiment was not everywhere successful: the economy was probably not yet ripe for such innovations. From the 1660's, however, there was a steady increase in the proportion of longer tacks until the 1690's. The low figures for the first decade of the eighteenth century may reflect the disorganization of rural society following the harvest failures and consequent famines of the later 1690's.

These long and medium-length leases were not being granted uniformly throughout Scotland however. It is clear that it was mainly the Lowland estates, and especially those on the east coast where arable farming was particularly important, that were issuing them. Estates with a predominantly pastoral economy, especially those in the Upland areas of Galloway, the Borders, and the eastern Highlands, were less concerned to grant longer tacks, or even to grant written leases at all. This dichotomy between Lowland and Upland, between arable and pastoral areas, which was hinted at by Fletcher of Saltoun in 1698, continued into the eighteenth century and was still apparent when the Board of Agriculture county reports were written.³⁵ Eighteenth- and nineteenth-

century writers believed that it was caused by both positive and negative influences.³⁶ On an arable farm, the tenant benefited from a longer lease by obtaining two or more cycles of whatever crop rotation he practised, and by getting the results of any improvements, such as liming, that he might have undertaken. On a pastoral farm, however, there was not this need, and the proprietor could more successfully pursue his interests by having shorter leases which allowed more frequent adjustments of rent to take account of inflation. During the seventeenth century, though, there is evidence to suggest that other influences were at work in producing this pattern.

The pace of agrarian change in seventeenth-century Scotland appears to have been faster in arable areas. For a predominantly arable estate to increase its marketable surplus of grain, as many east-coast estates were doing, particularly after 1660,³⁷ the co-operation of the tenantry was essential. One influence behind the increased granting of longer leases in arable areas may have been attempts by proprietors to attract and retain the more capable tenants by offering them more favourable conditions of tenure. By the beginning of the eighteenth century this relationship had given rise to the first nineteen-year improving leases in which the tenant was required to enclose land, plant trees, and carry out other work, under the security of a long lease.³⁸

A different system obtained in pastoral areas. The rise of the droving trade, the pastoral counterpart of changes in arable production, was concentrated in the hands of the landowners.³⁹ All the innovations which were associated with it, such as selective breeding and large-scale enclosure, were introduced solely by the proprietors.⁴⁰ As a result, tenants in these areas had little direct stake in droving. They merely raised their animals in the traditional way and sold them at low prices to their landlords, who fattened and cross-bred them,

³⁵ Sinclair, *op. cit.*, III, p. 379.

³⁷ Smout (1969), *op. cit.*, p. 213; Whyte, thesis, pp. 394-8.

³⁸ *The Caldwell Papers*, Maitland Club, 1853, p. 300.

³⁹ Whyte, thesis, pp. 322-30. ⁴⁰ *Ibid.*

³⁵ Fletcher of Saltoun, *op. cit.*, p. 36; G. Robertson, *General View of the Agriculture of Midlothian*, 1793, p. 18.

undertook the capital cost of enclosing pasture for them, and finally arranged for their sale to English buyers. Consequently, the landowners retained most of the profits. There was less need for proprietors in such areas to encourage their tenants by granting longer written leases.

The trend towards increasing commercialization in arable farming in the later seventeenth century required the selection by proprietors or estate officers of the most competent and progressive tenants. The desire of landowners to increase the grain output of their estates may well have transferred some of the initiative and bargaining power with respect to leases to the tenants. On the Belhelvie estate, north of Aberdeen, which in the later seventeenth century was selling considerable quantities of grain to merchants in Aberdeen and Edinburgh, the estate accounts indicate the lengths to which the factor was prepared to go to secure able tenants, even to the extent of poaching them from neighbouring landowners.⁴¹ It is also clear that some of these tenants successfully held out for lower rents.⁴² Two advertisements for vacant holdings on the Kinross estates in 1703 indicate that the farms concerned were to be set in "long or short tack or yearly tenendrie" depending upon the agreement reached between the tenant and the chamberlain.⁴³ On the Craighends estate in Renfrewshire the proprietor actually recorded his efforts to induce particular tenants to take holdings on his estate by offering them nineteen-year leases. If they took a longer lease they were given some remission of rent for the first two or three years.⁴⁴ The position of proprietor and tenant in relation to tenure had thus changed markedly from the early part of the century when many tenants had paid large grassums to obtain a long tack.

As arable farming became more commercially oriented, more complex rotations were adopted, and new fertilizers were tried. By the end of the century the traditional infield rota-

tion of bere (barley)/oats/oats had given place in parts of the Lothians, Fife, Berwickshire, and north Lanarkshire to four- and five-course rotations, including wheat, legumes, and even fallow courses, frequently associated with liming.⁴⁵ There would have been a greater incentive to grant longer leases on farms where these practices were being introduced to allow the tenants to make the most of the new systems of husbandry. On several estates the granting of longer leases clearly coincides with other forms of improvement. On the Clerk of Penicuik estates, for instance, the longer tacks for the barony of Lasswade were granted for farms where the houses were of superior quality, built with stone and lime, with two, and in one instance three, stories.⁴⁶ Whether the improved building construction was a cause or an effect of increased security of tenure is hard to say. This estate, which had good access to Edinburgh, the largest single market for grain in Scotland, had been the first in the district to commute grain rents into money payments, and had also adopted the new arable practices.⁴⁷

On pastoral estates such as those of the Buccleuch family, a more paternalistic approach towards the appointment of tenants continued to operate. The criteria by which tenants were selected were not necessarily related to their skill or suitability. The chamberlain's accounts of the annual land-settings at Hawick show that when a tenant died, it was the usual practice to offer the holding to his son, regardless of his abilities. Only if no successor to the deceased tenant was prepared to take on the holding were outsiders considered.⁴⁸ The survival of this approach appears to have been linked to the slower pace and different character of agrarian change in these areas, as discussed above. There was less incentive on the part of the proprietor to grant longer leases, or for the tenants to demand them.

⁴⁵ Whyte, thesis, ch. 3.

⁴⁶ I. D. Whyte, 'Rural Housing in Lowland Scotland in the Seventeenth Century: The Evidence of Estate Papers', *Scot. Stud.*, 19, 1975, pp. 66-7.

⁴⁷ S.R.O.: Clerk of Penicuik muniments, GD 18 704; Whyte, *loc. cit.*, p. 67.

⁴⁸ S.R.O.: Buccleuch muniments, GD 224 907, 953/3.

⁴¹ S.R.O.: Dalhousie muniments, GD 45 20 12, 14-17.

⁴² *Ibid.*, 12.

⁴³ S.R.O.: Kinross muniments, GD 29 211.

⁴⁴ J. Dodds (ed.), *Diary and General Expenditure Book of William Cunningham of Craighends*, Scot. Hist. Soc., 1886, p. 13.

CONCLUSION

The foregoing survey has demonstrated that the development of the written lease in Scottish agriculture was essentially a seventeenth-century phenomenon, and that leases became especially common in the period after 1660. Written leases were not an eighteenth-century innovation, although they undoubtedly became more widespread in this period. At a general level the granting of written leases during the seventeenth century appears to have been related to the degree of prosperity of the agricultural economy. By the end of the century longer leases had also become fairly common. There was, however, a distinct contrast in the occurrence of longer leases between arable and pastoral areas. This contrast may be attributed in part to differences in the organiza-

tion of commercially oriented agriculture between the two types of area.

In such a wide-ranging review it has not been possible to present all the available evidence relating to individual estates. The generalizations which have been made are a composite picture derived from a wide range of sources. It must be emphasized that the policy of individual estates relating to tenure may well have varied greatly from the general model which has been proposed here. At a smaller scale, the pattern dissolves into a series of decisions based on the circumstances of particular estates and the character of their proprietors. A good deal of further work is necessary to clarify the picture by examining the various relationships which have been suggested through specific case studies.

Revolutions in the later eighteenth century that it was retrievable to a limited extent on the ground by field survey, and a few excavations have been carried out... but the ancestry of this type of settlement even within the seventeenth century has not been established" (1). This was applicable with equal force to the character of rural housing as well as its spatial patterns. It is a paradox that more is definitely known about rural housing and settlement in Scotland during the Iron Age than during medieval and early modern times (2). This gap in our knowledge of the nature and evolution of the 'peasant house' (3) in Scotland has been due to a number of factors.

Firstly, there is a total lack of surviving structures which predate the middle of the eighteenth century (4). The classic Agricultural Revolution in Scotland which occurred, broadly speaking, the later eighteenth and early nineteenth centuries in Lowland Scotland and the first half of the nineteenth century over much of the Highlands, was more rapid and dramatic in its effects than in England, where agrarian change was a continuously accelerating process from at least Tudor times onwards (5) or in areas like Brittany where much of the change was delayed into the late nineteenth and twentieth centuries (6). The present Scottish rural landscape, as Caird has emphasized (7), is one of revolution rather than evolution. While the extent of the change and the degree to which there was a legacy from the previous rural landscape has been the subject of considerable debate (8), it is nevertheless clear that the Scottish rural landscape underwent far-reaching changes during this period, and that most traces of pre-existing settlements have been swept away. It is thus impossible to carry the study of rural housing very far back on the basis of surviving structures. From those which date from the later eighteenth and early nineteenth centuries have usually been substantially altered (9) in later times. A recent survey of building construction in seventeenth-century Lowland Scotland based on documentary sources has indicated that due to the economic and social context of house construction,

The evolution of rural housing in Scotland in a West-European context

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I - THE PROBLEM

In 1967 Crawford wrote regarding the settlement pattern of Scotland on the eve of the Agricultural Revolution in the later eighteenth century that it was "retrievable to a limited extent on the ground by field survey, and a few excavations have been carried out... but the ancestry of this type of settlement even within the seventeenth century has not been established" (1). This was applicable with equal force to the character of rural housing as well as its spatial patterns. It is a paradox that more is definitely known about rural housing and settlement in Scotland during the Iron Age than during medieval and early modern times (2). This gap in our knowledge of the nature and evolution of the "peasant house" (3) in Scotland has been due to a number of factors.

Firstly, there is a total lack of surviving structures which predate the middle of the eighteenth century (4). The classic Agricultural Revolution in Scotland which occupied, broadly speaking, the later eighteenth and early nineteenth centuries in Lowland Scotland and the first half of the nineteenth century over much of the Highlands, was more rapid and dramatic in its effects than in England, where agrarian change was a continuously accelerating process from at least Tudor times onwards, (5) or in areas like Brittany where much of the change was delayed into the late nineteenth and twentieth centuries (6). The present Scottish rural landscape, as Caird has emphasised (7), is one of revolution rather than evolution. While the extent of the change and the degree to which there was a legacy from the previous rural landscape has been the subject of considerable debate (8), it is nevertheless clear that the Scottish rural landscape underwent far-reaching changes during this period, and that most traces of pre-existing settlement have been swept away. It is thus impossible to carry the study of rural housing very far back on the basis of surviving structures. Even those which date from the later eighteenth and early nineteenth centuries have usually been substantially altered (9) in later times. A recent survey of building construction in seventeenth-century Lowland Scotland based on documentary sources has indicated that due to the economic and social context of house construction,

building standards were so poor that it is not surprising that structures from this period have not been preserved intact (10). The study of traditional methods of building construction on the basis of structures which are late in date but incorporate some older features can provide useful indications of past techniques, as the work of Fenton and Walton has shown (11). However, great care must be taken when trying to project hypotheses derived from such studies back in time.

Given that standards of building construction were low before the eighteenth century, the flimsy structures which existed would have been easily obliterated by the erection of later, more substantial buildings in the same site, or would have been ploughed out. Excavation has shown that even early nineteenth-century houses in the Highlands were built without proper foundations. Thus there is little hope for tracing sequential occupation in the manner which has been possible for some deserted English settlement sites (12). It is only in marginal areas where the frontiers of settlement and cultivation have reached high levels in the past and have since receded that there is any great hope of finding pre eighteenth-century sites undisturbed (13). In this case the problem of deciding whether such marginal sites are representative of contemporary housing elsewhere must also be faced. However, field survey and excavation have gone some way towards establishing the character of rural housing in parts of Scotland on the eve of the Agricultural Revolution. The work of Fairhurst in the Highlands has been notable in this context (14). Nevertheless, the late eighteenth and early nineteenth centuries were periods of rapid change and conditions at this time did not necessarily mirror those of past periods. Excavated sites such as the one at Lix in Perthshire (15), or field surveys of deserted Highland sites where significant traces of the buildings remain (16), have suggested that settlements of this kind were transitional in both construction methods and plan. Thus they are probably unrepresentative of housing in the Highlands even a generation before, not to mention of conditions occurring more widely in Scotland at earlier times.

Even where sites have been excavated, dating has been difficult due to the poverty of artefacts. Thus the site at Lour was only dated to the seventeenth century by the fortunate find of a fragment of clay pipe sealed under one of the walls (17). Another problem in Scotland, where "medieval" conditions persisted into the seventeenth century in the Lowlands and the mid-eighteenth century in the Highlands (18), is not only the re-occupation of earlier settlement sites, but the re-use of earlier settlement forms. Thus, while crannogs were a characteristically Iron Age settlement type, they continued to be built into the sixteenth and seventeenth centuries (19). Duns and other fortified sites also show traces of later occupation and rebuilding in some instances (20). Field survey and even excavation may fail to provide any evidence of the function of particular buildings. It is noticeable that many of the conclusions reached by Fairhurst concerning the character of the deserted settlements at Lix and Rosal were reached from documentary evidence rather than excavation (21).

A further difficulty has been the paucity of documentary evidence relating to rural housing in Scotland. Most of the informative sources relate to the later eighteenth and early nineteenth centuries, a period in which housing was being rapidly altered. Before the eighteenth century Scotland was a backward and underdeveloped country on the periphery of Europe. The turbulent character of her society and the simple nature of her economy delayed the adoption of record keeping, whether official or private, at both central and local levels (22). For Scotland there is a total absence of taxation records such as the hearth tax returns of seventeenth-century England, which can provide much useful information on housing conditions (23). Moreover, before the eighteenth century the Scots were not cartographically minded: maps and other pictorial sources only start to become abundant after this time (24). In addition, incalculable quantities of the most potentially useful types of document for the study of rural housing have probably been lost. For the seventeenth century it can be definitely shown in some cases that the destruction rate of certain classes of document, leases for example, has been total (26). The most useful sources, such as estate memoranda, also tend to be the most ephemeral and have survived only sporadically. The loss of some major collections of family papers, such as those of the Eglington estates, has left a permanent spatial and temporal gap in the historical record.

II - POSSIBLE SOLUTIONS

To what extent can these difficulties be overcome? It is clear that if the eighteenth and nineteenth centuries were unrepresentative of earlier periods, despite the abundance of sources for rural housing at this time, an effort must be made to locate and interpret material relating to previous times. One approach is obviously the excavation of representative settlements which have not been seriously disturbed, similar to the work on deserted village sites which has contributed so much to our present knowledge of the evolution of English housing (27). There is a need to extend the work of Fairhurst backwards in time and to tackle sites relating to the seventeenth century and earlier. As has been indicated, such sites may be difficult to locate and once excavated may prove hard to date. Due to a different economic and social development and to a contrasting settlement pattern, as Fairhurst has indicated (28), few sites comparable to the deserted medieval villages of England are likely to occur in Scotland. Overall, archaeologists have been reluctant to embark upon the excavation of medieval or post-medieval sites of this type and, as in Ireland (29), information gained from archaeological work relates to only one or two sites.

A settlement excavated at Lour, near Peebles (30), consisted of a complex of buildings of a type which may once have been common throughout the Borders and in other parts of Scotland. A small tower-house was surrounded by a group of buildings, one of which had clearly been a storehouse, with the others probably performing various agricultural functions. The settlement was enclosed by a double rampart which had once formed part of an Iron Age

settlement and may perhaps have been re-used as a defensive barnkin in the medieval period. The excavated buildings were dated to the mid-late seventeenth century with occupation continuing into the eighteenth century.

Fairbairn excavated a number of sites near Muirkirk (31), some of which were clearly shieling huts while others were probably permanent dwellings. The walls of the latter consisted of lower courses of boulders, in some cases packed with clay, and turf above. Two of the houses had been divided into two units with central hearths in the larger compartments. Pottery suggested a date from the late fifteenth to the seventeenth century. The largest dwelling, rectangular like the others, consisted of house, barn stable and byre, and was similar in layout to many houses described in seventeenth-century documentary sources (see below). It was dateable from artefacts and other evidence to the late seventeenth and early eighteenth centuries.

However, it must be recognised that the contribution of excavation is likely to remain a modest one in the foreseeable future. Failing the study of surviving structures and excavated examples, attention must be directed towards documentary sources. Although Crawford has suggested that "the frontier of detailed documentary evidence extends... from the mid-eighteenth century in the south to the nineteenth century in the north" (32). The picture is not as bleak as has sometimes been believed. There is an abundance of source material relating to the character of rural housing from the late eighteenth century onwards and as yet comparatively little work has been done to relate this to other evidence to determine in detail the changes which took place as a result of the Agricultural Revolution comparable to work in England (33). In addition, while Scotland may well be more poorly documented than England or other West European countries, considerable quantities of manuscript material exist for the pre eighteenth-century period. Most of this has yet to be examined in detail and some categories of document do provide data on rural housing. Work by the author has so far pinpointed three sources of this kind.

1°) Topographical accounts and traveller's tales

The writings of Scottish topographers and English travellers in Scotland prior to the eighteenth century have long been known. Their comments are often generalised and imprecise but are sometimes sufficiently detailed to give an impression of housing conditions. Such evidence must, however, be treated with care. The writings of English travellers are biased and chauvinistic and their criticisms must not necessarily be taken at face value. Many of them were making direct comparisons between conditions which they found in Scotland, and those to which they were accustomed in Southern England. The area which served as their yardstick was in many ways unrepresentative of most of Western Europe at this time.

2°) Private estate papers

These have survived in considerable quantity for most parts of Scotland. The volume of material diminishes rapidly for periods earlier than the seventeenth century and the documents which provide the most detailed information on rural housing are infrequent before this time. Three categories are particularly useful :

a) Inventories of buildings, whether belonging to the home farms of proprietors or to tenant farmers, are the most valuable. They were usually drawn up for assessing repairs or as valuations upon the entry of tenants to holdings so that they could be compensated for improvements made during their tenancy or penalised for any neglect. They survive only sporadically and vary greatly in the detail which they contain. Sometimes, however, by listing the number and function of buildings, the materials of which they were constructed, and their size, they provide a fairly clear picture of the character of a farmstead.

b) Estate accounts frequently list the quantities of materials supplied by the proprietor to the houses of their tenants. They also contain information relating to the repair and construction of buildings on the home farms of the landowners.

c) Leases of farms often specify the tenants' obligations regarding the maintenance of their farm buildings and the landlord's responsibilities in supplying construction materials and labour.

3°) While early maps such as those of Pont, the Gordons and Adair do not contain illustrations of peasant houses of the kind that are shown in the surveys of Bartlett and Phillips and which have proved so useful in studies of Irish housing (34), one pictorial source does support the two categories of document which have been considered above. This is Slezer's *Theatrum Scotiae* (35), a series of perspective views of many of the Scottish burghs, published in 1693. Apart from the fact that many of the smaller burghs shown were substantially rural in character, several views show contemporary farmsteads and cottages beyond the burgh limits in the foreground. The earliest estate plans, dating from the first 30-40 years of the eighteenth century, although sometimes crude sketches by comparison with the plans of later generations, can sometimes provide useful information on housing and have yet to be fully investigated, although it should be remembered that this period was itself one of slowly accelerating change in Scottish agriculture and rural society.

These three classes of sources have been discussed in detail. However, they are not necessarily the only categories of document which may be capable of shedding light on the character of rural housing prior to the eighteenth century. The records of local baron and regality courts may provide information and a source which has yet to be examined is the testaments and inventories of people of the tenant class and below, of which considerable quantities are preserved in the Scottish Record Office. More searching among archives may well produce other useful material.

III - THE RESULTS

What do these documentary sources tell us about the character of rural housing before the eighteenth century? This section attempts to summarise the information which has been obtained to date concerning building construction and house types.

BUILDING CONSTRUCTION

Timberwork. The sources show that cruck-framing was the standard method of constructing farm buildings in most parts of Scotland at this time. The exceptions were houses in the Western and Northern Isles where massive stone walling was used, Lowland houses where clay was the principal construction material and whose walls may have been fully load-bearing and houses which were built with clay and lime mortar. The cruck trusses were the most important and valuable part of a tenant's house. By the seventeenth century Lowland Scotland was almost treeless (36), and even in the Highlands, where substantial remnants of natural woodland survived, timber was not used extravagantly (37). Scotland had to import some 90 % of her timber requirements, principally from Norway (38).

Due to the cost of imported timber and the strict management of surviving native woodland, the provision of timber was usually the proprietor's responsibility. Leases normally specified that the landlord was to provide the "great timber", which included the cruck trusses and sometimes the purlins and rafters (39). In parts of the Highlands it was usual to allow tenants to remove their roof timbers when they vacated a holding (40), but elsewhere this was normally forbidden.

Because of the expense of providing timber for tenants houses, landowners tended to be parsimonious by postponing the replacement of unsound cruck trusses for as long as possible. This often resulted in houses which were in a poor state of repair. This was aggravated by the fact that proprietors, while they provided the roof timbers, did not usually pay to have them erected by professional wrights. The tenant was expected to be his own carpenter (41).

This niggardly attitude led to poor construction standards. An inventory of tenants' houses at Thornton in East Lothian records the provision of timber "to John Murray's stable that fell and almost destroyed his horse" and to Adam Manderston "for his dwelling house that fell to the ground" (42). Even in such situations landowners often tried to shore up rotten cruck trusses rather than replace them (43). English travellers in Scotland during the seventeenth century were thus not unjustified in unanimously criticising the poor standards of building construction. If such practices were common this goes a long way towards explaining why no seventeenth-century cruck-framed buildings have survived. Thus, there is no Scottish equivalent of the "Great Rebuilding" of Tudor and Stuart England (44), or even of its belated mid-seventeenth century equivalent

in the North of England which produced the "statesmen's houses" of which so many examples survive (45). What was, in England, a period of economic growth and prosperity was in Scotland one of much more limited change (46).

Roofing. Contrary to some suppositions (47), straw was not uncommon as a roofing material. Its use is widely recorded in eastern Scotland from the North East to Roxburghshire, in Central and Southern Ayrshire, and in Dumfriesshire. Even remote St. Kilda, an island where the economy was essentially pastoral and where one might have expected straw to have been vital as a winter fodder, had houses with straw thatch (48). As in England (49) wheat and rye straw were preferred to that of barley and oats, and it was perhaps fortunate that oat straw was considered to be superior as a fodder (50). Where straw thatch was used in areas beyond the limits of wheat and rye cultivation, barley straw was probably used for roofing. In many cases the sources refer to a thatch of turf and straw in both Highland and Lowland areas. The paring of turf from arable or meadow for roofing purposes was detrimental to agriculture and was normally banned, the turf being obtained from the common pasture.

Heather was used as a roofing material in many areas. It was considered to form a very durable thatch, preferable to straw in some ways, although rather heavy. Bearing in mind the standard of roof construction this may have limited its use somewhat. Slate was rarely used for roofing tenants' houses. It was difficult to obtain and expensive to transport. In addition it was heavy and required more closely-spaced roof timbers (51). On some estates its use was specifically forbidden (52). Broom and whin were in general use, with twigs and small branches, as underlays for heather, straw or turf. The sources are vague with regard to the ways in which the thatch was finished off and secured but in the Isles, and probably elsewhere, ropes of straw and heather, weighted with stones, were used to anchor it (53).

Walling. Tenants were rarely compensated for the cost of constructing the walls of their houses. They made them as cheaply as possible from materials occurring on, or in the immediate vicinity of, their farms. The availability of materials varied but the principal ones were stone, clay, turf and wattle. Stone was difficult and expensive to transport, but could be obtained fairly readily from the larger stones removed from the cultivated land or from small quarries on the common pasture. The use of stone for walling was widespread. In the Western and Northern Isles, it was used on a relatively massive scale. In the Hebrides the roof timbers seem to have been smaller and flimsier than their mainland equivalents, probably due to the shortage of native timber and the need to use driftwood. The houses described by Martin on St. Kilda with their thick earth-cored stone walls and light timbering do not seem to have differed much in their essentials from nineteenth-century "black houses" (54). In Orkney, too, the emphasis seems to have been on the construction of substantial stone walls which carried the weight of the roof (55), similar to later examples (56).

In Lowland Scotland stone was usually used in conjunction with turf or clay. The fact that the walls of cruck-framed houses were not load-bearing probably encouraged tenants to restrict stone to the lower courses on which to rest the crucks, the upper courses being of turf which was lighter to transport and handle. As many travellers remarked, houses were generally so low "that their eaves hang dangling to touch the earth" (57) so that the walls must frequently have been very low. This trait is discernible in houses in the North of Scotland as late as the nineteenth century (58).

Clay was used for walling in eastern Scotland and in the South West. In many cases the clay was used as a mortar for stone allowing chimneys and gables to be constructed, but still in conjunction with cruck framing. (59). It is possible that houses whose walls were constructed entirely of clay were in use, similar to the later "clay biggins" (60) but these are difficult to distinguish from the sources.

There are no clear instances of the use of wattle for the walls of peasant houses in Scotland at this time, although it was used for internal partitions. This may support Gailey's suggestion that the use of wattle for the walls of tenants' houses died out at a comparatively early date in the Lowlands (61), although there is little evidence overall for the Highlands. It is possible, however, that wattle remained in use for the houses of sub-tenants at this time. Such houses are rarely accorded the detailed descriptions which are available for tenants' houses. This in itself suggests that they may have been constructed of more impermanent materials such as turf and wattle, which were not worth listing in valuations.

Perhaps the most important development in building construction in Scotland during the seventeenth century was the growing use of lime mortar. Previously it has been assumed that this was not used for tenants' houses on any scale before the nineteenth century (62). However, estate papers indicate that by the end of the seventeenth century its use was widespread on the east coast, particularly around the Forth and Tay estuaries, but extending as far north as Aberdeenshire and south into Roxburghshire, Lanarkshire and Galloway.

Lime had become familiar to tenants over a wide area of Central Scotland since the early decades of the century when the use of agricultural lime underwent a major expansion in areas which had access to lime and to coal for burning it (63). The earliest known instance of its use for a peasant house is at Aberdour in Fife in 1625 (64). However, the bulk of the references relate to the period after 1660 and it is likely that its use gradually spread in the period of relative prosperity between the Restoration in 1660 and the famines of the later 1690 s. Most of the known examples come from areas immediately adjacent to limestone outcrops but the use of lime mortar in areas like Teviotdale, Galloway and Angus shows that transport costs were sufficiently low for it to be used more widely.

Some of the references in inventories indicate that the houses concerned were gable-ended. Houses with gables are recorded throughout Lowland Scotland and are sometimes specifically associated with the use of clay and lime mortar. The use of gables, in some cases with chimneys in them in place of a central hearth, suggests that the houses concerned were rather better constructed than the most primitive ones described by travellers. By analogy with Western Ireland this may indicate rising standards of Living (65). The construction of gable ends suggests that the walls of the houses concerned must have been fairly strong and should have been capable of bearing the weight of the roof. Yet many of these buildings were definitely cruck-framed. This may argue a lack of confidence in the load-bearing ability of the walls. However, it could also be a manifestation of the tendency noted by Gailey in the Highlands at a later date, to continue using crucks despite the presence of walls which were perfectly capable of supporting the roof (66). If this was the case then the frequency of the use of crucks in seventeenth-century Scotland may have been in part a cultural survival, particularly among the houses of the wealthier tenants.

It is hard to distinguish hip-ended dwellings from estate papers and it is dangerous to infer them from the absence of references to gables. The only instances where this can be done with any confidence are where the details of the roof timbers are sufficient to record the provision of tail posts, which appear to have been the timbers supporting the hipped end of a building (67). However, travellers' accounts refer to houses with central hearths, and presumably hip-ends, from the Northern Isles and the Lowlands (68). Overall, though, references are rare and while it is certain that both types of house design occurred in Scotland before the eighteenth century it is not yet possible to draw any conclusions from their distribution comparable to work in Ireland (69).

HOUSE TYPES

The dominant type of house throughout Scotland at this time seems to have been the rectangular long-house. This places Scotland in a common housing tradition with other areas of North West Europe from Brittany, through South West England, Wales, Ireland, Northern England and Iceland to Scandinavia, areas which had many economic similarities with Scotland. That the long-house tradition in Scotland was old-established is indicated by the excavations of Norse sites such as Underhoull and Jarlshof (70). However, the superficial similarity in character and construction techniques between these Norse houses and late medieval examples should not lead one to postulate a continuity in tradition between the two periods without more positive proof. Stevenson's excavation of a series of hut circles, superficially similar to Iron Age examples, yet, on the basis of finds, apparently dating to the fifteenth or sixteenth centuries, suggests that other housing traditions from Iron Age times may have survived to a fairly late date and have yet to be recognised (71). The existence of long-houses in the seventeenth century and earlier is indicated by the recurring combination of dwelling, byre and barn together in inventories.

That these were under a single continuous roof is sometimes explicit. In other cases it is implied by references to one or more of the units being supported by a single cruck truss. The construction of free-standing buildings supported by only one cruck frame seems unlikely and such descriptions probably relate to a two-bay division in a continuous long-house where the end crucks were listed under the adjoining units. Travellers' accounts also refer to the practice of humans and cattle living together under the one roof as being normal in sixteenth and seventeenth century Scotland. When Martin Frobisher's expedition called at Orkney in 1577, outward bound for the North West Passage, they found that the inhabitants "eat and sleep on one side of the house and the cattle on the other" (72). Seventy years later a Cromwellian soldier described Lowland houses as having "in many places their families and cattell... under one roof" (73).

An incidental feature of the long-house plan was its economy in the use of building materials. This may help to explain its survival into comparatively recent times in the more remote parts of Scotland. The building of house, byre and barn together, divided by light internal partitions required less materials for roof and walls than the construction of three separate buildings. The long-house design thus reduced the labour of the tenant and the expenditure of the proprietor, though whether this was fortuitous or not cannot be determined.

The size and layout of pre eighteenth-century long-houses conformed to a general pattern but varied in detail. A layout with the byre between the dwelling and the barn is the most common among surviving inventories. Such buildings may have had a common entrance for humans and animals. This is impossible to determine from the documents but it is implied in some travellers' accounts. However, in cases where the barn stood between the byre and the house it is more likely that separate entrances existed. Slezer's drawings show some houses of this type (74).

The inventories did not measure buildings in terms of bays as in Medieval England (75), but by the number of cruck framed supporting them. As these were the most expensive items in construction this method gave an immediate impression of the value of a building as well as its size. The quantity of timber used in purlins, rafters and roof trees seems to have been regarded as being directly proportional to the number of cruck frames used, suggesting that there was a rough standardisation in their spacing. From instances where linear measurements are given it seems that the bay width varied between about seven and eleven feet, the average of about nine feet agreeing with the figure which Walton found to be common among surviving Scottish cruck-framed buildings (76). The width of such buildings, closely influenced by the strength of the timbers, was usually between 14 and 16 feet.

Inventories show a wide range of sizes for the dwelling part of the house from a single cruck frame up to a dozen or more. The smallest houses must have consisted of a single room, probably heated by a central hearth. Martin's description of the St. Kilda houses as

having beds in the walls "to make room for their cows which they take in during the winter" suggests that in the poorest houses, people and animals virtually shared the same quarters (77). In the excavated nineteenth-century examples at Rosal in Sutherland, there likewise did not appear to have been any proper partition between humans and animals (78). However, houses of two or three cruck frames, probably large enough to have allowed some internal division of the living space, are more frequent.

It would be a mistake to imagine that the house of every tenant farmer in Scotland at this time was a simple three-unit long-house with the family living within the cramped confines of one or two rooms. The variations in the sizes of the dwellings mentioned above indicate considerable differences in wealth and status among their inhabitants. Tenants of larger Lowland holdings possessed more substantial houses, with more complex internal layouts and more durable structures. A house at Bridgend of Lintrathen in Angus in 1656 comprised a hall, back chamber, inner chamber and pantry extending in all to eight cruck frames. The windows were glazed and the house possessed at least one chimney (79). This type of house may be considered as intermediate, with the long-house plan surviving, but with the house having developed significantly from the one- and two-roomed examples.

The factor's house at Belhelvie, Aberdeenshire, described in 1705 (80), was more substantial still. Thomas Innes, the factor, was a man of some consequence locally. He was a member of the class of more enterprising and substantial tenants who possessed larger holdings and who branched out into other occupations besides farming : in this case estate management. Men of this class were becoming increasingly numerous in Lowland Scotland during the later seventeenth century. His house, extending to 14 cruck frames, was-gable ended and built of stone with clay mortar. Parts of the walls, possibly around the doors and windows, were lime-mortared. There were four rooms on the ground floor and four glazed windows. Part of the house was lofted and a timber staircase gave access to the upper rooms. The walls were carried high enough for four glazed windows to light the first floor. One or more ranges of single-storey outbuildings were attached to the house. They included a kitchen and pantry, three barns, four byres and a peat shed. Considering the number of buildings involved, it is more likely that they were grouped round some sort of courtyard than built end to end.

It is hard to estimate how common houses of this size were at this time. This farm was not unusually large in terms of the Belhelvie estate or of Lowland Scotland as a whole. With increasing commercialisation in agriculture in the late seventeenth century there was widespread consolidation and amalgamation of holdings, with a reduction in tenant numbers and a gradual change from joint- and multiple-tenant farms in many parts of the Lowlands to single-tenant farms (81). This would have led to a decline in co-operative husbandry and, as holdings were enlarged they would have needed to be more self-sufficient. This would have created a need for more and larger outbuildings to house the increased number of draught and carriage animals

and equipment which would have been needed and to store the greater quantities of grain and winter fodder which such farms would have produced. These trends appear to have led to the gradual replacement, in the most fertile lowland areas, of the simple long-house plan by the courtyard farmstead where the outbuildings formed two wings adjoining the dwelling house and enclosing a courtyard. Slezer's view of St. Andrews in 1692 shows a farmstead of this type : two-storied, gabled with two chimneys, standing amid its planting and enclosures with a thatched and lower range of outbuildings facing it across a courtyard (8). This layout contrasts strongly with the long-house shown in some of Slezer's other views (83).

Some indications of this development are discernible in one of the earliest estate plans (84). On the Penicuik estates in Midlothian, Over Mosshouses, a high-lying rather marginal farm, in the southern part of the county, is shown in 1717 as having a main dwelling house flanked by two service wings with the fourth side enclosed by some sort of boundary, possibly a wall. A much earlier example, at West Gagie in Angus in 1649, can be reconstructed from the inventory which includes the compass orientations of the buildings and indicates which ones were under the same roof (85). Here the dwelling house and some of its offices were laid out round three sides of a courtyard with a wall and gate on the fourth. Adjoining this, the remaining buildings formed a separate cluster, possibly enclosing a second yard.

However, the buildings described above were still cruck-framed and were subject to the limitations of plan, height and width which the use of crucks imposed. Perhaps the most significant development in rural housing at this period was the increasing use of lime mortar. For the first time, tenants' houses with fully load-bearing walls were constructed without the use of crucks. This made possible the building of houses with two or even three stories instead of a single storey with, at best, a low cramped loft. It also switched the emphasis and cost of construction away from the roof timbers and towards the walls. A saving in the quality of timber used would partly have offset the extra work and expense of building a house with mortared walls. Despite the higher initial cost of such houses there would have been a long-term saving in time and money with a reduction in the constant repairs which were a feature of less durable structures. The concept of permanency in rural housing was changing from a dwelling which would last for the duration of a short lease to one which might last two generations or more. The spread of such houses may well have been encouraged by the growing tendency to grant written leases for periods of up to nineteen years in place of tenancies-at-will, giving tenants greater security and a more positive stake in the land which they farmed. Lime-mortared houses may also have reflected the landowner's desire to increase his rental by encouraging the better tenants to sink more capital into his holding once his tenure was guaranteed.

A survey of the barony of Lasswade near Edinburgh (86) shows in detail the best of these houses at the end of the seventeenth century. On holdings with between 65 and 130 acres of arable land, the farmsteads had houses with two and in one case three stories with lime-mortared walls. The houses were square rather than rectangular in plan and the best of them had been built as recently as 1693. However, this estate was in an especially favourable position, with easy access to the Edinburgh market, and was noted for its advanced attitude towards agriculture. Houses of this type were probably uncommon at the end of the seventeenth century. Nevertheless, they can be considered as the immediate forerunners of the improved farmsteads which spread throughout Scotland in the course of the next century.

The wide cross-section of house types and standards of construction which have been described, as well as the apparent regional variations in building techniques, show that it is misleading to present an overgeneralised picture of the evolution and character of rural housing in Scotland before the eighteenth century. As in most rural societies there were richer and poorer husbandmen and this was closely reflected in the character of their dwellings. Differences in the pace of agrarian change between individual estates and wider regions produced variations, as did differential availability of building materials, and other environmental conditions.

CONCLUSION

The sources have indicated that there was considerable variety in the character of rural housing in pre-eighteenth-century Scotland and that significant developments in building types and methods of construction took place during the later seventeenth century. In terms of both the adoption of lime mortar, and with it higher standards of construction, and the replacement of the traditional long-house plan by the courtyard farmstead there is an obvious parallel, albeit in a different temporal, economic and social context, with the changes in housing which Hurst has described in late-medieval English deserted villages (87). This parallel must not be pushed too far but it is perhaps significant that in both cases the changes occurred in periods of growing prosperity and agrarian change.

These two developments in Scottish rural housing have previously been attributed to the eighteenth and nineteenth centuries. It is clear, however, that important changes were initiated at an earlier date in the more progressive districts of Scotland and that the seventeenth century was not a period of stagnation in this, as in other contexts. Thus, nearly centuries separate the advent of more modern types of housing and better construction standards in the most advanced Lowland areas and the most backward districts of the Highlands (88).

The pace of agrarian change during the seventeenth century was certainly slow by comparison with the achievements of the eighteenth century. Thus it is more likely that traditional features of rural housing at this time, where they can be isolated, reflect far more closely the conditions of early periods than does the rural housing of

the later eighteenth and early nineteenth centuries. The possibility that there was a significant degree of development in the centuries before 1600 cannot be ruled out though. However, it is probable that the scale of change was considerably less than in the post-seventeenth century period. The sources which have been discussed suggest that some house types, the Hebridean Black House for example, or some of the features of the traditional Orkney house, can be traced from the seventeenth century through to surviving nineteenth and twentieth century examples. However, the evidence of excavated sites such as Lix shows that even in the Highlands, rural housing was considerably modified during the Agricultural Revolution.

The directions for future research are thus fairly clear. The seventeenth century is likely to serve as a far more meaningful base from which to work backwards towards early medieval housing than the eighteenth or nineteenth centuries. There is therefore a need to establish the character of rural housing at this time with as much detail as possible. Collections of estate papers require closer scrutiny, and other potential sources must be sought. This may shed more light on house types and methods of construction, and may allow regional variations to be distinguished.

It is less likely that much useful documentary material relating to the pre-sixteenth century period will be uncovered, but as Webster has indicated (89), even the frequently-quoted monastic records have yet to be studied in detail and it is possible that they may provide valuable information. However, as Morrison has suggested (90) excavation is probably the only way to close the gap between the long-houses of the late sixteenth century and Iron Age and Dark Age houses. In particular, only excavation is likely to solve the problem of whether there was a widespread survival of circular Iron Age houses into the medieval period, and when the rectangular house first became established as the normal house type throughout Scotland. Nevertheless, in pushing the frontier of knowledge back by a century or more by means of documentary sources we are substantially closer to an understanding of the character of rural housing in Scotland and its development.

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INTRODUCTION

Geographers, whether in a present or a past context, have traditionally been more concerned with international trade than with the internal movements of commodities. The former used to be better understood and may appear superficially to be of greater significance. However, only a relatively small proportion of the goods manufactured in an economy are involved in international transactions, while a greater volume of goods and a larger sector of the population are concerned with internal transfers.¹ In the context of past economies or of underdeveloped countries at the present time, despite the large amounts handled in total, most internal trading involves the movement of relatively small quantities over limited distances, generally without written records.

The internal transport and marketing of commodities is thus an important framework within which such economies and societies operate. Geographers have made important contributions to the study of periodic marketing systems in modern underdeveloped countries.² The characteristics of such systems have been defined in detail and the factors influencing them analysed. However, historical geographers have been slower to study periodic market centres and associated patterns of internal trading in past economies. This is understandable due to the paucity of source material relating to the functioning of market centres, the nature and quantities of commodities handled by them, and the social relationships involved in trading. Nevertheless, there are many similarities between the marketing systems which operate in underdeveloped areas and those which existed in parts of Europe before the advent of improved communications in the nineteenth century. This paper attempts to assess some of the problems of studying periodic marketing systems in the past by considering the changing pattern of internal trading in Scotland between 1600 and 1700, and by trying to assess the significance of these changes to the Scottish economy of that time. The seventeenth century is often traditionally viewed as a period formative period in Scottish economic and social development, one of transition from medieval to early modern conditions. This transition was reflected, and was to some extent influenced, by changes in the character of internal trading, particularly a rapid growth in the number and distribution of periodic market centres. The development of such centres in Scotland at this time has been noted by several historians,³ but it has not been studied in detail, nor have

THE GROWTH OF PERIODIC MARKET CENTRES IN SCOTLAND 1600 - 1707

IAN D. WHYTE

Abstract: This article examines some of the problems of studying patterns of internal trading and the operation of periodic market centres in the context of seventeenth-century Scotland. The changing distribution of periodic market centres throughout the century is discussed, and the difficulties of moving from a theoretical framework based on networks of authorised centres, towards the one which existed in practice, is examined by means of a case study from Perthshire.

INTRODUCTION

Geographers, whether in a present or a past context, have traditionally been more concerned with international trade than with the internal movements of commodities. The former tends to be better recorded and may appear superficially to be of greater significance. However, only a relatively small proportion of the goods in circulation in an economy are involved in international transactions, while a greater volume of goods and a larger sector of the population are concerned with internal transfers.¹ In the context of past economies or of underdeveloped countries at the present time, despite the large amounts handled in total, most internal trading involves the movement of relatively small quantities over limited distances, generally without written record.

The internal transport and marketing of commodities is thus an important framework within which such societies and economies operate. Geographers have made important contributions to the study of periodic marketing systems in modern underdeveloped countries.² The characteristics of such systems have been described in detail and the factors influencing them analysed. However, historical geographers have been slower to study periodic market centres and associated patterns of internal trading in past economies. This is undoubtedly due to the paucity of source material relating to the functioning of market centres, the nature and quantities of commodities handled by them, and the social relationships involved in trading. Nevertheless, there are many similarities between the marketing systems which operate in underdeveloped areas and those which existed in most parts of Europe before the advent of improved communications in the nineteenth century. This paper attempts to assess some of the problems of studying periodic marketing systems in the past by considering the changing pattern of internal trading in Scotland between 1600 and 1707, and by trying to assess the significance of these changes to the Scottish economy at that time. The seventeenth century is being increasingly viewed as a major formative period in Scottish economic and social development, one of transition from medieval to early modern conditions.³ This transition was reflected, and was to some extent influenced, by changes in the character of internal trading, particularly a rapid growth in the number and distribution of periodic market centres. The development of such centres in Scotland at this time has been noted by several historians,⁴ but it has not been studied in detail, nor have

its implications been explored. As with other aspects of economic growth in past situations, it is not easy to separate cause and effect by determining the extent to which the growth of periodic market centres was a result of economic expansion, and the degree to which the increased number of market centres directly stimulated economic growth.

SOURCE MATERIAL

Much information about authorised market centres can be extracted from the records of their foundation, most of which occur in the Register of the Great Seal of Scotland,⁵ and the Acts of the Parliaments of Scotland.⁶ However, for the existence of some minor centres, it is necessary to refer to two modern annotated lists, that of the burghs of Scotland by Pryde,⁷ and of markets and fairs in Scotland by Marwick,⁸ both of which use other material in addition to the above sources. Taken together these four sources provide a fairly complete picture of the network of licensed market centres in Scotland during the period under study. Nevertheless, as will be discussed below, they contain few references to those centres which had become established by custom, but had not been accorded official recognition. It is necessary to refer to other sources such as topographical accounts, estate papers and burgh records to identify some of these, but by their very nature it is impossible to build up such a complete list of them.

THE FRAMEWORK OF INTERNAL TRADING IN THE EARLY SEVENTEENTH CENTURY

In the early seventeenth century the formal institution through which internal trading was conducted was the burgh. The mechanisms by which exchanges occurred were the weekly market and the periodic fair. In theory, markets were forbidden not only on Sundays but also on Saturdays and Mondays so that people travelling to and from them should not profane the Sabbath.⁹ In practice though, some markets on these days did exist. The burghesses who engaged in trade, and the authorities who established new market centres, were well aware of the basic principles of marketing. In particular, they understood, possibly by a process of trial and error, the concept of 'market rings', in which groups of centres had circuits of staggered market days, allowing traders to visit each centre in turn and minimising harmful competition. They were certainly anxious to prevent neighbouring centres from having clashes of market days or fair dates.¹⁰

The two classes of burgh, royal burghs on one hand, burghs of barony and regality on the other, had similar rights with regard to internal trading. However, the official hinterlands of the former were often very large, sometimes encompassing a whole sheriffdom, while those of the latter were usually much smaller enclaves within the 'liberty' or landward area of a more ancient royal burgh.¹¹ Royal burghs had a monopoly on overseas trade,¹² and this gave them an advantage in terms of internal trade, as considerable volumes of goods from their landward areas destined purely for export were channelled through them. Royal burghs formed the largest towns, and as a group they were in a stronger position than other burghs for they had a powerful assembly, the Convention of Royal Burghs, to represent their interests in Parliament. There was thus a hierarchy of market centres in respect of internal trading similar to those which have been described in

modern times,¹³ though it is difficult to define its various levels with precision. The importance of the larger burghs was emphasised by their possession of more than one market day per week.¹⁴ In some cases the most important towns had a specialisation of market functions with particular commodities being sold in specific locations on a certain day.¹⁵

Not all trading went through the burghs, however, as almost any set of estate accounts demonstrates. Rural craftsmen existed in every community,¹⁶ and must have engaged in many transactions which did not involve attendance at an official market or fair. There was also a redistribution of produce within estates, which acted as partly-closed economic communities.¹⁷ This is not, however, incompatible with a formal framework of burghs. Given the uneven scatter of market centres that existed in Scotland in 1600 (Figure 1) there was an obvious need for a system of direct exchange between producer and consumer at a local level. As was the case in Northern England at this time, such transactions were probably acceptable to the burghs.¹⁸ It was the re-selling of goods by middlemen operating outside the burghs, and the practice of burgesses trading direct with people in the landward areas, and not under supervision in the market place, that infringed burghal liberties.

The commodities which made up the volume of internal trade passing through the burghs are not often mentioned specifically but can be reconstructed in broad terms. Agricultural produce must have accounted for a high proportion of the flow: grain, livestock, dairy products, wool, hides etc. Whatever complex patterns of exchange existed at local levels there was always an interchange, by means of the burghs, between predominantly arable and pastoral areas. Raw materials such as salt, iron, timber and coal formed another important category. Coastal districts supplied fish and textiles were widely produced, while the royal burghs imported luxuries such as wine, fine textiles and high-quality manufactured goods for the upper strata of society.

THE DISTRIBUTION OF MARKET CENTRES

Figure 1 shows the distribution of authorised market centres in Scotland in 1600. Concentrations are evident around the Firth of Forth, in North Lanarkshire, Central Ayrshire, the Solway and Tweed lowlands, and throughout the east coast lowlands from Fife to the Moray Firth. These were the areas with most high-quality arable land, and probably the highest population densities. Outside these districts the country was poorly served. 41% of mainland Scotland was over 20km. from a market centre. If markets are considered in relation to area on a county basis, then a broad belt from Wigtown to the Lothians and Kincardine had one centre per 250 sq. km. or less while areas like Sutherland had under one centre per 5,000 sq. km. Many parts of the Southern Uplands and nearly all the Highlands and Islands must have been beyond convenient reach of a market centre save for very occasional transactions such as attendance at an annual fair. For this purpose the Highlands were traditionally served by a string of market centres along the Highland edge from Dumbarton to Inverness.¹⁹ The restricted provision of marketing facilities over much of the country points to an economy dominated by regional and local self-sufficiency, with most transactions being of the direct producer-consumer variety, occurring outside the burghs.

Figure 2 shows the progress of foundation of new market centres from



Fig. 1—Distribution of Authorised Market Centres in Scotland in 1600.

the 1550s onwards. While there was little activity in the troubled years of the mid sixteenth century, the number of new foundations increased considerably in the period of peace and modest prosperity that occurred during the reign of James VI. 84 new centres were established during the first 30 years of the seventeenth century, but then the disruption of the Civil Wars and the

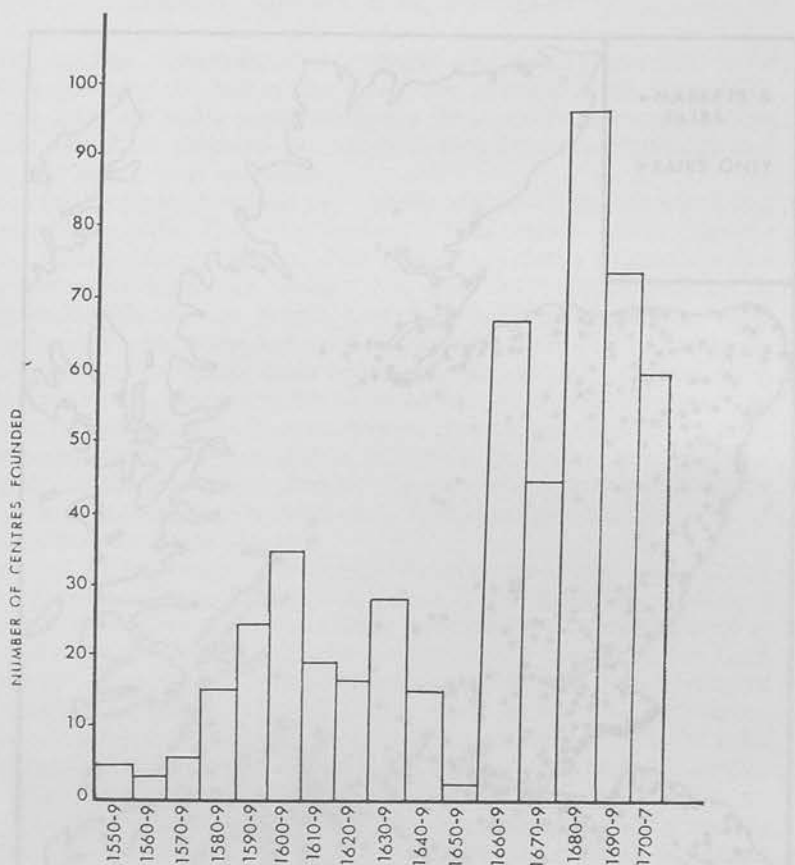


Fig. 2—Authorisation of new market centres, 1550-1707.

Cromwellian occupation had a serious effect on the Scottish economy;²⁰ it is not surprising that few centres were authorised during the 1640s and 1650s. The market centres which were founded in the first half of the seventeenth century were mainly located in areas which were already relatively well served and there was little expansion of the network into more remote districts. However, after 1660 there was a dramatic change and the number of new foundations reached an unprecedented level between the Restoration and the Union of 1707. 143 new centres had been established between 1550 and 1660: 346 were authorised between 1660 and 1707.

These post-Restoration foundations represent a break with tradition in several ways. Firstly, their distribution was markedly different from the previous pattern. Some were established in regions which were already comparatively well served, but many were set up in remote areas, particularly in the Highlands (Figure 3). By 1707 new market centres had been founded on all the larger islands of the Inner Hebrides from Arran to Skye, as well as in Lewis. In 1600 the mainland of the West Highlands had been served

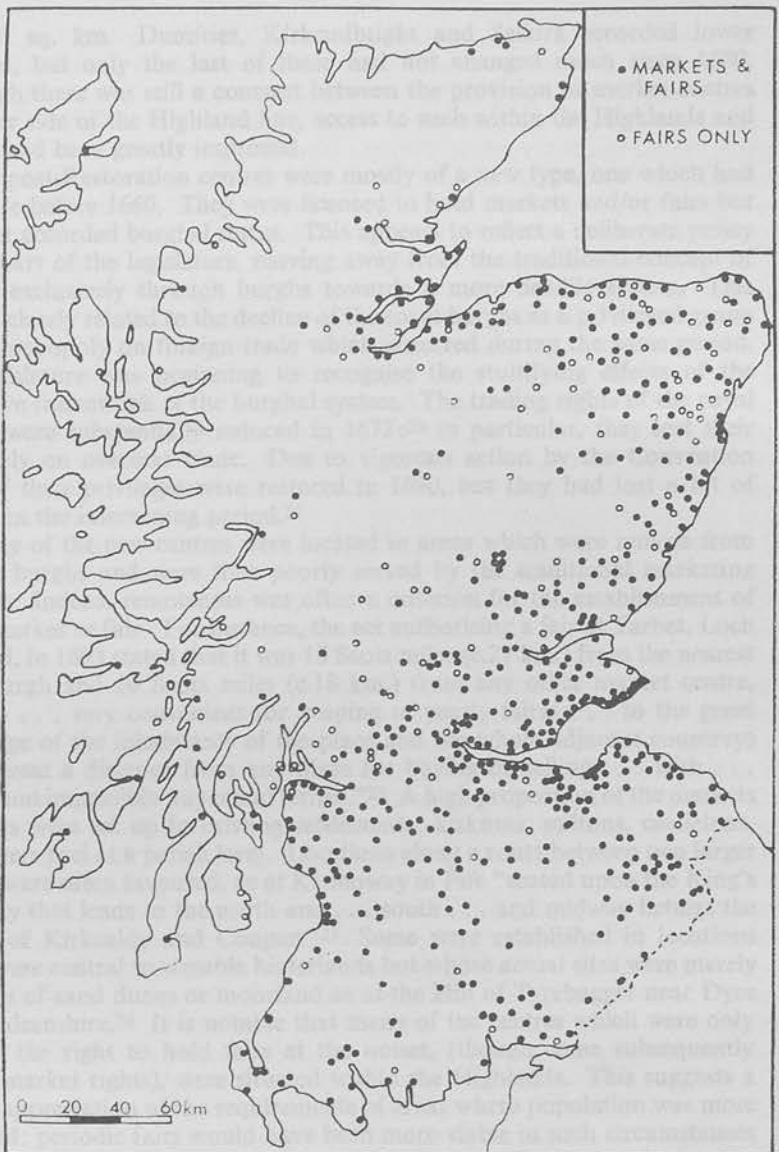


Fig. 3—Distribution of authorised market centres in Scotland in 1707.

by only two centres, Inverary and Campbeltown. Between 1660 and 1707 nearly a score of new centres were founded in Argyll, Lochaber and even Wester Ross. The interior of Perthshire, Inverness-shire and the Southern Uplands were far more effectively served than before. By 1707 only 18% of mainland Scotland was over 20km. from a market centre. Every Lowland county from the Solway to the Moray Firth had a density of over 1 centre

per 150 sq. km. Dumfries, Kirkcudbright and Selkirk recorded lower densities, but only the last of these had not changed much since 1600. Although there was still a contrast between the provision of market centres on either side of the Highland line, access to such within the Highlands and Islands had been greatly improved.

The post-Restoration centres were mostly of a new type, one which had been rare before 1660. They were licensed to hold markets and/or fairs but were not accorded burghal status. This appears to reflect a deliberate policy on the part of the legislature, moving away from the traditional concept of trading exclusively through burghs towards a more flexible system. This trend is clearly related to the decline of the royal burghs as a privileged group with a monopoly on foreign trade which occurred during the same period. The legislature was beginning to recognise the stultifying effects of the restrictive framework of the burghal system. The trading rights of the royal burghs were substantially reduced in 1672:²⁰ in particular, they lost their monopoly on overseas trade. Due to vigorous action by the Convention some of their privileges were restored in 1690, but they had lost a lot of ground in the intervening period.²¹

Many of the new centres were located in areas which were remote from existing burghs and were thus poorly served by the traditional marketing network. Indeed, remoteness was often a criterion for the establishment of a new market or fair. For instance, the act authorising a fair at Tarbet, Loch Lomond, in 1693 stated that it was 15 Scots miles (c.27 km.) from the nearest royal burgh and 10 Scots miles (c.18 km.) from any other market centre, "and so . . . very convenient for keeping of yearly faires . . . to the great advantage of the inhabitants of the place and the whole adjacent countreys at soe great a distance from any place for buying or selling . . . with . . . rugged and impassible wayes and ferries."²² A high proportion of the markets and fairs were set up in existing settlements; kirktons, miltons, castletons, which were foci at a parish level. Locations along a route between two larger centres were often favoured, as at Kennoway in Fife "seated upon the King's high way that leads to the north and . . . south . . . and midway betuixt the burghs of Kirkcaldy and Coupar."²³ Some were established in locations which were central to sizeable hinterlands but whose actual sites were merely stretches of sand dunes or moorland as at the Hill of Tyrebagger near Dyce in Aberdeenshire.²⁴ It is notable that many of the centres which were only granted the right to hold fairs at the outset, (though some subsequently gained market rights), were situated within the Highlands. This suggests a proper appreciation of the requirements of areas where population was more scattered; periodic fairs would have been more viable in such circumstances than weekly markets.

Although many of the new centres were relatively remote they still had a significant effect on the trade of old-established lowland and coastal burghs by intercepting traffic which might otherwise have gone to them. This was the case with Dingwall, whose burgesses were complaining by the end of the century that most of the town's internal trade had been captured by half a dozen new centres situated a few kilometres inland at the mouths of the Highland straths.²⁵

However, other centres were founded much closer to existing burghs. In

such situations competition was direct and obvious. For example, in 1707 Stirling protested at the establishment of two fairs in the barony of Balquidrock within two miles of the town, in contravention of an earlier charter.²⁶ By the end of the seventeenth century many royal burghs were feeling the impact of the post-1660 foundations and of the burghs of barony which had been created earlier in the century. In a report on the state of the royal burghs, prepared by the Convention in 1692, 20 burghs complained in varying degrees of a decline in their landward trade due to competition from other centres.²⁷ In the case of towns like Renfrew, Rutherglen and Pittenweem, where this occurred, the number of competing centres in their vicinity must have reached, or passed, saturation point. The royal burghs which claimed little prejudice from the new centres were mostly in fairly remote locations: Rothesay, Stranraer, Selkirk, Whithorn, where market centres were still thinly scattered.²⁸ The burgesses of an old-established burgh like Lanark could name 13 more recently founded centres in the vicinity, all of which had markets and fairs, and most of which were better attended than their own.²⁹

On the other hand, many of the post-1660 centres were set up specifically to provide local trading facilities at parish level in areas of relatively sparse population. Many acts state that due to the distance from existing centres "the inhabitants in these bounds are put to great trouble and expensis in the provideing of themselves with such things as are necessary to them."³⁰ The volume of trade handled by most of them must have been small. The example of Painstoun (Penston) in East Lothian is illuminating. In 1690 a market and two fairs were established there solely to serve 80 colliers and their families who were so tied to their work that they could not attend markets at Tranent, 4km. away.³¹ The limited mobility of large sectors of the population at this period must be taken into account when attempting to assess the viability of the rash of new centres which appeared in areas such as the Lothians. Nor must it be forgotten that the trade of many older burghs was also modest. In 1692 Brechin, not a front-rank royal burgh, but still 28th out of 66 in the tax lists of 1690,²¹ described its internal trade as being "verie mean and small" consisting of 8 or 10 traders retailing mainly to the inhabitants of the town itself.³²

By 1707 then, Scotland was served by a network of market centres which was not only more dense but also more widespread than it had been in 1600. Yet how closely does this official network reflect the real patterns of trade which existed? Two main influences are likely to have caused a difference between the theoretical and real situations. Firstly, some of the authorised centres may have been established as mere prestige symbols which never functioned in reality, and others, founded in good faith, may have languished through an unfortunate choice of location or other detrimental influences. Secondly, studies of periodic market centres in Northern England have revealed the existence of unlicensed centres which had grown up by custom but which were not officially recognised and only appear in sporadic chance references.³³ Did such centres play a role in internal trading in Scotland?

These problems will be considered in more detail in the case study below, but at the national level it is hard to judge their significance. This is due to the paucity of evidence relating to the volumes of trade handled, or the revenues obtained, by most centres. The records of many royal burghs and

some burghs of barony may provide sporadic data. The contribution of individual royal burghs towards their overall tax assessment allows a rough hierarchy of relative success to be established for this small group. However, for hundreds of other centres which were notionally in existence by 1707, we have no records at all beyond those of their original authorisation. Undoubtedly there must have been failures both in this century and in earlier times. Many of the centres which were established during the seventeenth century faded away with the improvement of communications in later times. However, it is not easy to identify those which declined, or were stillborn, during the seventeenth century itself. Some instances of decline are well known: the royal burgh of Kincardine had disappeared by the early seventeenth century, its judicial functions having been taken over by Stonehaven and its trade captured by centres like Fettercairn.³⁴ At an earlier date, Roxburgh had succumbed to enemy action.³⁵ Other market centres were a reality only on paper, their founding charter never having been translated into stone and mortar on the ground. Pryde considered that this was most likely to have occurred where burghal or market rights were granted for an unspecified site.¹¹ In some instances the intention to create a viable market centre was probably genuine, the site actually having been chosen and building plots demarcated, but the settlement failing to prosper. Thus the laird of Penkill received authorisation for the establishment of a market centre "whose situation and streets he designed and marked out in those barren sands on the south side of the water mouth of Girvan and erected a pole for the crosse thereof but his design never took effect, not an house being built there . . ."³⁶ In other cases there was probably no serious attempt to found a centre for which rights had been granted. This was probably the case in upper Strathardle in Perthshire. Here, four burghs of barony, Balnakilly, Balnald, Dalnagairn and Kirkmichael, were established in 1510-11 in close proximity, three of them belonging to a single landowner.³⁷ This was probably the result of rivalry between two landowners, Wemyss of Wemyss and Scott of Balwearie,¹¹ rather than a real attempt to create a choice of centres.

On the other hand there is evidence of the existence of markets and fairs which had not been officially authorised. In the 1692 report, 24 out of the 129 centres which are specifically named as being in competition with particular royal burghs have no record of foundation. This unofficial sector of trading thus seems to have been widespread. It was accompanied by the rise of merchants operating outside the burghal system but sufficiently close to the burghs to affect their trade. For instance, in 1692 Brechin complained about ten individuals in six neighbouring parishes who were operating illegally in this manner.³⁸ That such traders commanded support from within the burghs themselves is shown by cases such as the one at Tain in 1663 when the brewers of the burgh were accused of buying their malt direct from traders in the landward parishes, thereby evading market tolls.³⁹ The existence of this unofficial sector suggests that the lower levels of the formal trading hierarchy were not operating effectively enough or that burghal controls were resented, but that a need was still felt for a formal structure of markets and fairs on a regular basis. One reason behind the proliferation of non-burghal centres after 1660 may have been the desire of the legislature to bow to the inevitable and give official recognition to centres which were

already functioning illegally. Another could have been the opportunism of landowners trying to profit from this trade by having it legalised under their patronage so that they could charge tolls.

THE ECONOMIC BACKGROUND TO THE EXPANSION OF MARKET CENTRES

What was the economic background to the rapid expansion of market centres after 1660? Theoretically, two main influences could have been involved. Firstly, the increase could have been caused by a redistribution of the existing volume of trade. Alternatively, there could have been a real growth of trading activity. The 1692 report suggests that an element of the former was present, with some royal burghs losing their landward trade to the new centres. Overall, however, it is probable that there was a substantial expansion of trading. In 1698, Sir Robert Sibbald, Geographer Royal for Scotland and one of the most perceptive commentators of his day, wrote that there had been a substantial increase in both urban and rural population in Scotland since the sixteenth century which had more than offset losses by emigration.⁴⁰ He mentioned a significant growth in agricultural production due to the adoption of liming and the expansion of the arable area, and a corresponding rise in industrial activity. Little alternative evidence is as yet available concerning population trends in Scotland at this time but agricultural and industrial growth is confirmed from other sources.⁴¹ The overall picture is of an expanding economy with increasing commercialisation in agriculture, creating a greater demand for produce for processing, food and export. A denser and more effective network of market centres would have been essential to handle the increased volumes of food and other commodities which were circulating.

A CASE STUDY FROM PERTHSHIRE

The relationships between established and upstart centres, and the extent to which they interacted as part of an integrated hierarchy can best be illustrated by a detailed case study. The report prepared by the royal burgh of Perth in conjunction with the commissioners from the Convention in 1692 gives considerably more detail about the activities of other market centres within the commercial hinterland of Perth than any other report. It includes an estimation of the value of trade handled by various market centres in the county. It must be emphasised that these figures are only estimates. The figures for other centres may have been deliberately inflated compared to that of Perth in order to emphasise the burgh's difficulties. However, bearing this in mind, it is likely that the figures give a reasonably accurate guide to the relative importance of the other market centres within Perthshire. Fig. 4 shows the hierarchy of market centres in Perthshire in 1692 based on the report. The older centres, despite complaints of competition, still handled a substantial proportion of the internal trade. Royal and other burghs founded before 1600 controlled an estimated 51% of the trade, and those founded between 1600 and 1660 a further 29%. Only 16% was handled by post-Restoration foundations and, of this, nearly half passed through a single centre, Crieff. Mean turnover for the pre-1600 centres was £6,100 Scots, for the 1600-1660 centres £4,330 Scots and for the post-1660 centres £1,380 Scots.

The locations of the highest-ranking centres were exclusively Lowland,

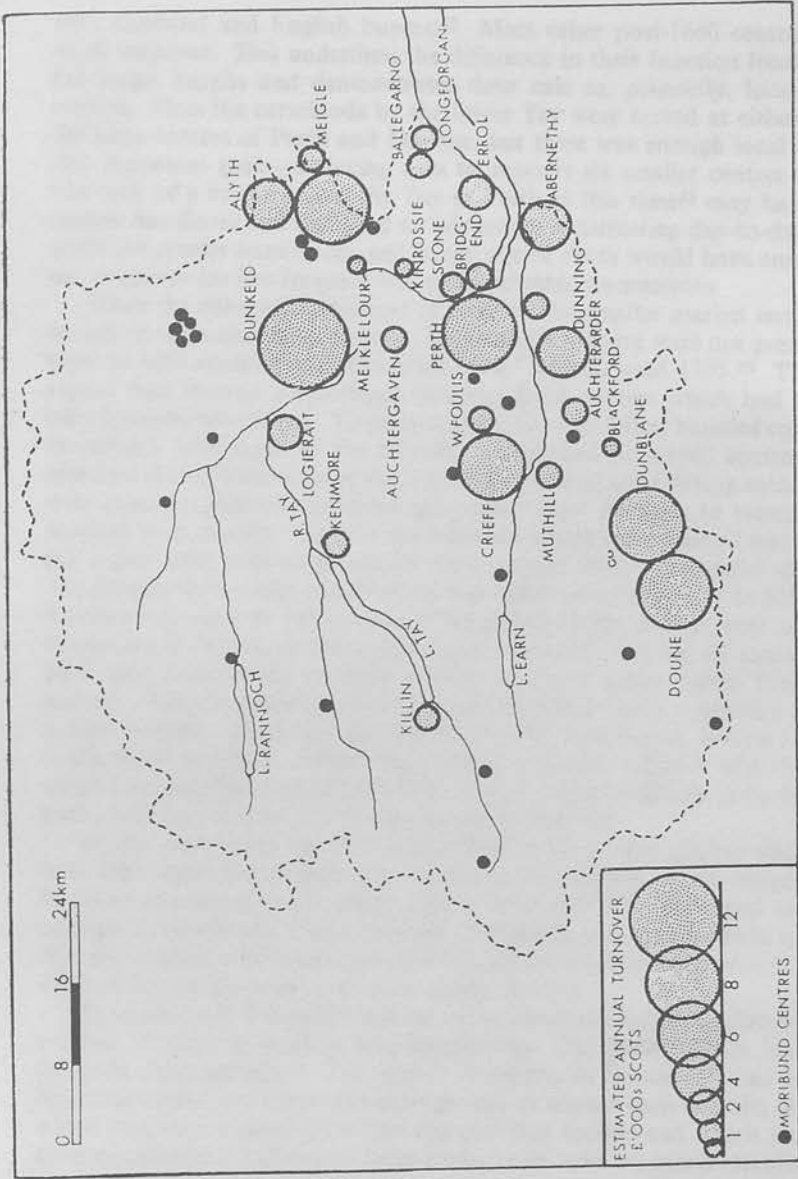


Fig. 3—Trade handled by Perthshire market centres in 1692.

but in situations commanding the major exits from the Highlands: the Tay valley, the Stirling gap, the Angus glens. This emphasises the traditional significance of the siting of market centres along boundaries between contrasting economic regions.³³ Of the centres which had been authorised since 1660 the most successful was Crieff. This was probably due to the rise of the droving trade from the Highlands to England. By the end of the century the fairs of Crieff had become a major meeting place of Highland drovers

with Lowland and English buyers.⁴² Most other post-1660 centres had a small turnover. This underlines the difference in their function from that of the larger burghs and demonstrates their role as, primarily, local service centres. Thus the carselands by the lower Tay were served at either end by the large centres of Perth and Dundee, but there was enough local trade in this important grain-producing area to support six smaller centres as well. The lack of a bridge across the Tay at Perth at this time⁴³ may have given centres like Scone and Bridgend an advantage in attracting day-to-day traffic while the greater importance and larger size of Perth would have ensured its pre-eminence for less frequent but more valuable transactions.

When the dates of foundation of some of the smaller market centres are examined some anomalies emerge. Killin and Kenmore were not granted the right to hold markets and fairs until 1694,⁷ Muthil until 1705.⁴⁴ The 1692 report thus records a significant turnover from centres which had not yet been formally recognised. The amount of trade which they handled compared favourably with some of the officially established post-1660 centres. This confirms that at least some of the Acts of Parliament establishing such centres were confirmations of the status quo rather than attempts to create viable markets from scratch. Many of the locations which were granted market and fair rights after 1660 must already have proved their commercial viability. The Breadalbane estate papers show that cattle were being sold at Killin and Kenmore as early as 1663, some 30 years before the centres were officially recognised.⁴⁵ We should thus beware of necessarily writing off many of the post-1660 foundations as mere prestige symbols which never functioned actively. The existence of customary centres which never received a charter is also evident. There are no records for the foundation, before 1707, of Bridgend or Kinrossie. These two centres, however, together with the three which were only recognised after 1692, played only a small role in Perthshire's trade, handling a mere 3% of the estimated turnover.

On the other hand the 1692 report fails to list several centres which had been authorised before that date. It was in the interests of the burgesses of Perth to enumerate every centre which competed with them and to over-estimate the trade which they handled. Therefore, it is reasonable to suppose that any centres which were not listed must have been totally moribund or else had too insignificant a trade to cause concern.

Thus, although Perthshire was served by 26 viable market centres in 1692, another 20 were apparently non-functioning. Did these failures have any common characteristics? The cluster of centres in Strathardle has already been mentioned and forms one clear group. A second class consists of those which had been authorised within the previous decade and which may not have established a sufficiently large turnover to have attracted attention. A common factor with several of these is remoteness: Kinloch Rannoch, Innerwick, Strathfillan and Soy for example, and their possession of rights to hold only fairs and not markets. This might have reduced the revenues of the centres and could have impaired their viability. Equally, their remoteness might have obscured their activities from the burgesses of Perth. The burgh of Keithick, belonging originally to the abbey of Coupar Angus, probably declined after the Reformation if not before. Other more recently authorised centres may have languished because they were too close to existing markets.

Monzie, sandwiched between the rapidly growing centre of Crieff and the smaller but still successful Wester Foulis, does not appear to have prospered despite the advantage of its Tuesday market forestalling that of Wester Foulis and Crieff on Thursday.

CONCLUSION

This study has examined the changing pattern of periodic market centres in Scotland during the seventeenth century at a general level and has related it to economic growth over the same period. However, it has also brought out some of the difficulties involved in examining the geography of market centres in past periods. One of the most important of these is the difficulty of moving from a pattern of equally-weighted dots on a distribution map, representing the theoretical, formal framework of trading, to the actual network which existed. The official pattern is distorted by differences in the importance of individual centres due to the existence of a hierarchy which may be hard to reconstruct. It is also altered by the non-functioning of many officially authorised centres and the successful operation of customary centres. The case study has shown that the latter may be of limited importance in terms of overall trade, but that the proportion of non-operative centres could be disturbingly high (up to 43%). Limitations of the data prevent quantitative and often even qualitative assessments of the success or failure of individual centres. However, it is emphasised that this is merely a preliminary survey outlining some of the influences which shaped the network of market centres and discussing some of the problems involved in its study. Other possible approaches are available at the regional and local level. Estate papers, burgh records and other sources contain data which might allow the market hinterlands and importance of particular centres to be established in some detail. The difficulty here is that such sources cannot provide a complete picture of the real situation even over a limited area. Nevertheless, it is probable that enough material exists to allow the character of internal trading in seventeenth-century Scotland to be established with much more certainty.

¹ R. Bromley. Markets in the Developing Countries—a Review. *Geography* 56, 1971, 124.

² Many of these are cited in R. Bromley (1971) *op. cit.*

³ R. Mitchison. *A History of Scotland*. London 1971, p. ix. I. A. Crawford. The Divide Between Medieval and Post-Medieval in Scotland. *Post Medieval Archaeology* 1, 1967, pp. 84-9.

⁴ Eg. A. Ballard. The Theory of the Scottish Burgh. *Scot. Hist. Rev.* 13, 1916, pp. 16-29. W. M. Mackenzie. *The Scottish Burghs*. Edinburgh 1949, p. 92. T. C. Smout and A. Fenton. Scottish Agriculture Before the Improvers—An Exploration. *Agr. Hist. Rev.* 13, 1965, p. 79. S. G. E. Lythe and J. Butt. *An Economic History of Scotland 1100-1939*. Glasgow 1975, p. 25.

⁵ Register of the Great Seal of Scotland, 11 vols. Edinburgh 1912 onwards.

⁶ The Acts of the Parliaments of Scotland, 11 vols London 1824-44.

⁷ G. S. Pryde. *The Burghs of Scotland—a Critical List*. Glasgow 1965.

⁸ J. D. Marwick. List of Markets and Fairs Now and Formerly Held in Scotland. London 1890.

⁹ Acts of the Parliaments of Scotland (henceforth A.P.S.) VII 481a, X 110a.

¹⁰ This is shown by the efforts which were made to avoid clashes—e.g. at Newton Stewart in 1696 (A.P.S. X 110a) where the Friday market was stated to “interfer with the weekly markets of severall other adjacent places.”

¹¹ G. S. Pryde (ed.). The Court Book of the Burgh of Kirkintilloch 1658-1694. *Scot. Hist. Soc.* 1963, pp. xxxiii, xxxvi.

¹² W. M. Mackenzie (1949) *op. cit.*

¹³ Eg. E. D. Scott. The Spatial Structure of Rural Northern Nigeria. *Econ. Geog.* 48, 1972, p. 316. W. McKim. The Periodic Market Structure in North Eastern Ghana. *Econ. Geog.* 48, 1972, pp. 334-6.

- ¹⁴ Edinburgh had markets on six days in the week in the early part of the seventeenth century though this was later reduced to avoid profaning the Sabbath. A.P.S. IV, p. 297 (1640).
- ¹⁵ Glasgow, for instance, had separate meal, salt and livestock markets in the mid seventeenth century. A.P.S. IV, p. 297 (1640).
- ¹⁶ Eg. List of Pollable Persons within the Shire of Aberdeen, 1696. Spalding Club, 2 vols., 1844.
- ¹⁷ The economic role of the estate at this period is discussed in I. D. Whyte *Agrarian Change in Lowland Scotland in the Seventeenth Century*. Unpub. Ph.D. Thesis, Univ. of Edin., 1974, ch. 8.
- ¹⁸ G. H. Tupling. *Lancashire Markets in the Sixteenth and Seventeenth Centuries*. Part II. *Trans. Lancs. and Cheshire Antiq. Soc.* 59, 1947, pp. 5-8.
- ¹⁹ T. Keith. *The Economic Condition of Scotland Under the Commonwealth and Protectorate*. *Scot. Hist. Rev.* 5, 1908, pp. 273-84.
- ²⁰ T. C. Smout. *A History of the Scottish People 1560-1830*. London 1969. p. 147.
- ²¹ J. D. Marwick (ed.). *The Records of the Convention of the Royal Burghs of Scotland*. IV 1880, p. v-vi.
- ²² A.P.S. IX, p. 184b (1693). ²³ A.P.S. IX, p. 439b (1681). ²⁴ A.P.S. XI, p. 237a (1707).
- ²⁵ Register Containeing the State and Condition of Every Burgh Within the Kingdome of Scotland in the Year 1692. In J. D. Marwick (1880) op. cit., p. 660.
- ²⁶ A.P.S. XI, p. 276a (1707). ²⁷ Burgh Reports of 1692, op. cit., pp. 563-667.
- ²⁸ *Ibid.*, pp. 626, 645, 649, 667. ²⁹ *Ibid.*, pp. 632-5.
- ³⁰ A.P.S. VII, p. 75a (1672). ³¹ A.P.S. IX, p. 217a (1690).
- ³² Burgh Reports of 1692, op. cit., p. 575.
- ³³ B. E. Coates. *The Origin and Distribution of Markets and Fairs in Medieval Derbyshire*. *Derbyshire Archaeological Journal* 85, 1965, pp. 92-111. G. H. Tupling. *The Origins of Markets and Fairs in Medieval Lancashire*. *Trans. Lancs. and Cheshire Antiq. Soc.* 49, 1933, pp. 87-92.
- ³⁴ A. Small. *The Villages of the Howe of the Mearns*. *Folk Life* 4, 1966, pp. 22-9.
- ³⁵ Royal Commission on the Ancient and Historical Monuments of Scotland. Roxburgh, vol. I, H.M.S.O. 1956, p. 257.
- ³⁶ Macfarlane's Geographical Collections, Ed. A. Mitchell. *Scot. Hist. Soc.*, 1908, II. p. 13.
- ³⁷ Register of the Great Seal of Scotland, VII, nos. 3472, 3636.
- ³⁸ Burgh Reports of 1692, op. cit., p. 611.
- ³⁹ W. MacGill. *Old Ross-shire and Scotland*. Inverness 1911, II., p. 28.
- ⁴⁰ Sir Robert Sibbald. *Discourse Anent the Improvements May Be Made in Scotland . . . 1698*. National Library of Scotland MSS., 33.5.16.
- ⁴¹ T. C. Smout. *Scottish Trade on the Eve of the Union, 1660-1707*. Edinburgh 1963, passim. T. C. Smout and A. Fenton (1965), op. cit. passim. I. D. Whyte (1974), op. cit. passim.
- ⁴² A. R. B. Haldane. *The Drove Roads of Scotland*. London 1952, p. 135.
- ⁴³ H. R. J. Inglis. *The Roads and Bridges in the Early History of Scotland*. *Proc. Soc. Antiq. Scot.* 47, 1912-13, p. 324.
- ⁴⁴ A.P.S. XI, p. 275a (1705).
- ⁴⁵ Scottish Record Office. Breadalbane muniments GD 112 9 15.

NEWBIGIN PRIZE 1979

The Newbiggin Prize of £50 is offered for the best essay, suitable for publication in the Scottish Geographical Magazine and not exceeding 7000 words, on any subject relating to Scotland. Two copies of essays for the prize should be submitted to The Secretary, Royal Scottish Geographical Society, 10 Randolph Crescent, Edinburgh, EH3 7TU, not later than December 31st, 1979.

LIVINGSTONE GOLD MEDAL

The Council of the Royal Scottish Geographical Society announce the award of its Livingstone Gold Medal to Professor Ronald F. Peel, Professor Emeritus of the University of Bristol, in recognition of his important contributions to the study of arid lands, including in particular his work in Africa.

Infield-outfield farming on a seventeenth-century Scottish estate

Ian Whyte

Infield-outfield farming in pre-eighteenth-century Scotland has been dismissed as a uniformly extensive, low-yield system of cultivation forming an adjunct to a basically pastoral economy and incapable of improvement and evolution. There are, however, grounds for believing that this model is over-generalized and reflects a lack of detailed studies of the primary sources. A particularly well-documented example of a mid-seventeenth century field system is available for the Dundas estates near Edinburgh. The evidence for this estate indicates that infield-outfield farming had evolved into a relatively intensive system in which animal husbandry played a minor role and which concentrated on grain production. The ways in which this system evolved are then considered and the implications in terms of a re-evaluation of the traditional model of the development of Scottish field systems are explored.

Scottish infield-outfield farming has been depicted as primitive by many previous writers. As Dodgshon and Whittington have recently emphasized, however,^[1] studies of pre-Improvement Scottish field systems have relied heavily on eighteenth-century evidence, particularly the writings of the Improvers, and on late survivals of open-field systems in remote areas. The former source may be suspected of bias, the latter of being unrepresentative.

The traditional model of Scottish infield-outfield farming has assumed considerable uniformity throughout the country.^[2] The infield formed a small proportion of the cultivated area: fractions of a third to a seventh are often cited.^[3] Infield land was subjected to an unvarying rotation of bere (a hardy four-row barley) followed by two years of oats without any fallow, the bere receiving all the farmyard manure.^[4] The infield has been viewed as an adjunct to a basically

[1] R. A. Dodgshon, The nature and development of infield-outfield in Scotland, *Transactions of the Institute of British Geographers* 59 (1973) 1-3; G. Whittington, Field systems in Scotland, p. 531 of A. R. H. Baker and R. A. Butlin (Eds), *Studies of field systems in the British Isles* (Cambridge 1973)

[2] H. L. Gray, *English field systems* (Cambridge 1915) 162-70; H. Hamilton, *An economic history of Scotland in the eighteenth century* (Oxford 1963) 37-44; J. E. Handley, *Scottish farming in the eighteenth century* (Edinburgh 1953) 39; T. C. Smout, *A History of the Scottish people 1560-1830* (London 1972) 118-9

[3] H. Hamilton (1963), *op. cit.* 37; J. E. Handley (1953), *op. cit.* 41; J. A. Symon, *Scottish farming, past and present* (Edinburgh 1959) 21; H. G. Graham, *The social life of Scotland in the eighteenth century* (London 1937) 154

[4] S. G. E. Lythe and J. Butt, *An economic history of Scotland 1100-1939* (Glasgow 1975) 19; J. A. Symon (1959), *op. cit.* 20; J. E. Handley (1953), *op. cit.* 38-9; T. C. Smout (1972), *op. cit.* 118

pastoral economy, implying that the system was not geared to large-scale cereal production.^[1] The more extensive outfield was cropped by a system of temporary cultivation where plots were manured by the folding of livestock and were then cropped with oats until yields became uneconomic.^[2] The returns produced by such a system were assumed to have been uniformly low: yields of three, four or occasionally five to one being considered normal.^[3]

It has sometimes been admitted that variations existed: that wheat and legumes were grown in places,^[4] or that the proportion of infield was higher in particularly fertile areas.^[5] The implications of such differences have not been examined though. Studies of field systems elsewhere in Britain have stressed the complexity of regional variations yet uniformity has been assumed for Scotland.^[6] It is suggested that this reflects a lack of detailed studies of Scottish field systems rather than a homogeneous reality.

It is also possible that Scottish field systems evolved through time and that, as elsewhere in Europe, this development varied spatially. While the evolutionary character of English field systems has often been stressed,^[7] the supposed uniformity of Scottish infield-outfield farming has led to the belief that its development was in some way arrested.^[8] The sixteenth and seventeenth centuries have been treated as ones of rural stagnation and even decline in Scotland.^[9] But recent research has shown that important developments in agriculture occurred during this period.^[10] The adoption of new fertilizers, especially lime, the expansion of the arable area and increasing commercialization are all likely to have affected the character of field systems.^[11]

Details of field systems at this period are sparse; good documentation exists, however, for the Dundas estate near Edinburgh (Fig. 1). Two unusually informative sources are available. The first describes the cultivation of the Mains (or home farm) of Dundas from 1637 to 1662.^[12] The second is a survey of part of the estate specifying the crops grown by each husbandman.^[13] This paper attempts to reconstruct infield-outfield practices at Dundas in the mid-seventeenth century. The ways in which this system may have evolved are considered and the implications of this case study for the re-evaluation of the traditional model of Scottish infield-outfield farming are explored.

[1] G. Whittington (1973), *op. cit.* 532

[2] J. E. Handley (1953), *op. cit.* 38, 41; J. A. Symon (1959), *op. cit.* 21-2; T. C. Smout (1972), *op. cit.* 118

[3] T. C. Smout (1972), *op. cit.* 119-20

[4] G. Donaldson, *Scotland-James V-James VII* (Edinburgh 1965) 242; J. E. Handley (1953), *op. cit.* 39

[5] J. E. Handley (1953), *op. cit.* 39

[6] A. R. H. Baker and R. A. Butlin (1973), *op. cit. passim*; C. T. Smith, *An historical geography of Western Europe before 1800* (London 1967) ch. 4

[7] A. R. H. Baker and R. A. Butlin (1973), *op. cit.* 656-8

[8] I. B. Cowan, *The Scottish Covenanters 1660-88* (London 1976) 156

[9] J. A. Symon (1959), *op. cit.* 89-102; H. H. Lamb, *The changing climate* (London 1966) 163, 167

[10] T. C. Smout and A. Fenton, *Scottish agriculture before the Improvers—an exploration Agricultural History Review* 13 (1965) 73-93; I. D. Whyte, *Agrarian change in Lowland Scotland in the seventeenth century* (unpubl. Ph.D. thesis, Univ. of Edinburgh 1974)

[11] I. D. Whyte (1974), *op. cit.* 112-79, 371-411

[12] National Library of Scotland (henceforth N.L.S.) MSS 80.3.2, S.R.O. GD 30/612

[13] N.L.S. MSS 80.3.4

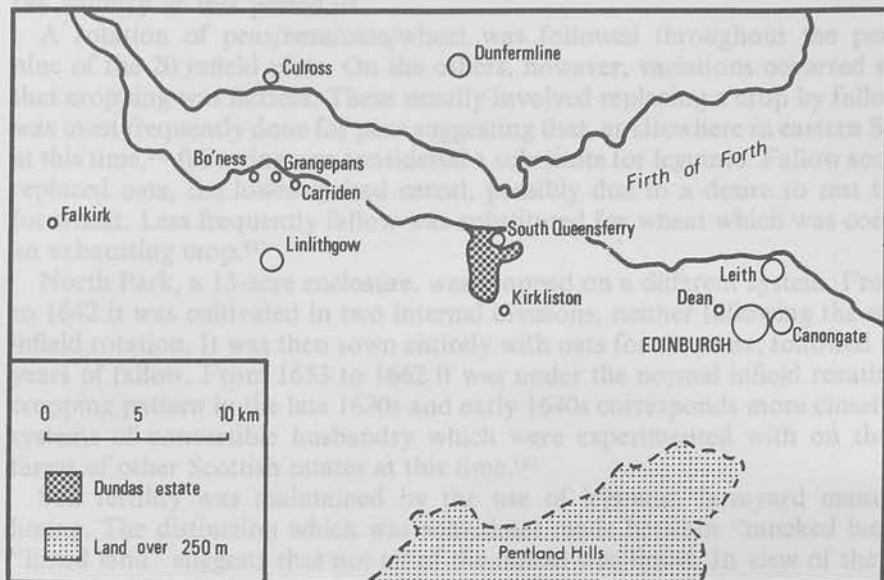


Figure 1. Location of the Dundas estate.

The Cultivation of the Mains of Dundas

Although the Dundas estate only extended to some 1,300 Scots acres^[1] of arable land with limited permanent pasture and natural hay meadow, its rich soils gave it a respectable rental. It was located only 12 km from Edinburgh which, with its satellites of Canongate and Leith, provided the largest market for agricultural produce in Scotland as well as being a major outlet for exports. The estate also possessed limestone and coal for lime burning. As will be discussed below, the availability of lime was important in intensifying farming at Dundas during the seventeenth century.

The Mains was worked by family servants and the labour services of tenants and their cottars.^[2] The arable of the Mains extended to about 220 Scots acres, infield comprising about 70% of this.^[3] Most of the infield plots were cultivated, between 1637 and 1662, with a rotation of legumes (peas and sometimes beans)/bere/oats/wheat.^[4] Four-course rotations of legumes/wheat/bere/oats are known from other parts of South-east Scotland at this period.^[5] In such rotations efforts were made to maximize the returns of wheat, the highest priced cereal by preceding them with legumes, an excellent preparation for wheat, especially when liming was practised.^[6] The rotation at Dundas is unusual in that bere, and occasionally

[1] The Scots acre equalled 1.26 statute acres; see I. H. Adams, *Agrarian landscape terms: a glossary for historical geographers* *Institute of British Geographers special publication number 9* (1976) 2

[2] The labour services of the tenants are set out in detail in the rentals—e.g. Scottish Record Office (henceforth S.R.O.) GD 30/612, N.L.S. MSS 80.3.2

[3] The sizes of most of the plots are given in S.R.O. GD 30/612 (Rental 1655). A few have been calculated approximately from the quantities of seed sown on them

[4] N.L.S. MSS 80.3.2, S.R.O. GD 30/612

[5] I. D. Whyte (1974), *op. cit.* 153

[6] J. A. S. Watson and J. A. More, *Agriculture—the science and practice of farming* (Edinburgh 1962) 316

two-row barley, followed legumes. The concentration on bere may have been due to the demands of the Edinburgh brewers, the largest consumers of bere in the country at this period.^[1]

A rotation of peas/bere/oats/wheat was followed throughout the period on nine of the 20 infield plots. On the others, however, variations occurred showing that cropping was flexible. These usually involved replacing a crop by fallow. This was most frequently done for peas suggesting that, as elsewhere in eastern Scotland at this time,^[2] fallowing was considered a substitute for legumes. Fallow sometimes replaced oats, the lowest-priced cereal, possibly due to a desire to rest the land for wheat. Less frequently fallow was substituted for wheat which was considered an exhausting crop.^[3]

North Park, a 13-acre enclosure, was cropped on a different system. From 1637 to 1642 it was cultivated in two internal divisions, neither following the standard infield rotation. It was then sown entirely with oats for six years, followed by four years of fallow. From 1653 to 1662 it was under the normal infield rotation. The cropping pattern in the late 1630s and early 1640s corresponds more closely to the systems of convertible husbandry which were experimented with on the home farms of other Scottish estates at this time.^[4]

Soil fertility was maintained by the use of legumes, farmyard manure and liming. The distinction which was sometimes made between "mucked land" and "limed land" suggests that not all of the infield was limed. In view of the limited number of livestock kept on the Mains (see below) animal dung was probably in short supply and lime may have been used in its place.

The accounts for the Mains give the amount of seed sown on each plot from 1637 to 1662 and the quantities of cereals harvested. The harvest is expressed in threaves of straw^[5] before threshing and not as actual quantities of grain produced. Conversion factors for straw into grain are, fortunately, available, allowing seed/yield ratios to be calculated^[6] (Fig. 2). The proportion of grain to straw would have increased in good years and decreased in poor ones so that the yields shown in Fig. 2 will be slightly lower than those which actually occurred in the best years and slightly higher than those in the worst.^[7] The mean yields for the 25-year period are probably reasonably accurate though.

Bere was the highest-yielding cereal with an overall average yield of 5.3 to 1. This masks some high yields from individual plots: returns of over 8 to 1 were obtained on 10 occasions. The average yield of infield oats was lower; 3.7 to 1, but returns fluctuated less from year to year. The fact that the overall mean yield of outfield oats, 3.5 to 1, was only marginally lower than for infield oats emphasizes the extent to which the distinction between infield and outfield was diminishing. The average return of wheat was only 3 to 1. This suggests that wheat would only have been viable for tenants where soils were particularly fertile or where heavy

[1] Register of the Privy Council of Scotland, third series (Edinburgh 1913) VII (1682) 484

[2] S.R.O. GD 26/2/1 court book 1636, N.L.S. MSS Minto muniments CB 144: lease 1658

[3] This is clear from a reference in the accounts in 1653. N.L.S. MSS 80.3.2

[4] The evidence for convertible husbandry is discussed in I. D. Whyte (1974), *op. cit.* 236-8

[5] A threave comprised 24 sheaves of corn. *Scottish National Dictionary*

[6] A. Fenton (Ed.) Skene of Hallyards manuscript of husbandrie *Agricultural History Review* 11 (1963) 68. Skene's estate lay only 4 km to the south of Dundas and conditions there are likely to have been comparable

[7] E. L. Jones, *Seasons and prices* (London 1964) 56-8

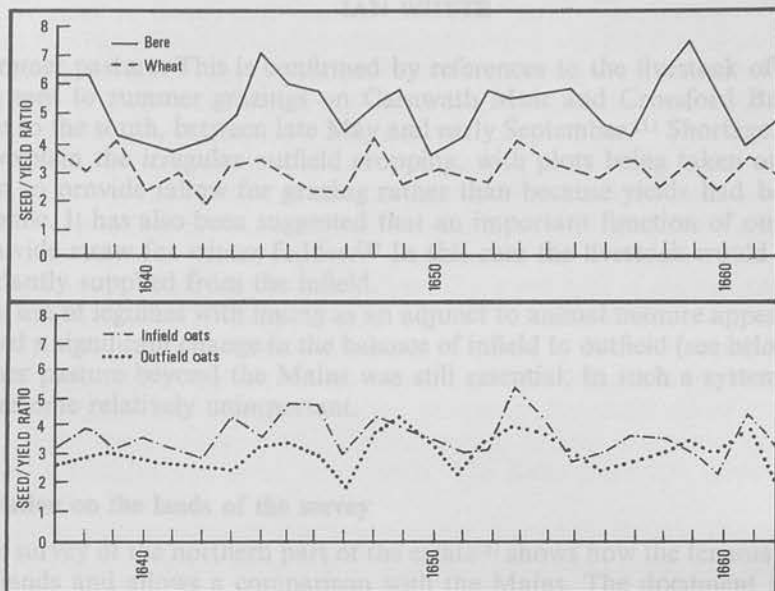


Figure 2. Crop yields on the Mains of Dundas 1637-1662.

inputs of fertilizers were available. While it was cultivated widely in eastern Scotland at this time,^[1] the evidence suggests that on many estates it was confined to a few farms on the best lands.

The seed/yield ratios suggest that returns at Dundas were not startlingly high but certainly an improvement on a break-even 3 to 1 yield. The most important point to bear in mind in relation to the traditional model of infield-outfield farming which has been described is the high proportion of the arable area over which such returns were obtained.

Due to the longer cycles of outfield cultivation (several years under oats and then under fallow) compared to the four-year infield cycle, it is harder to distinguish a pattern of cultivation. Even so, outfield cropping was irregular. To a greater extent than with the infield the impression is that each plot was treated individually. There was no overall rotation. An important feature of outfield cultivation was its intensity. In 65% of the cropping cycles the number of years under crop equalled or exceeded the subsequent period of fallow. Over half the outfield was in cultivation in any year.

The relationship between infield and outfield is crucial in assessing the character of arable farming on the Mains and the rest of the estate, and for determining the evolution of field systems at Dundas. It should be noted that outfield formed only about 30% of the arable of the Mains. If over half of this was under crop in any year, together with the infield, some 85% of the Mains might have been in cultivation at any time, indicating a strong orientation towards grain production. Animal husbandry played a minor role. The Mains supported only the work oxen and horses and a small flock of sheep.^[2] The intensity of cropping implies a shortage

[1] I. D. Whyte (1974), *op. cit.* 145

[2] N.L.S. MSS 80.3.18, 23, 24: accounts

of summer pasture. This is confirmed by references to the livestock of the Mains being sent to summer grazings on Carnwath Muir and Crossford Burn, nearly 25 km to the south, between late May and early September.^[1] Shortage of pasture may explain the irregular outfield cropping, with plots being taken out of cultivation to provide fallow for grazing rather than because yields had become uneconomic. It has also been suggested that an important function of outfields was to provide straw for winter fodder.^[2] In this case the livestock would have been abundantly supplied from the infield.

The use of legumes with liming as an adjunct to animal manure appears to have allowed a significant change in the balance of infield to outfield (see below) though summer pasture beyond the Mains was still essential. In such a system livestock had become relatively unimportant.

Cultivation on the lands of the survey

The survey of the northern part of the estate^[3] shows how the tenants cultivated their lands and allows a comparison with the Mains. The document is undated but can be assigned to the later 1630s or early 1640s by comparing the names of the occupiers with those in rentals. Over 300 Scots acres were involved, consisting entirely of infield. They were owned by the Laird of Dundas, the Earl of Haddington and several small feu-ferme proprietors. The pattern of occupancy was complicated, tenants of one or more landowners, feuars, and men holding lands in both feu and tenancy being intermingled.

Of the flats, or plots of land making up the area, eight were owned by Dundas, one by the Earl of Haddington, one by David Weson, and the remaining 22, by feuars and tenants of one or more proprietors. Proprietary and tenant runrig were thus intermingled. Superficially this might have made the use of intensive cropping systems difficult by enforcing communal practices. Individual plots were, however, relatively large. Eighty-three per cent of them had their areas recorded. Only 7% of these were under 1 Scots acre. Their compact nature must have encouraged efficiency and individual management.

Within each flat there was no uniformity of cropping. The unit of cultivation was the plot, or even subdivisions of this. Each flat was a patchwork of up to four different crops with occasional groups of rigs in fallow. No common rotation was operated and common dates for sowing and harvesting were probably impracticable. Communal grazing of the stubble after harvest would also have been difficult without temporary enclosures due to the widespread occurrence of rigs with winter-sown wheat.

As on the Mains, the crops grown were wheat, bere, oats and peas, though the acreage of wheat was smaller than those of the other crops. Fourteen per cent of the cultivators definitely used a four-course rotation as on the Mains, though it is uncertain whether the same sequence was followed. Another 10% grew wheat but sowed smaller acreages than for other crops: some of them may have held additional land outside the survey area. Forty-two per cent had equal or nearly equal acreages of bere, oats and peas. Rotations of bere/oats/peas were widely

[1] S.R.O. GD 75 473: records of grassing 1636-41

[2] G. Whittington (1973), *op. cit.* 534

[3] N.L.S. MSS 80.3.4

used by tenants in South-east Scotland at this time.^[1] The tenants who grew wheat did not pay it as rent so that wheat cultivation was not forced on them by their landlords as sometimes happened.^[2] Wheat growing may thus have reflected a perception of commercial opportunities, a balancing of the certainty of higher prices against the probability of lower yields.

Only 15% of the cultivators did not have part of their lands under peas. The estate accounts for the 1630s^[3] record the sale of lime to tenants and feuars listed in the survey: it is thus probable that the combination of liming and legumes used on the Mains was also practised by the tenantry.

Some rigs were designated "ley" or fallow. Eight per cent of the cultivators had small areas of infield in ley. In one case, as on the Mains, fallow seems to have been used instead of legumes. In other instances the area of fallow was smaller than that of any crop and it is not clear how such land was integrated into a rotation. Shortage of pasture may have encouraged fallowing. Several areas of permanent pasture existed, shared between the Dundas tenants or held in common between the Laird of Dundas and other proprietors. The indications are, however, that their extent was limited.

This system was only slightly less intensive than that on the Mains. The quantities of grain returned in teinds (tithes) and fermes (grain rents) show that the rest of the tenants used similar practices.^[4] Over the entire estate outfield made up only about 30% of the arable. While information is lacking on the systems of outfield cultivation used by the tenants, or the numbers of livestock which they owned, the high proportion of infield and the use of three- and four-course rotations with liming indicates an economy as closely geared to cereal production as on the Mains.

The evolution of field systems at Dundas

Infield-outfield farming at Dundas has only been considered so far over a short time period. To appreciate its wider implications for the evolution of Scottish field systems it is necessary to consider how such a system might have developed.

Apart from the Mains two categories of arable land can be distinguished at Dundas; land assessed in oxgangs^[5] and land measured in acres. The latter can be classified as infield or outfield by designation and by their rents, infield paying bere and outfield smaller quantities of oatmeal.

The assessed land, extending to 32 oxgangs, was grouped in five touns, Dalmeny, Duntervie, Echline, Over Newliston and Westmuir (Fig. 3), all save Echline being shared in proprietary runrig with other landowners. Dodgshon has argued that land within such a formal framework, cultivated only as infield, formed the original nuclei of arable land in the feuar settlements of Berwickshire and Roxburghshire which he studied.^[6] If the oxgangs of the five touns at Dundas were the core of

[1] I. D. Whyte (1974), *op. cit.* 153

[2] On the Leven estates in Fife for example—S.R.O. GD 26/5/6 Lease 1626

[3] N.L.S. MSS 80.3.43, 44, 45

[4] S.R.O. GD 30 612: teind returns

[5] R. A. Dodgshon, Infield-outfield and the territorial expansion of the English township *Journal of Historical Geography* 1 (1975) 327-46

[6] R. A. Dodgshon (1973), *op. cit.* 3-12

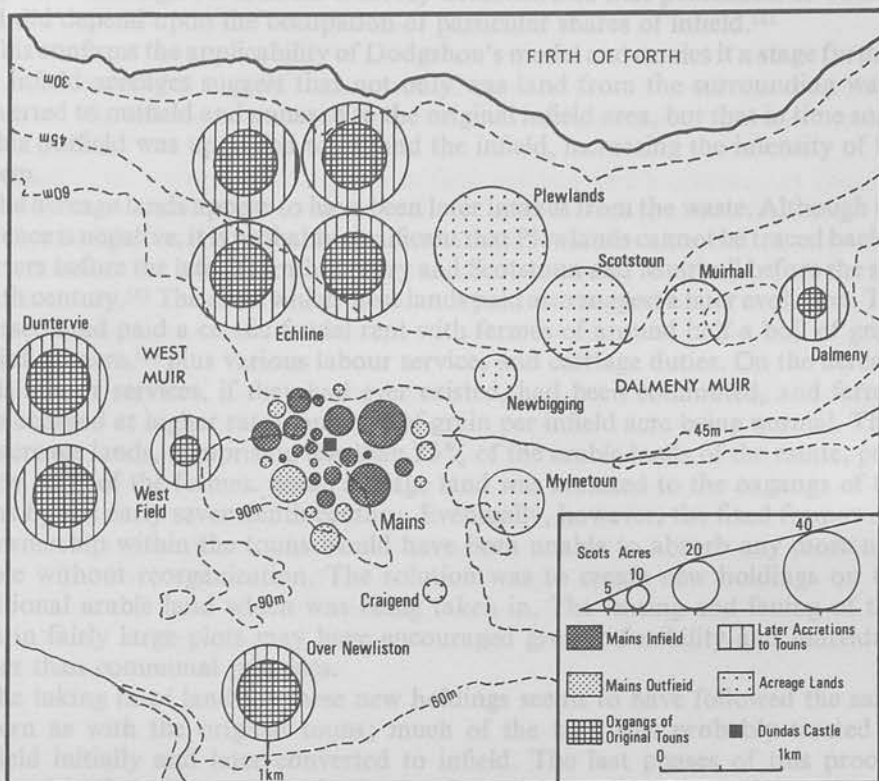


Figure 3. Evolution of field systems at Dundas.

the estate's arable land their origin can be traced back a long way. A charter granting Echline and the two oxgangs of Dalmeny indicates that these touns existed with this framework in the early thirteenth century.^[1] Dodgshon has shown that the basis of the husbandland, a unit equivalent to two oxgangs in some earlier Dundas charters,^[2] was 12–14 Scots acres of infield.^[3] One might expect that the oxgangs at Dundas would have consisted originally of 6–7 acres of infield. A survey of Echline in 1625 shows that two of the four-oxgang units conformed to this pattern,^[4] as did the two oxgangs at Dalmeny.^[5] The remaining oxgangs of Echline and Over Newliston had more infield than their formal framework would have led one to expect.^[6] All these oxgangs had additional outfield areas attached to them. Dodgshon has suggested that such land lay outside the original framework of the touns representing later intakes from the waste attached

[1] N.L.S. MSS 80.4.15 p. 81, no. 1: Abstract of charter

[2] *Register of the Great Seal of Scotland 1424–1513*, Ed. J. B. Paul (Edinburgh 1882) 73 Charter 316

[3] R. A. Dodgshon (1973), *op. cit.* 7–8

[4] N.L.S. MSS 80.4.1: mettage of the whole lands of Echline 1625

[5] S.R.O. GD 75 715: eighteenth-century transcript of mettage of Dalmeny 1625

[6] N.L.S. MSS 80.4.1

to specific holdings. At Dundas a survey demonstrates that possession of outfield land did depend upon the occupation of particular shares of infield.^[1]

This confirms the applicability of Dodgshon's model and carries it a stage further. The infield acreages suggest that not only was land from the surrounding waste converted to outfield and annexed to the original infield area, but that in time some of this outfield was upgraded to expand the infield, increasing the intensity of the system.

The acreage lands appear to have been later intakes from the waste. Although the evidence is negative, it is probably significant that Plewlands cannot be traced back in charters before the late fifteenth century and Scotstoun and Muirhall before the sixteenth century.^[2] The rents which these lands paid also suggest a later evolution. The assessed land paid a classic feudal rent with fermes of around half a boll of grain per infield acre,^[3] plus various labour services and carriage duties. On the acreage lands labour services, if they had ever existed, had been commuted, and fermes were charged at higher rates, one boll of grain per infield acre being normal. Thus the acreage lands, comprising less than 25% of the arable lands of the estate, paid nearly 45% of the fermes. Some acreage land was annexed to the oxgangs of the touns by the early seventeenth century. Eventually, however, the fixed framework of ownership within the touns would have been unable to absorb any more new arable without reorganization. The solution was to create new holdings on the additional arable land which was being taken in. The leasing and feuing of this land in fairly large plots may have encouraged greater flexibility and individual rather than communal practices.

The taking in of land for these new holdings seems to have followed the same pattern as with the original touns; much of the land was probably treated as outfield initially and later converted to infield. The last phases of this process occurred in the mid-seventeenth century. Scotstoun, extending to 65 Scots acres, contained 12 acres of outfield in 1637 but only two in 1655.^[4] By this time the expansion of infield had almost eliminated outfield from the acreage lands.

It is unlikely that the expansion of the infield, and the intensification of the system of cultivation from one more closely resembling the traditional model of infield-outfield farming, could have proceeded so far without liming, the introduction of which can be dated fairly precisely. The accounts indicate that the first kiln was fired in 1624, corresponding with the beginnings of liming elsewhere in the Lothians.^[5] Lime was used almost immediately by tenants and feuars as well as on the Mains.

Liming probably enabled more outfield to be upgraded to infield and certainly encouraged the modification of infield rotations. The reduction in soil acidity favoured the cultivation of legumes.^[6] Lime was specifically applied in preparation

[1] N.L.S. MSS 80.3.5: 'Note of the lying of the several ridges of the four oxen gate of land in Duntervie' etc. Undated, probably early seventeenth century

[2] N.L.S. MSS 80.4.1: transcripts of Dundas charters

[3] N.L.S. MSS 80.3.2: rental 1637; S.R.O. GD 30/612: rental 1655

[4] N.L.S. MSS 80.3.1, S.R.O. GD 30/612

[5] See: *Reports on the state of certain parishes in Scotland 1627* Maitland Club (Edinburgh 1835) *passim*

[6] J. A. S. Watson and J. A. More (1962), *op. cit.* 130-41

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for peas from 1625.^[1] This made wheat a more certain crop and the accounts confirm that liming allowed wheat to be sown on land which had not previously produced it.^[2]

Thus some features of the intensive field systems which operated at Dundas in the mid-seventeenth century were probably of recent origin. The high proportion of infield, the nearly universal use of legumes, and the adoption of four-course rotations on the Mains and by many tenants may have owed much to the introduction of liming a short time before. Unfortunately, the lack of evidence for the early seventeenth century makes it impossible to assess the extent of the transformation caused by liming.

Overall, one can postulate an evolution from an initial infield-only system, based on a framework of oxgangs and touns, going back beyond the thirteenth century. Gradually outfield was added to this, some of it later being converted to infield. By the seventeenth century the touns were incapable of handling further expansion of arable land and separate holdings were created on the acreage lands. The introduction of liming in the mid 1620s allowed an intensification of cultivation by the gradual elimination of outfield, while encouraging the spread of legumes and wheat. As an adjunct to animal manure, reducing the need for permanent pasture and outfield grazing, the combination of legumes and liming encouraged the intensification of the system.

Conclusion: an alternative model for infield-outfield development

The character of infield-outfield farming at Dundas and the evidence for its evolution suggests a need for reassessing the nature of Scottish field systems. The contention that infield-outfield farming was adapted to an essentially pastoral economy does not always hold good. At Dundas the system was geared towards grain production. It was neither inflexible nor incapable of evolution. In its classic form, infield-outfield farming was perhaps an adjunct to a pastoral economy, but where lime and legumes were added to animal manure it could evolve to a point where three- or four-course rotations operated over 70% or more of the arable area. Farming at Dundas, with its legume and occasional fallow courses, wheat production and liming, was more intensive than has been previously proposed for pre-eighteenth-century Scotland. Baker and Butlin have suggested that two- and three-course rotations were more intensive than infield-outfield systems.^[3] In general this was probably true, and where population pressure was low, Scottish field systems must have continued in their classic form into the eighteenth century with little modification. Where other factors were present, such as the demands of nearby urban markets and the availability of lime, it was possible for this system to evolve. Development did not take the form of a progression to a two- and then a three-course rotation as has been envisaged for medieval England.^[4] Instead, it followed a parallel evolution into what could ultimately, under favourable conditions, have been fairly well-balanced three- and four-course rotations operating

[1] N.L.S. MSS 80.3.42

[2] N.L.S. MSS 80.3.42

[3] A. R. H. Baker and R. A. Butlin (1973), *op. cit.* 656

[4] *Ibid.*

over a high proportion of the arable area. In pre-eighteenth-century Scotland this would have occurred only in limited areas in association with large urban markets. Nevertheless it indicates that Scottish field systems were not necessarily static and could evolve independently into intensive and complex forms.^[1]

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By IAN WHYTE

During the late seventeenth century East Lothian's greatest economic asset was her highly fertile soils. Grain production sustained the population of the county'sburghs and inland areas and also formed a major source of revenue. Not only was cereal production vital to the prosperity of the rural economy of the area, the grain which the county supplied was important in maintaining the large urban population of nearby Edinburgh. In addition it was a significant earner of foreign exchange by being exported to many parts of Europe. This article examines the structure and operation of the East Lothian grain trade at a period when the feudal rural economy was beginning to be modified and agriculture was becoming more commercialised. It considers the linkages by which grain moved from tenant farmer to landlord and from landlord to merchant, and attempts to discover the destinations of the county's surplus grain. In particular it will try to evaluate the importance of the industrial and domestic market of Edinburgh as a consumer of East Lothian grain in comparison with overseas markets.

A variety of documentary material aids the reconstruction of the trade. The surviving leases and accounts of six burghs¹ have been used to provide details of the involvement of tenants and landlords. These also frequently record the merchants to whom grain was sold. Contracts which were drawn up by merchants contain further information on their operations, while customs records throw light on the export trade in grain.

THE STRUCTURE OF THE TRADE

Much of the grain which formed the basis of the diet of the urban and rural populations of the county was either consumed directly by the producers or changed hands in small quantities by means of local sale and exchange. These took place either within rural communities themselves or in the nearest places of burghs such as Haddington and Bertha. Unfortunately such transactions

¹ Transactions of the East Lothian Antiquarian and Topographical Society, 1901, 11, 120.

[1] The author would like to thank K. A. Whyte for her assistance in commenting on a draft of this paper.

EAST LoTHIAN GRAIN TRADE

THE EAST LoTHIAN GRAIN TRADE 1660-1707

By IAN WHYTE

During the late seventeenth century East Lothian's greatest economic asset was her highly fertile soils. Grain production sustained the population of the county's burghs and landward areas and also formed a major source of revenue. Not only was cereal production vital to the prosperity of the rural economy of the area: the grain which the county supplied was important in maintaining the large urban population of nearby Edinburgh. In addition it was a significant earner of foreign exchange by being exported to many parts of Europe. This article examines the structure and operation of the East Lothian grain trade at a period when the feudal rural economy was beginning to be modified and agriculture was becoming more commercialised. It considers the linkages by which grain moved from tenant farmer to landowner and from landowner to merchant, and attempts to discover the destinations of the county's surplus grain. In particular it will try to evaluate the importance of the industrial and domestic market of Edinburgh as a consumer of East Lothian grain in comparison with overseas markets.

A variety of documentary material aids the reconstruction of the trade. The surviving leases and accounts of six estates¹ have been used to provide details of the involvement of tenants and landowners. These also frequently record the merchants to whom grain was sold. Contracts which were drawn up by merchants contain further information on their operations, while customs records throw light on the export trade in grain.

THE STRUCTURE OF THE TRADE

Much of the grain which formed the basis of the diet of the urban and rural populations of the county was either consumed directly by the producers or changed hands in small quantities by means of local sales and exchanges. These took place either within rural communities themselves or via the market places of burghs such as Haddington and Dunbar. Unfortunately, such transactions

¹ Transactions of the East Lothian Antiquarian and Field Naturalists' Society, Vol. 16 1979.

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almost invariably went unrecorded. The total volume of grain which circulated at this level must have greatly exceeded the amounts which left the county. Nevertheless, it was the large-scale trade to outside destinations which was important in terms of bringing money in from beyond the shire.

Throughout East Lothian the tenants of arable farms paid the major part of their rents in kind as 'fermes' or grain rents.² Partial commutation of these to money payments had begun to be introduced on some estates by the end of the seventeenth century but this had yet to make a major impact.³ By paying their rents in grain, tenants were absolved from the responsibility of marketing it themselves, though it must have been usual for them to have sold surplus grain on their own account in smaller quantities. The most commercialised sector of the grain trade was thus securely in the hands of the landowners.

Tenants were also liable to render labour services to their landlords. Possibly one of the most unpopular and least convenient of these was to deliver their fermes to whatever destination the proprietor desired, within reasonable carriage distance. Details of the 'carriages' which were required from tenants are contained in their leases. These show how far it was practicable to transport grain overland on the first stage of its journey. They also pick out the rural spheres of influence surrounding the burghs which were involved in the grain trade.

Figure 1. shows the origins and destinations of consignments of grain carried by tenants as part of their services on several East Lothian estates. The pull of the city of Edinburgh with its satellites of the Canongate and Leith is immediately apparent. Edinburgh drew in grain overland from a zone extending almost as far east as Haddington, up to 24km. from the capital. Thus, much of the western part of the county had direct and immediate access to the Edinburgh market. Beyond this zone, however, all consignments of grain bound for destinations outside the county had to be sent by sea because of the impossibly high cost of overland transport. This explains the importance of Dunbar, whose area of supply covered the entire eastern half of the county. North Berwick, Prestonpans, Port Seton and, to a limited extent, Aberlady, performed similar functions on a smaller scale. Haddington was gravely disadvantaged in this respect on account of its inland location. It is notable that estate accounts record the sale of only small quantities of grain to the burgh presumably mainly for internal consumption. Haddington merchants were hardly involved at all in the bulk trade in grain. Haddington may have been one of the most

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important markets for grain in Scotland by the 1790's⁴ but the town had to wait until the improvement of road conditions in the second half of the eighteenth century before it could attain this position.

The grain which was harvested in autumn was threshed out in the early part of the winter and tenants were normally required to deliver their fermes, using their own pack horses or sometimes carts, between Christmas and Candlemas (February 2nd).⁵ This may have been a slack period in the farming year but it was probably not a good season for overland carriage using roads which had been worn rather than constructed. A tenant might have had to transport something in the region of 1-2 tons of grain in this way, the capacity of a pack horse being only about 1-2 cwts.⁶

Once the grain was delivered it was up to the proprietor to dispose of it. If an estate lay beyond the zone within which overland carriage to Edinburgh was feasible it was usual for a landowner to buy or hire granaries or girnels, in the nearest suitable coastal burgh. Occasionally landowners marketed the grain in bulk themselves, hiring a coastal vessel to carry it to Edinburgh in the hope of finding a ready sale, or buying a share in a sea-going vessel in order to export it abroad. Sir John Nisbet of Dirleton is recorded as once having shipped a cargo of grain to Rotterdam in partnership with an Edinburgh merchant,⁷ while Sir Hugh Dalrymple of North Berwick is known to have bought an eighth share in a merchant vessel.⁸ In general, though, landowners or sometimes their factors were content to negotiate a contract of sale with one or more merchants in Edinburgh or a local burgh. Several of these contracts have survived for the estates of Sir John Nisbet and Sir Hugh Dalrymple.⁹ The proprietor undertook to provide a specific quantity of grain if it was already in store in the girnels following the harvest, or a quantity within maximum and minimum limits if the sale was arranged in advance of the harvest and the landowner was unsure how fully his tenants would be able to pay their rents. The merchant in turn undertook to furnish a vessel, either his own or one under charter, adequately manned and in a seaworthy condition. The merchant would bind himself to send the ship to the harbour which the landowner was using and the proprietor would agree to have the grain ready for loading.

A contract of hire, dated 1680, between William Cleghorn, an Edinburgh brewer, and James Falconer, a skipper in Bo'ness, required Falconer to sail from Leith to Dunbar 'wind and weather serving,' to wait there for 'six work and wetherly dayes' in order to load 18 chalders (about 14½ tons) of grain, and to return to Leith within a specified time.¹⁰ He was to be paid extra for any

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additional days involved over and above those specified in the contract. At a hire charge of 3 pounds 13s. 4d. Scots per chalder, transport costs were a fairly small item for a merchant who was paying the landowner perhaps 80-130 pounds Scots per chalder. Once the vessel was loaded, the sea risk (whether or not the proprietor was entitled to compensation in the event of the loss of the grain in transit through wreck, piracy or damage by sea water) was a matter for negotiation. In many cases the landowner accepted the sea risk, always provided that the merchant 'fraught and furnished a tight ship well manned with skilful and careful seamen'¹¹ but in other instances the merchant was persuaded to carry it.¹²

While the leading figures in the trade were essentially the landowner and the merchant, other people were involved, some of whom derived a lucrative income by providing ancillary services. Several people in Dunbar rented out space for storing grain to neighbouring landowners, including Thomas Bryson, a slater, and Helen Jackson, the widow of a former burgher.¹³ The measuring of the grain, turning it periodically during storage to prevent it fermenting, and its eventual loading provided additional work.¹⁴ A man who seemed to be active in every aspect of the grain trade was William Kirkwood, merchant in Dunbar. At various times during the 1690's he served as town clerk of Dunbar, clerk of the baron court of Innerwick and Thornton, and factor, or agent, to a number of Edinburgh brewers and merchants.¹⁵ He also exported consignments of grain on his own behalf and in partnership with fellow merchants to England, France and the Netherlands,¹⁶ as well as hiring out girdles in Dunbar.¹⁷

The profits which landowners and men like Baillie Kirkwood appear to have made encouraged other opportunists who were neither proprietors nor merchants to enter the trade in the hope of increasing their social standing as well as their purses. The grain trade could be a risky business, however, as the cautionary tale of Gilbert Murray, factor for Sir John Nisbet at Thornton, shows. In his position as an estate factor Murray, who seems originally to have been a tenant-farmer, was involved in arranging the sale and delivery of his master's grain rents. Sir John Nisbet, as Lord Advocate, had to spend much of his time in Edinburgh and left most of the running of the Innerwick and Thornton estates to his factor. The experience of the grain trade which Murray gained prompted him to undertake ventures on his own account, buying consignments from his master and other landowners and shipping them mainly to merchants in England. Between 1680 and 1682 the East Lothian port books record him as having exported over 2,000 bolls of grain, mainly to London, Sunderland and Newcastle.¹⁸ The surviving correspondence between Sir John Nisbet and Gilbert

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Murray indicates that they were on friendly terms initially; Sir John signed his letters 'your friend'.¹⁹ Gradually, however, a slightly querulous tone began to creep into Sir John's correspondence, suggesting that all was not well. He began to question his factor's claims for expenses and to pick out discrepancies in his accounting.²⁰ Eventually a full investigation was instituted and Murray was forced to admit that he had 'meddled with and disposed of considerable quantities of the said Sir John, his corns and victual and money rent . . . for my own use without the knowledge and far less warrant and order of the said Sir John'.²¹ Some of his trading ventures had failed; in one instance the man to whom he had sold a cargo had gone bankrupt leaving Murray without any cash to pay the landowner from whom he had bought the grain. He had been forced to dip his hand increasingly into his landlord's pocket in order to cover his losses. He was found to be owing over 9,000 merks Scots. Sir John was generous enough not to prosecute him but he seized all his possessions, farm equipment and crops and sent him away a broken, pennyless man. Within three years Murray was dead and the new factor eventually returned some of the household goods to his widow at Sir John's order.²²

The vessels which were used for the coastal shipment of grain were of modest size. References suggest that they normally carried a crew of only half a dozen and had a capacity not normally exceeding 500 bolls of grain (about 25 tons).²³ They ran to perhaps 40 tons burden.²⁴ Although they were operating only in inshore waters the traffic was not without its dangers. The outbreak of war at the end of the century brought French privateers down upon the east coast severely disrupting the trade, though there is surprisingly little indication of this in the dry, factual accounts of proprietors and merchants.²⁵ A more localised danger threatened between 1690 and 1694 when the Bass Rock was taken over by a group of Jacobite prisoners and the coastal trade was threatened by their depredations.²⁶ The fate of one vessel, intercepted en route from Dunbar to Leith with a cargo of wheat in 1694, shows the dangers involved not only from enemy action but also from the weather. The vessel, having received her cargo from Baillie Kirkwood, set sail but was becalmed off Dunbar. She was boarded by a boatload of men from the Bass and forced to anchor off the island. The next day, before the cargo could be unloaded for the use of the Jacobite garrison, a strengthening wind forced her to put to sea, still under the control of their captors. She rode at anchor off St. Andrews for three days and nights during which conditions were so bad that they were forced to cut away the mainmast and jettison part of the cargo in order to keep the vessel afloat.

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When the weather improved the crew were made to sail into the Firth of Tay where their captors succeeded in making their escape into the interior of Angus.²⁷

THE PATTERN OF THE TRADE.

Having looked at some of the mechanisms of the grain trade and some of the difficulties which were involved, to what destinations was the grain delivered? It is hard to be precise regarding both the pattern and the volume of the trade as the relevant sources are all fragmentary. The port books, however, which are complete from the end of 1680 to the end of 1686, apart from one or two brief gaps, indicate how much grain was exported abroad.²⁸ During this period over 42,000 bolls of grain (about 2,100 tons) were shipped out. Some 40% of this went to Holland and 17% each to England and France. The remainder went in smaller quantities to Norway, Sweden, Germany, Spain and Portugal. A notable feature of this trade, however, is the extent to which it was controlled by merchants operating from Edinburgh or Leith, rather than ones based in East Lothian burghs. Over 40% of the grain shipped overseas during this period had been bought by merchants who can be identified as belonging to the capital.

The dominance of Edinburgh merchants is also evident when the destinations of consignments of grain recorded in estate papers are examined. Nearly 300 consignments have been traced for the estates whose records are available. They were sold to 160 merchants. 29 of these cannot be definitely linked with a particular burgh. Of the remaining 131, 91 were based in Edinburgh, Leith or the Canongate. Prestonpans, with 14 recorded merchants, and Tranent with 9, are the only other centres of any importance. Only three merchants from Dunbar and one from Haddington were recorded. 86% of the grain whose destination is recorded was bound for the capital.

That a certain amount of the grain from East Lothian which was bought by Edinburgh merchants was designed for re-export is suggested by the occurrence of the names of the same merchants in the Leith port books.²⁹ The merchants involved may well have been buying grain from other parts of Scotland of course. In the later seventeenth century grain flowed into Edinburgh from as far away as Orkney.³⁰ In some cases, however, the timing of the purchase and shipping of consignments from East Lothian landowners, and of the export of similar quantities of grain aboard from Leith by the same merchant suggests

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that the port was being used as an entrepot in which the grain was transferred from a coastal vessel to a sea-going one with a minimum of delay. The influence of Edinburgh merchants on the export of East Lothian grain is thus reinforced.

Although some of the grain which was brought from East Lothian to Edinburgh overland or by coastal vessel may have been re-exported via Leith a large proportion of it was destined for the city's own use. By the end of the seventeenth century Edinburgh, with a population possibly approaching 30,000, was a sizeable city in European terms³¹ with a considerable demand for agricultural produce for direct consumption by her own inhabitants. This is reflected in the designations of the people in Edinburgh who bought East Lothian grain. Out of 72 who were specifically designated, 40 were brewers, 13 baxters and two maltmen against only 17 who were styled 'merchant.' Brewers and maltmen took 48% of all the grain in the consignments which were studied, and baxters a further 5%. People designated as merchants accounted for only 23% of the grain. The names of the brewers, maltmen and baxters rarely appear in the port books and their trades strongly suggest that they catered primarily for the needs of the population of the city itself and its immediate environs. The Edinburgh brewing industry is known to have expanded considerably during the later seventeenth century and to have been the largest single consumer of bere (the hardy four-row barley which was the normal crop in Scotland at this time rather than the higher-yielding but less resistant two-row variety) in the country.³² The importance of brewing is emphasised by the character of the grain which was sent to Edinburgh. In the consignments studied, bere formed 68% of the grain coming from East Lothian to Edinburgh against only 20% for oats and 11% for wheat. Baxter^e and maltmen purchased 64% of the bere against only 13% bought by merchants.

It is perhaps surprising that wheat formed so small a proportion of the grain sent abroad from East Lothian or transported to Edinburgh. This lends weight to the suggestion, supported by estate rentals, that although wheat was widely cultivated in the county at this time it was not often raised in large quantities and that large commercial surpluses were not usually produced. The basis of East Lothian arable farming seems then to have rested on the production of oats for local consumption by the bulk of the rural population, of bere for export, and of wheat perhaps mainly to meet the local needs of the more wealthy sectors of society who could afford wheaten bread.

Many of the people who bought East Lothian grain were fairly small-scale operators who often spread the risk of failure by combining in partnership in a

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number of purchases rather than buying large consignments on their own. The principal danger attached to such a venture, apart from the loss or damage of the grain in transit, was that by the time delivery had been taken prices might have fallen below the level at which a profit could be made. Factors of this kind may have lain behind the reluctance of some merchants to actually take delivery of their grain once a bargain had been reached with a landowner.³³ Again, Edinburgh buyers, whether merchants, brewers or baxters, appear to have had more money at their disposal and to have operated on a larger scale and more often on their own. Only 34% of the consignments studied which were destined for the capital were bought by two or more partners against 57% of the consignments going to other burghs. The average size of consignment bought by Edinburgh traders was also larger than for other centres: 274 bolls of bere against 208, and 305 bolls of oats against 126.

The larger operators were also a better risk from the landowner's point of view than the smaller men who may often have been only occasional speculative purchasers with limited assets. Sir John Nisbet wrote of his reluctance to go to the trouble of drawing up contracts for small quantities of grain. He stated that this was due to the trouble which he sometimes experienced in collecting payment from such merchants.³⁴ This is borne out by the letters of horning which survive alongside some of the contracts of sale for small consignments, as in the case of 200 bolls of bere which he sold to William Liddel, a Leith brewer, in 1692. Sir John was still trying to recover a third of the money, which was being paid by instalments, two years later.³⁵ It was much better, Nisbet thought, that 'if the persones have confidence one of another that they are responsall (responsible) men, I think they should . . . joyne together to take some considerable parcell (of grain)'³⁶ Such attitudes may have given the richer Edinburgh merchants a competitive advantage over their smaller counterparts in other burghs. A notable feature of the surviving contracts for the sale of grain from the Dirleton estates was the way in which Sir John Nisbet suddenly changed his policy in the late 1670's. During the late 1660's and early 1670's all the contracts record sales to local merchants in Tranent, Longniddry and Prestonpans.³⁷ The average size of consignment was only 170 bolls. From the late 1670's, however, grain from Dirleton was sold almost exclusively to Edinburgh merchants and in much larger consignments — an average of 845 bolls.³⁸ While this may reflect in part a change of attitude on the part of Sir John, it may also reflect the expansion of the Edinburgh grain market which is known from other sources³⁹ with a greater involvement by Edinburgh merchants in the East Lothian grain trade.

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CONCLUSION

This article has attempted to reconstruct some aspects of the East Lothian grain trade during the later seventeenth century and the mechanisms by which it operated. Two major themes have emerged which would repay further study. Firstly, the East Lothian burghs were not very active in the grain trade as mercantile communities. North Berwick, Dunbar and Prestonpans served mainly as trans-shipment points for grain from the landward areas which had been bought by merchants from outside the county. Haddington hardly seemed to have had any significant role at all in handling the bulk grain.

Secondly, the dominance of Edinburgh burgesses and the Edinburgh market over the grain trade was paramount. It is interesting to reflect that during the period 1680-86 the incomplete records of grain being sold to Edinburgh from only six estates covering only a small proportion of the county amounted to a third of the total amount of grain exported abroad from all the East Lothian ports. Because of the fragmentary nature of the estate accounts which have been used it is impossible to estimate the volume of grain flowing in to Edinburgh compared with the amount which was exported with any more precision, but the conclusion must be that a high proportion of the county's surplus grain was channelled into the capital. It has also been suggested that, while some of this may have been re-exported from Leith, a large part of it went to meet the city's own domestic needs. East Lothian may have formed only a part of the hinterland from which Edinburgh drew her grain supplies, but the importance of the capital's market to the rural economy of the county was overwhelming.

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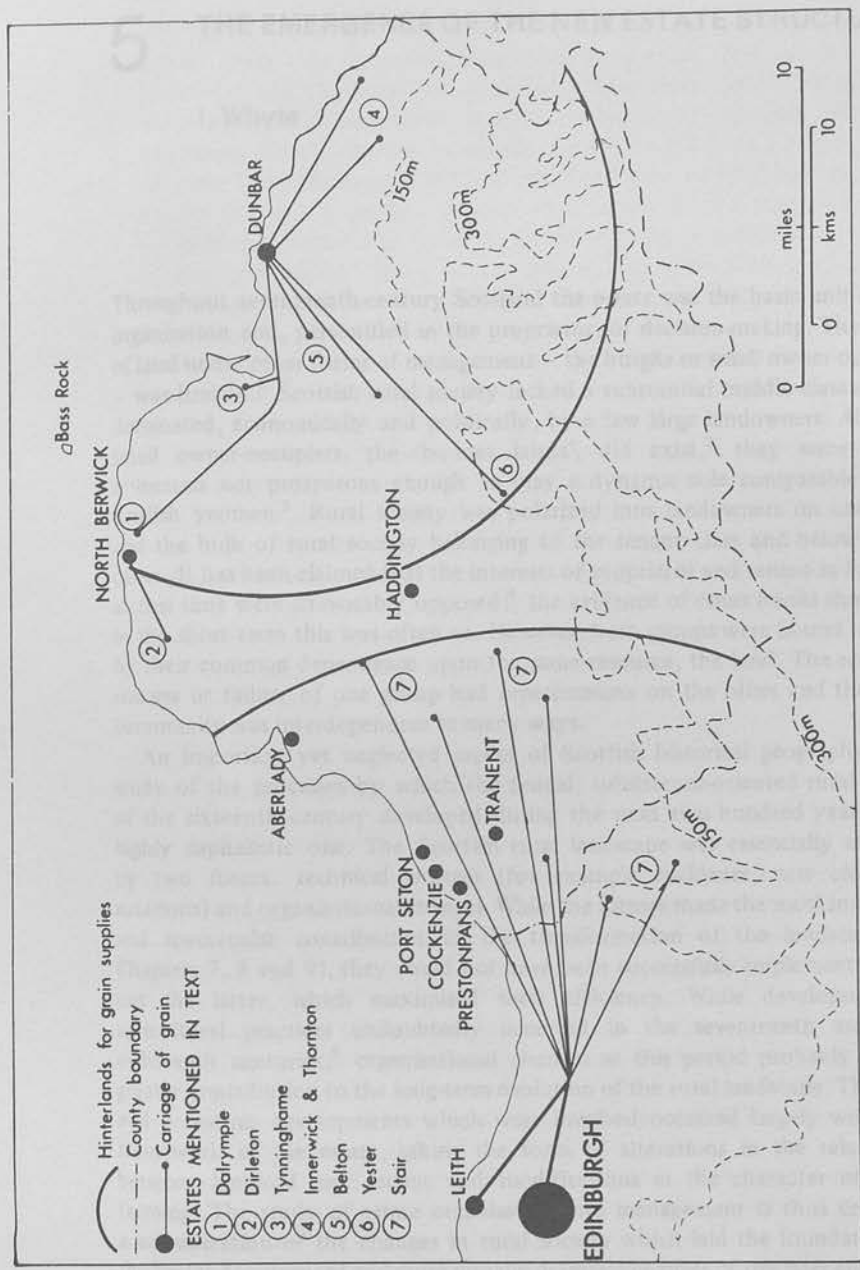


Fig. 1 Paper 3 Map for East Lothian Grain Trade.

5 THE EMERGENCE OF THE NEW ESTATE STRUCTURE

I. Whyte

Throughout seventeenth-century Scotland the estate was the basic unit of land organisation and, personified in the proprietor, of decision-making. The extent of land under other forms of management — the burghs or small owner-occupiers — was limited.¹ Scottish rural society lacked a substantial middle class and was dominated, economically and politically, by a few large landowners. Although small owner-occupiers, the 'bonnet lairds', did exist,² they were neither numerous nor prosperous enough to play a dynamic role comparable to the English yeomen.³ Rural society was polarized into landowners on one hand, and the bulk of rural society belonging to the tenant class and below on the other. It has been claimed that the interests of proprietor and tenant in Scotland at this time were irrevocably opposed;⁴ the evidence of court books shows that in the short term this was often so. However, both groups were bound together by their common dependence upon the same resource, the land. The economic success or failure of one group had repercussions on the other and the estate community was interdependent in many ways.

An important yet neglected aspect of Scottish historical geography is the study of the processes by which the feudal, subsistence-oriented rural society of the sixteenth century developed during the next two hundred years into a highly capitalistic one. The Scottish rural landscape was essentially modified by two forces: technical changes (for example enclosure, new crops and rotations) and organisational changes. While the former made the most immediate and spectacular contribution to the transformation of the landscape (see Chapters 7, 8 and 9), they could not have been successfully implemented without the latter, which maximised their efficiency. While developments in agricultural practices undoubtedly occurred in the seventeenth and early eighteenth centuries,⁵ organisational changes at this period probably made a greater contribution to the long-term evolution of the rural landscape. The social and economic developments which were involved occurred largely within the framework of the estate, taking the form of alterations in the relationship between landlord and tenant and modifications in the character of tenant farming. The study of estate organisation and management is thus central to a consideration of the changes in rural society which laid the foundations for the better-documented and more visually dramatic changes of the later eighteenth and nineteenth centuries.

Historical geographers have concentrated their attention on the period

after about 1760 when the pace of agrarian change was most rapid and for which there are abundant, easily-handled sources. Yet the writings of the Improvers and the wealth of late-eighteenth-century descriptive literature are often misleading, inaccurate or deliberately biased regarding earlier periods and these distortions have influenced previous work.⁶ As a result, the period between the Reformation in 1560 and the Union of 1707 has been dismissed as one of rural stagnation or even as a decline from a supposed golden age of medieval monastic agriculture, the nadir being represented by the famines of the later 1690s.⁷ However, on looking back from a time of rapid change preceding periods inevitably appear stagnant and dynamic elements are diminished.⁸

Recent research⁹ has suggested that the traditional model of the Scottish rural landscape as being the product of revolution rather than evolution has been partly conditioned by these later sources.¹⁰ There is a need to assess the agrarian economy of pre-eighteenth-century Scotland in terms of contemporary, not retrospective, sources. Of these, private estate papers are perhaps the most important, though not the only, category.¹¹ The supposed paucity of early material in Scottish archives partly reflects a lack of rigorous searching. A vast bulk of material awaits examination. The present study is merely an introductory survey based on papers relating to estates throughout Lowland Scotland from the Solway to the Moray Firth, and the southern and eastern fringes of the Highlands, which are available in the Scottish Record Office and National Library of Scotland.

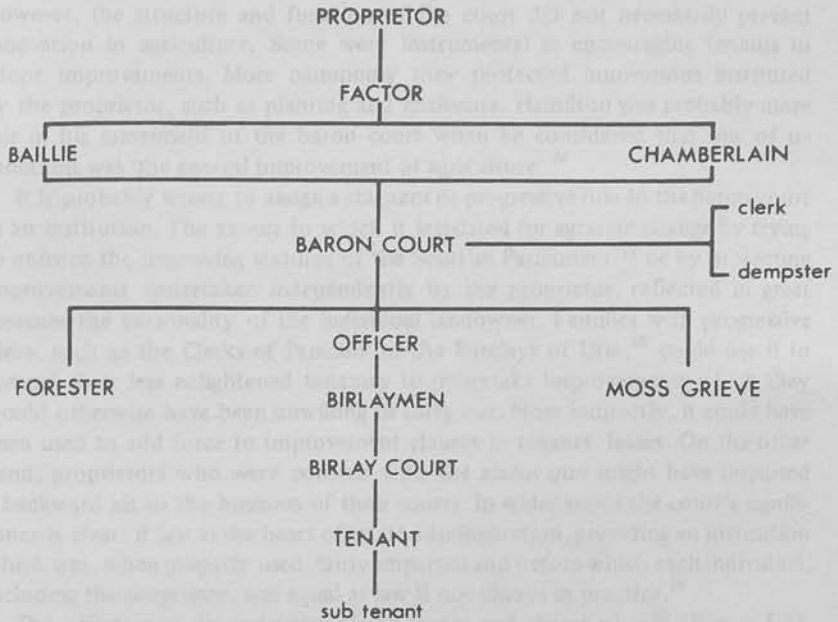
Organisational Changes within the Estate

Estate Structure and Management

Due to the predominance of large estates in Scotland, the ways in which they were managed had a great impact on rural society and on the landscape. Estate management was influenced by the character of rural society, the layout of the estate, its resources and the needs of its proprietor. The landowner's role depended upon the size of his estate and his own status and ambitions. Small proprietors with limited incomes tended to live permanently on their lands, overseeing most of the business and expenditure. Landowners with occupations outside their estates – in trade, the law or politics – left much of their administration to a hierarchy of paid officials (see Figure 5.1). This also applied where estates were large or fragmented.

The factor acted for the proprietor in all estate business. He collected rents, disposed of produce, took day-to-day decisions regarding expenditure and convened the baron court on behalf of his master.¹² On sizeable estates the factor was in charge of large sums of money and had considerable responsibility.¹³ The chamberlain was concerned with keeping accounts, collecting rents and giving receipts to the tenants,¹⁴ while the baillie presided over the baron

Figure 5.1: The Estate Hierarchy



court under the aegis of the proprietor or factor.¹⁵

The baron court was, until the abolition of heritable jurisdictions in 1747,¹⁶ a key element in estate administration. Its jurisdiction was over the barony, which might extend further than the estate to include small feuars.¹⁷ The power of such courts had declined from the Middle Ages.¹⁸ By the seventeenth century their remit was confined to the trial of minor cases of assault, misdemeanors such as debt, and infringements of good co-operative agricultural practice, or 'good neighbourhood'.¹⁹ The court protected the proprietor's interests, allowing him to enforce his rights and claim his dues without going to higher authorities. A landlord might use it to recover rent arrears,²⁰ or to take action against damage to his property.²¹

The court could be used more positively to compel tenants to undertake and safeguard improvements of benefit to everyone on the estate such as the planting of trees and the sowing of legumes.²² It was also an allegedly impartial source of justice in disputes between the tenants themselves, particularly breaches of good neighbourhood, such as the damaging of crops by stray animals.²³ Baron courts have been viewed as instruments of oppression,²⁴ and could doubtless have functioned as such. However, surviving court books show that they were rarely concerned with imposing additional burdens. Smout considered that

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they provided a forum where tenants could assemble and interpret custom;²⁵ this must certainly have been so with disputes concerning good neighbourhood. However, the structure and function of the court did not necessarily prevent innovation in agriculture. Some were instrumental in encouraging tenants to adopt improvements. More commonly they protected innovations instituted by the proprietor, such as planting and enclosure. Hamilton was probably more fair in his assessment of the baron court when he considered that one of its functions was 'the general improvement of agriculture'.²⁶

It is probably wrong to assign a stagnant or progressive role to the baron court as an institution. The extent to which it legislated for agrarian change by trying to enforce the improving statutes of the Scottish Parliament,²⁷ or by protecting improvements undertaken independently by the proprietor, reflected in great measure the personality of the individual landowner. Families with progressive ideas, such as the Clerks of Penicuik or the Barclays of Urie,²⁸ could use it to compel their less enlightened tenantry to undertake improvements which they would otherwise have been unwilling to carry out. More indirectly, it could have been used to add force to improvement clauses in tenants' leases. On the other hand, proprietors who were content with the *status quo* might have imparted a backward air to the business of their courts. In wider terms the court's significance is clear: it lay at the heart of estate administration, providing an institution which was, when properly used, fairly impartial and before which each individual, including the proprietor, was equal at law if not always in practice.²⁹

The officer was the executive of the factor and chamberlain³⁰ (Figure 5.1), travelling from farm to farm, receiving abuse from refractory tenants and sometimes even liable to assault.³¹ On some estates specialist officers were given charge of timber and peat resources to ensure that they were efficiently utilised.³² The officer was aided by birlayment, part-time voluntary helpers appointed from the tenantry. This system was similar to the 'lawrightmen' of the Northern Isles and had parallels in northern England.³³ Birlaymen were tenants in whom the proprietor or his officers placed particular trust and who could be relied upon to give impartial verdicts under oath in disputes between tenants or with the proprietor. They were normally unpaid and were reappointed annually. Their duties were to maintain good neighbourhood and provide assessments in valuations or disputes. To this end they sometimes had their own birlay court, under the jurisdiction of the baron court, in which such cases could be dealt with immediately and informally.³⁴

An important aspect of estate administration was that most positions in the hierarchy could be, and often were, held by tenants. Factors of large estates were sometimes members of cadet branches of the family, even small proprietors in their own right.³⁵ However, in many cases they were tenants with their own holdings on the estate. This applied even more frequently to the baillie and chamberlain, while the officer and birlaymen were invariably tenants who were sometimes only appointed with the prior consent of their fellows.³⁶

Thus, in its general form though not necessarily in particular instances,

estate administration involved much of the community, though inevitably the interests of the landowners predominated. It could be argued that factor, baillie and chamberlain, because of the salaries which they received, would have been 'laird's men'. However, they were usually tenants too, facing the same pressures as their fellows and consequently likely to have been sympathetic to their problems within a framework which was essentially paternalistic.

The structure of estate management was flexible and did not prevent agricultural improvement. It could accommodate the needs of proprietors bent on developing their estates as well as landowners who were content to let their lands continue at a semi-subsistence level. The same structure continued into the eighteenth century and served the Improvers in their turn. Estate management was neither backward nor stagnant in itself. However, the impetus for change had to come from the landowners, the only people with potential resources, power and breadth of vision to institute improvements. The way in which the administrative hierarchy was used reflected the outlook and attitudes of individual landowners.

Changing farm structure

During the seventeenth century a number of important organisational changes began to occur within the framework of the estate community. One of the most significant was the gradual modification of farm structures. Three types of farm existed in Scotland at this time: those with multiple holdings, comprising joint-tenant farms where two or more tenants held a single lease and combined to pay the rent, and multiple-tenant farms where tenants leased individual holdings, usually specific fractions of a farm, and paid rents separately. Single-tenant farms which were leased by only one husbandman also existed. Smout has suggested that joint-tenant farms were the most primitive type and single-tenant farms the most advanced, implying an evolutionary sequence.³⁷

Joint-tenant farms inevitably involved communal working. They can only be distinguished from multiple-tenant farms where the conditions of tenancy are specified: this normally occurs only in leases. These suggest that such farms were widespread but not numerous. Out of over 2,900 leases from estates throughout Lowland Scotland which were studied, only 275 involved joint tenancy. In 116 of these the tenants were related — specifically father and son, or brothers — or had common surnames implying kinship. Farms of this type may have been essentially the same as single-tenant farms in the way in which the working of the land was organised. The difference in tenure may have been due merely to individual family circumstances: for example, where a father who relied on the labour of one or more sons arranged a joint lease to encourage them to stay at home. This type of joint-tenant structure was not especially backward — it was merely an organisational variant of a relatively advanced type of unit, the single-tenant farm. However, where there was no family relationship between joint tenants a more ancient structure does seem to be implied. Such farms do not appear to have been common in Lowland Scotland by the

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seventeenth century.

On multiple-tenant farms tenants were involved in co-operative agriculture due to a lack of the capital and equipment needed to operate independently. The need to divide the shares of this type of farm by quality as well as quantity with strict regard to fairness led to the fragmentation of tenant runrig where each tenant's share was intermixed with those of his fellows in a series of parcels, sometimes with a degree of regularity, the shares of land usually being fixed but possibly sometimes liable to periodic reallocation (see Chapter 3).³⁸ This in turn reinforced the need for communal working.

On single-tenant farms the husbandman had to be self-sufficient in equipment and manpower. Instead of the bulk of the work being done by the tenants themselves, as on multiple-holding farms, it was undertaken mainly by subtenants and hired servants. The tenant was as much an overseer as a direct participant. Such a unit was potentially more efficient, as the tenant was not hampered by the constraints of communal working. In terms of organisation, it was a modern farm.

It has been suggested that multiple-holding farms were dominant, indeed universal, in pre-improvement Scotland.³⁹ However, single-tenant farms were common throughout Lowland Scotland and numerous in many districts. The poll lists of 1696 allow the farm structure of Aberdeenshire at this date to be mapped (Figure 5.2). Unfortunately, poll tax records are fragmentary or lacking in detail for other parts of Lowland Scotland. Elsewhere the proportion of single-tenant to multiple-holding farms can be determined from rentals listing the number of tenants per farm. Because of the complete coverage for Aberdeenshire it is useful to begin with this county and work outwards. While it cannot be considered a microcosm of seventeenth-century Scotland, it was nevertheless a large and varied county topographically and economically. When the percentage of single-tenant farms per parish (excluding smallholdings) is calculated, marked variations are apparent (Figure 5.2). There is a broad correlation between areas where single-tenant farms dominated and arable lowlands: the Garioch, the district around Aberdeen, the valleys of the Ythan and Deveron. Few upland or semi-upland parishes had high percentages of single-tenant farms. The areas with the most developed farm structures were thus mainly lowland and arable.

When the poll lists are examined in detail, a further upland-lowland contrast emerges. Multiple-holding farms in Highland parishes like Glenmuick had many tenants – up to 12 – with few or no cotters and servants.⁴⁰ By contrast, many Lowland multiple-holding farms had only two or three tenants with several subtenants and servants. The labour force and holding size on this type of farm was comparable to that on adjacent single-tenant ones. The implication is that on these lowland multiple-holding farms the tenants maintained sufficiently large work-forces to be independent. They were in a different class from the impoverished husbandmen of Glen Muick; in such cases the communal element may have meant little more than the tenants living together in the same ferm-toun.

Figure 5.2: Percentage of Single-tenant Farms per Parish, Aberdeenshire, 1696

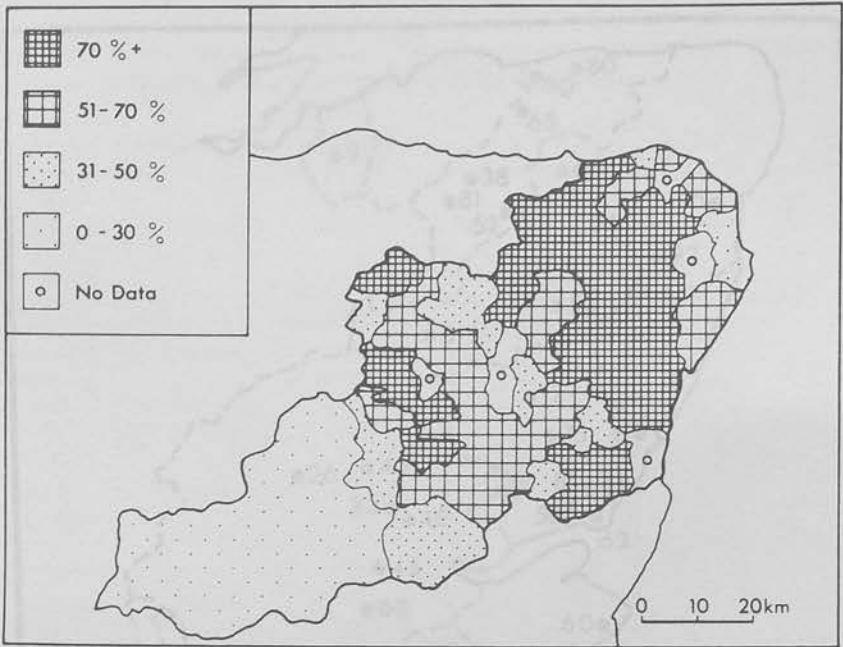
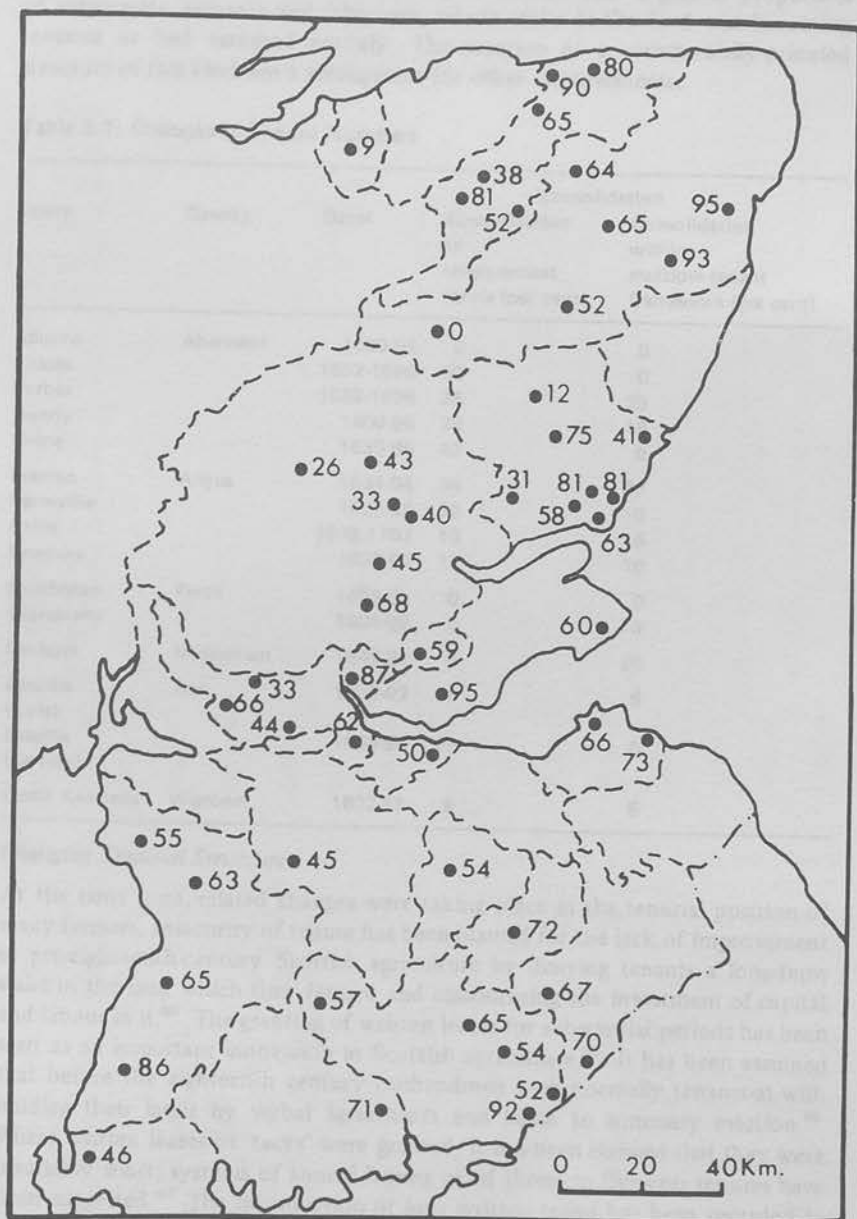


Figure 5.3 shows single-tenant farms as a percentage of all farms on estates for which detailed rentals are available for the period 1660-1707. Single-tenant farms were common on many estates. If estates north of the Tay are classified by their rent structure⁴¹ into predominantly arable, mixed or pastoral, an analysis of variance test shows that the differences between the samples are significantly greater than those within them, arable estates having higher percentages of single-tenant farms. Thus the pattern of farm structure which has been demonstrated for Aberdeenshire occurred more widely. In the Southern Uplands the farm structures of pastoral areas were more developed than on the fringes of the Highlands. In the latter area there were again differences between upland and lowland multiple-holding farms. Highland farms often had many tenants – on the Strathbran estates six, seven or eight were frequent while one even had twenty.⁴² On Lowland farms two or three tenants were usual and over four uncommon in most areas. That this situation was dynamic and not static can be seen by comparing rentals and the Aberdeenshire poll lists. A gradual reduction of tenants was widespread (Table 5.1). This process was identified by Dodgshon in south-east Scotland in the early eighteenth century and was considered by him to have been the most painless way of moving from a multiple to a single-holding structure, allowing consolidation from tenant runrig in the process.⁴³ It thus appears that such changes were

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Figure 5.3: Percentage of Single-tenant Farms on Various Estates, 1660-1707



occurring quite widely in Lowland Scotland. A rural society dominated by wealthier capitalist farmers was starting to emerge with a greater proportion of subtenants, servants and labourers, whose stake in the land was becoming tenuous or had vanished entirely. The creation of a commercially-oriented structure of this kind was a prerequisite for other improvements.

Table 5.1: Changes in Tenant Numbers

Estate	County	Dates	Consolidation	
			Consolidation to single-tenant farms (per cent)	Consolidation within multiple-tenant framework (per cent)
Aboyne	Aberdeen	1600-96	0	0
Fiddes		1552-1696	50	0
Forbes		1552-1696	35	29
Huntly		1600-96	38	16
Skene		1639-96	43	0
Brechin	Angus	1634-94	38	37
Carmyllie		1622-92	30	10
Kellie		1678-1707	13	5
Panmure		1622-92	11	16
Strathbran	Perth	1655-91	0	0
Grandtully		1625-99	0	3
Penicuik	Midlothian	1646-84	0	25
Cassillis (Kyle)	Ayr	1639-82	11	6
Cassillis (Carrick)		1639-99	17	0
Castle Kennedy	Wigtown	1622-65	8	5

Changing Tenurial Structure

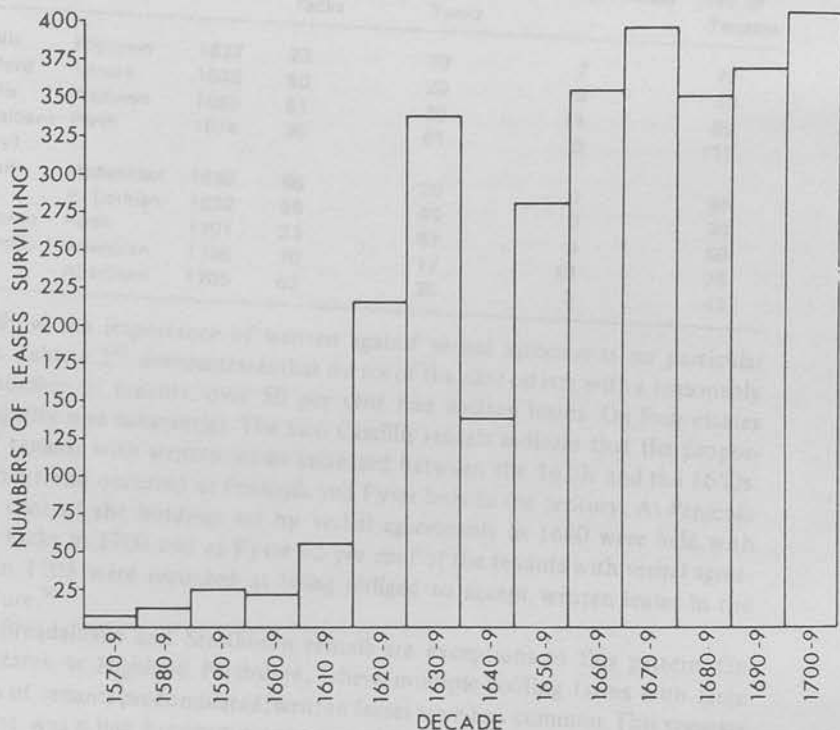
At the same time, related changes were taking place in the tenurial position of many farmers. Insecurity of tenure has been blamed for the lack of improvement in pre-eighteenth-century Scottish agriculture by denying tenants a long-term stake in the land which they farmed and discouraging the investment of capital and labour in it.⁴⁴ The granting of written leases for substantial periods has been seen as an important innovation in Scottish agriculture.⁴⁵ It has been assumed that before the eighteenth century husbandmen were normally tenants-at-will, holding their lands by verbal agreements and liable to summary eviction.⁴⁶ Where written leases or 'tacks' were granted, it has been claimed that they were invariably short; systems of annual leasing or of three- to five-year tenures have been suggested.⁴⁷ The introduction of long written leases has been regarded as an innovation of eighteenth-century improvers.⁴⁸

An examination of over 2,900 leases dating from the late sixteenth century

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to the first decade of the eighteenth suggests that their introduction in significant numbers first occurred in the early seventeenth century, if not before (Figure 5.4). Written leases pre-dating the late sixteenth century are rare. Many

Figure 5.4: Numbers of Written Leases Surviving per Decade



more exist for the 1620s and 1630s, a period which other evidence suggests was one of modest prosperity.⁴⁹ After a slump during the troubled 1640s and 1650s there is a sharp rise in the number of surviving leases which date from the period between 1660 and the end of the century, again a time of relative peace and prosperity.⁵⁰ It is probable that the leases which have survived are only a fraction of those which once existed. This can be shown from isolated rentals indicating which tenants possessed written leases. In most cases few or none of the corresponding tacks have survived. Leases, although formal legal documents, did not have the survival value of charters or sasines confirming land ownership as opposed to tenancy.

While Figure 5.4 may be partly weighted by the tendency for more material to survive from the later part of the century, it is likely that there was a significant increase in the proportion of tenants with written leases on many estates during the seventeenth century. Rentals giving details of tenure are rare, but

Table 5.2: Percentages of Tenants with Written and Verbal Leases on Certain Estates

Estate	County	Date	Percentage Written Tacks	Percentage Verbal Tacks	Percentage Not Known	Total No. of Tenants
Cassillis	Wigtown	1622	23	70	7	72
Crawford	Lanark	1638	80	20	0	58
Cassillis	Wigtown	1655	51	38	11	55
Breadalbane (L. Tay)	Perth	1674	39	61	0	119
Penicuik	Midlothian	1680	80	20	0	35
Hailes	E. Lothian	1682	55	45	0	30
Strathbran	Perth	1701	33	67	0	89
Balquhollly	Aberdeen	1705	70	17	13	25
Fyvie	Aberdeen	1705	62	36	2	43

they show the importance of written against verbal agreements on particular estates. Table 5.2⁵¹ demonstrates that on six of the nine estates with a reasonably large number of tenants, over 50 per cent had written leases. On four estates the majority was substantial. The two Cassillis rentals indicate that the proportion of tenants with written leases increased between the 1620s and the 1650s. The same trend occurred at Penicuik and Fyvie later in the century. At Penicuik 71 per cent of the holdings set by verbal agreements in 1680 were held with written tacks in 1700 and at Fyvie 62 per cent of the tenants with verbal agreements in 1705 were recorded as being obliged to accept written leases in the near future.⁵²

The Breadalbane and Strathbran rentals are exceptions to this pattern. On these estates in Highland Perthshire, where multiple-holding farms with large numbers of tenants predominated, written leases were less common. This suggests that there was a link between progressive attitudes towards farm structure and tenancy. Table 5.2 also suggests that on some estates at least, the decision to grant either a written or a verbal lease was a matter for individual negotiation between a proprietor or his officers and specific tenants, rather than a blanket decision applied to the whole estate.

While the granting of increasing numbers of written leases may have been widespread in Lowland Scotland, it was not universal. Practice on the Buccleuch estates, covering much of the central Borders, was different. There tenants held their land from year to year, the holdings being reallocated at annual 'land settings'.⁵³ But this did not mean that the Buccleuch tenants went in constant fear of eviction. The attitudes of the proprietors, possibly inherited from the tight-knit loyalties of Border warfare, were paternalistic. Holdings could, and did, pass from father to son for generations.

When the lengths of surviving leases are examined, tacks of over ten years' duration comprise 36 per cent of the total, the percentage per decade tending to

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rise from the early part of the century onwards. On some estates 19-year leases, the length which later became standard in many parts of Scotland, and which represented a fair compromise between the interests of landlord and tenant, were first introduced in substantial numbers during the 1620s and 1630s. However, this early policy was not successful everywhere.⁵⁴

The trend towards granting written, and especially long, leases reflected changes in the relationship between proprietor and tenant, as did holding enlargement and the reduction of tenant numbers. It was related to the more commercial attitudes which began to appear in Lowland Scotland during the seventeenth century.⁵⁵ Tenants were increasingly selected more for their competence than with regard to tradition. This was especially important in arable areas where increased grain production depended upon the co-operation of the tenantry. In pastoral areas much commercial activity, particularly the droving trade, was directly controlled by the landowners and there was less need to encourage the tenantry.⁵⁶ In arable areas the desire to increase their rents transferred some of the bargaining power regarding conditions of tenure to the tenants. In some cases factors went to considerable lengths to secure able tenants and some of these successfully held out for lower rents or longer leases.⁵⁷ On the Craighends estate in Renfrewshire the proprietor recorded his efforts to induce particular tenants to take holdings by offering them 19-year leases.⁵⁸ If they accepted long tacks they received some remission of rent for the first two or three years. The position of proprietor and tenant had changed markedly from the early part of the century when many tenants had paid large grassums, lump sums which were often equal to three times the annual rent of the holding, to secure a 19-year lease.⁵⁹

Marketing and the Commutation of Rents

While farms, tenures and the basic structure of rural society were being slowly modified along more commercial lines, the tenant farmer was also becoming more involved in marketing. The traditional economy has been characterised by payments in kind as principal rents, by small payments in produce (kain rents) for the proprietor's household, and by labour services. By the end of the seventeenth century principal rents in the pastoral areas of Lowland Scotland had been almost entirely converted to money. Only along the Highland edge did the payment of principal rents in live animals and their produce continue.⁶⁰ In arable areas a start had also been made on commuting 'fermes', or grain rents, to money. The earliest known instances of this were on estates around Edinburgh from the 1640s.⁶¹ The capital provided a guaranteed market for produce as well as acting as an important outlet for exports. By the time of the Union in 1707 partial commutation of grain rents had spread to other areas, including the western Lowlands and north-east Scotland.⁶² There was also widespread conversion to money of kain rents and labour services. Commutation forced tenants to become more closely involved in a money economy. It was linked to an increase in the number of periodic market centres, especially between 1660 and

1708 when over 300 new non-burghal centres were authorised.⁶³ Urban growth and an increasing, if irregular, export trade in agricultural produce was encouraging internal marketing to break free from the constraints of the burghal system. This induced proprietors to begin transferring the responsibility for marketing estate produce to their tenants, though this process was still far from complete by the early eighteenth century.

Bulk Trade

While tenants were becoming more commercially minded, the trade in bulk produce, handled by the proprietors, was also growing. For east coast estates from Berwickshire to Orkney there is evidence of an expansion in the grain trade, especially after 1660. Part of this trade met the demands of Scotland's growing urban population: Edinburgh and Glasgow were particularly large consumers. There was also a developing export market. In the later seventeenth century, large quantities of grain were sent to Scandinavia and the Low Countries while England also imported considerable amounts of Scottish grain after a poor harvest.⁶⁴ In the pastoral sector the counterpart was the droving trade in live animals to England. This existed in the first half of the century but expanded substantially once competition from Ireland was removed in 1667. The rearing of sheep and especially cattle for the English market was sufficiently lucrative for several proprietors in Galloway to build large complexes of enclosures in which animals were cross-bred and fattened. The increasing profits from the grain and livestock trades may well have helped to finance the widespread conversion and rebuilding of country houses and the laying out of landscaped parks which occurred in the last forty years of the seventeenth century.

Rural Landscape Changes

Enclosure and the Country House

Social and economic development in Scotland had been hindered by three centuries of war with England and by internal political instability. With the exception of the Civil War period in the 1640s and 1650s, the seventeenth century brought more settled conditions and a spread of law and order. After the Union of the Crowns in 1603 the Borders were pacified, and although raiding continued along the margins of the Highlands, landowners throughout Lowland Scotland turned to litigation rather than force to settle their disputes. In the rural landscape this was marked by a modification of the bleak, functional lines of the fortified house and castle to produce the more decorative 'Scottish Baronial' style. After the Restoration in 1660 this trend continued with the conversion of many castles by the addition of new non-defensive wings, as at Traquair House, and the building of new country mansions on a classical model, such as Kinross House and Hopetoun House⁶⁵ (see Chapter 10).

Following English and Continental fashion, the new and converted country

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houses were surrounded by 'policies' or enclosed planting and parkland. This small-scale ornamental enclosure began to take on a more commercial role on many estates by the end of the century. In some cases the mains, or home farm, was also enclosed and farmed commercially by the proprietor. This encouraged experiments with new agricultural practices: convertible husbandry and selective breeding were tried on some estates.⁶⁶ In a countryside almost devoid of timber, landowners soon realised the value of large-scale block planting as a long-term investment. Around Yester House in East Lothian there were several thousand acres of young trees by the end of the century.⁶⁷ Elsewhere the scale of block planting was smaller but several other landowners could probably have claimed, like the Earl of Strathmore, that the trees which he had planted would, when mature, be equal in value to a year's rental of the estate.⁶⁸

Enclosure perhaps reached its greatest extent in Galloway, where the growth of the droving trade stimulated the construction of large parks. Sir David Dunbar's cattle park at Baldoon, near Wigtown, was estimated to have been four and a half kilometres long and over two and a half wide, but other examples of similar scale are known.⁶⁹ While enclosures of this type often involved the expropriation of several former farms, as at Castle Kennedy in Wigtownshire,⁷⁰ their management was kept strictly in the hands of the proprietors.

The amount of enclosure which had been achieved by the end of the seventeenth century was small in terms of the landscape as a whole, especially when compared with England. It consisted of islands of improvement in a sea of open-field, infield-outfield cultivation, and unenclosed rough pasture. Where estates were small but wealthy, as in the Lothians, these islands were quite thickly scattered. However, a start had yet to be made on enclosing the tenants' lands. The Military Survey of 1747-55 (Plate 6) shows that during the first half of the eighteenth century progress in this direction was slow. Nevertheless, the enclosed policies and mains formed a nucleus from which more widespread enclosure could be commenced. They also provided experience in new agricultural techniques which were later developed and extended by the first of the eighteenth-century 'Improvers' when sufficient capital was available and the economic situation was more favourable. The work of the 'Improvers' and the spread of enclosure in the eighteenth century are discussed by Adams (Chapter 7) and Caird (Chapter 9).

Rural Housing

Rising living standards for at least some of the tenantry were reflected in improved housing in the later seventeenth century. Early in the century evidence suggests that housing conditions were universally poor throughout Scotland. The typical tenant's house was cruck-framed and built of impermanent materials by the occupier himself, landlords supplying only the main timbers.⁷¹ Poor housing standards were doubtless aggravated by the prevalence of short leases which discouraged the investment of labour and capital in improvements. The typical farmstead was a long house, a plan favoured by the use of crucks.⁷²

There were, however, differences in the size and quality of houses depending upon the status of their occupiers. Larger tenants possessed houses with enough living space to be divided into two or three rooms, though single-room dwellings with central hearths were probably more common (Plate 3).

The progressively enlarged holdings which were being created in arable areas were accompanied by improved building construction. The long house began to be replaced by the courtyard farmstead where the outbuildings were grouped into one or two wings adjoining the dwelling house rather than in a single continuous range (Plate 4). The factor's house at Belhelvie, north of Aberdeen, with its two storeys, glazed windows and selection of specialised outbuildings perhaps typifies the dwellings of the new capitalist tenant farmers.⁷³ An important innovation was the spread of lime mortar, allowing crucks to be dispensed with and fully load-bearing walls to be constructed. At Lasswade, near Edinburgh, tenants were occupying two- and even three-storey farmhouses built with stone and lime by the end of the century.⁷⁴ The concept of permanency in rural housing was changing from a dwelling which would stand for the duration of a short lease to one which would last for two generations or more. The construction of such houses may have been encouraged by the spread of longer leases, and certainly indicates a willingness by both tenants and proprietors to invest more capital and labour in agriculture. They also reflected growing social differentiation, since labourer's cottages do not appear to have improved significantly.

Conclusion

The foregoing survey has necessarily been wide-ranging. It has emphasised the changing position of the tenant within the estate community in seventeenth-century Lowland Scotland. Social and economic change occurred largely within the framework of the estate, taking the form of alterations in the relationship between landlord and tenant, and modifications in the character of tenant farming. The study of estate structure and management is thus central to a consideration of the organisational changes in rural society which prepared the way for the transformation of the Scottish rural landscape in the eighteenth and nineteenth centuries.

In adopting a more commercial orientation, rural society in the more progressive areas of Lowland Scotland, particularly the east coast, was becoming polarized into a smaller class of prosperous tenants and a larger group whose direct dependence on the land was diminishing. As these changes occurred, co-operative husbandry declined and the selection of suitable tenants became determined more and more by their ability than by traditional paternalistic considerations. The creation of a modern farm structure thus commenced well before the 'classic' period of agricultural improvement.

Landscape changes also occurred. Their scale was greatest in a few limited

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areas such as the Lowlands around the Forth and Tay estuaries, under the influence of urban markets and in some cases of urban capital, and in the south-west, with the stimulus of the droving trade. This helps to explain why these were the first areas to develop fully commercialised farming systems in the eighteenth century.⁷⁵ The extent to which the rural landscape was modified in these areas prior to 1707 has probably been underestimated. Elsewhere landscape changes were more limited yet still important. Processes of holding amalgamation and consolidation modified the character of the traditional farmtown and the relationships between its occupants. Improvements in tenure, commutation and developments in marketing fostered more commercial attitudes. These were directly expressed in the landscape by improved housing conditions and new farmstead layouts, and probably indirectly by more dynamic attitudes to agricultural production leading to improved farming practices. The experiments of landowners with new systems of husbandry within enclosed mains and policies began to provide a basis of experience which would in time transform the entire landscape.

Overall, the evidence suggests that the character of Scottish rural society and the rural landscape did not remain static during the seventeenth and early eighteenth centuries. Development was sometimes faltering, but in the long term it accelerated slowly. Change was interrupted by the Civil Wars, the famines of the 1690s and the Jacobite rebellions of the early eighteenth century, but progress was never halted for long. The experiments of early-eighteenth-century improvers such as Cockburn of Ormiston and Grant of Monymusk can thus be seen more meaningfully as a direct continuation of seventeenth-century trends rather than as isolated, aberrant phenomena.

It must be emphasised that these changes were slow. They were not evident to contemporary writers and have thus escaped detection till recently. However, they appear to have been the result of conscious decision-making by landowners. This was probably a response to improving economic circumstances and even to new fashions. Proprietors were becoming involved in large-scale trade in agricultural produce. The old feudal society was passing. A more dynamic and business-like approach to estate management was appearing. Such forces had repercussions on the rural landscape and society as a whole.

It has only been possible to outline some of the changes which occurred and to suggest broad regional differences. These were based partly on economic contrasts between arable and pastoral farming. They were also due to a time lag between the more progressive areas around the larger burghs and more remote interior districts. The major burghs, especially Edinburgh, may have acted as centres from which new attitudes were diffused into the countryside. Of equal significance was their role as markets for agricultural produce and outlets for the export trade.

The evidence which has been discussed suggests that too much emphasis has been placed on the crop failures of the 1690s. These now appear as an isolated combination of uniquely severe weather conditions rather than the culmination

of a long-continued agricultural decline. They undoubtedly checked progress, but further research spanning the late seventeenth and early eighteenth centuries will probably reveal a pattern of continued slow, unobtrusive development with only a temporary reverse.

There is a need for more research on agrarian change at this period before the chronology of development, its underlying causes and its spatial variations become clear. There is no shortage of sources on which to work. For estates where runs of accounts and rentals have survived with supporting documents such as leases and other estate papers, detailed case studies would be particularly valuable. Accounts, factors' reports and correspondence, classes of documents which are most abundant for larger estates, may clarify the changing nature of proprietor/tenant relationships. Estate papers are also the main source for landscape changes such as enclosure and improved building construction. It would be valuable if the earlier phases of some of the changes which have been described could be pinpointed more accurately. The relative paucity of sources for the early part of the seventeenth century may have led to an underestimation of its importance.

Enough evidence is now available to indicate the need for a reassessment of the chronology and nature of agrarian change in Scotland from the sixteenth to the nineteenth centuries. Rural society and the agrarian landscape were by no means unchanging and the developments which occurred at this time formed the foundations in which the more spectacular and better-recorded achievements of the traditional 'Agricultural Revolution' were laid.

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ABBREVIATIONS USED IN THE TEXT AND BIBLIOGRAPHY

A.S. Agricultural Survey Series; A.S.D. Annual of Historical Geography;
 B.L.S. National Library of Scotland; B.S.A. Statistical Abstract of Scotland;
 C.A.S. Census of Agriculture of the Kingdom of Scotland;
 C.C.S. Census of the County of Scotland; C.S.S. Scottish County Society;
 C.S.A. Scottish County Society; C.S.S. Scottish County Society; C.S.S. County
 Society; C.S.S. Proceedings of the Institute of British Geographers;
 C.S.S.S. Transactions of the Scottish and Gallican Antiquary Society and
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ABBREVIATIONS USED IN THE TEXT AND BIBLIOGRAPHY

Ag.H.R. *Agricultural History Review*; J.H.G. *Journal of Historical Geography*;
 N.L.S. *National Library of Scotland*; N.R.A. *National Register of Archives*
 (Scotland); P.S.A.S. *Proceedings of the Society of Antiquaries of Scotland*;
 S.G.M. *Scottish Geographical Magazine*; S.H.S. *Scottish History Society*;
 S.R.O. *Scottish Record Office*; S.R.S. *Scottish Record Society*; S.S. *Scot-*
tish Studies; T.I.B.G. *Transactions of the Institute of British Geographers*;
 T.D.G.N.H.A.S. *Transactions of the Dumfries and Galloway Natural History and*
Antiquarian Society.

I INTRODUCTION

Scotland retained a separate identity as a nation state until the eighteenth century. Even after the Union of the Crowns in 1603 her political system and economy functioned almost independently from those of England. Following the Union of the Parliaments in 1707 a gradual social and economic convergence with England occurred. Nevertheless, Scotland retained her distinctiveness and continued to preserve many separate institutions including different legal, educational and ecclesiastical systems. Even today many social and cultural features of the country set her apart from her southern neighbour, whether it be the structure of landownership or the character of urban housing, while many decisions regarding internal matters rest in the hands of the Scottish Office rather than with Westminster.

It is not surprising therefore that Scottish historical geography involves problems which are markedly different from those of her neighbours. Progress in the historical geography of Scotland has lagged behind that of England, partly due to the small size of the Scottish academic community. For example there is not the broad base of local and regional scholarship which has contributed so much to the wealth of English historical studies. Scotland has no equivalent of the Victoria County Histories and, while several historical societies have been active from the nineteenth century in publishing and analysing samples of source material, economies of scale have been lacking. There has not been the amount of interpretative and analytical writing which has proliferated south of the Border. This may, in part, have been the result of the centralization of archive facilities in Scotland.

A small country, on the fringe of Europe, Scotland remained unsophisticated and undeveloped compared with her neighbours until the eighteenth century. The backwardness of her society, the unspecialised character of her economy, and the turbulent nature of her history resulted in a belated development of record-keeping, and the destruction of much of the early material which was produced. This situation has, however, been exaggerated, and it has sometimes been considered that insufficient material has survived to allow the study of spatial aspects of Scotland's development before the eighteenth century. That this belief is unfounded can be demonstrated by the vast amounts of pre-eighteenth century manuscript material preserved in the Scottish Record Office and other archives. It is true though that the volume of material tails off rapidly as one penetrates back beyond the sixteenth century. For the early medieval period written sources are indeed scanty compared with England. Scotland has no equivalent of Domesday Book, or the Hundred Rolls and fourteenth-century Lay Subsidies. Nevertheless, there is a good deal of late-medieval material - the records of the pre-Reformation church relating to administration and land ownership for example

- which would repay a detailed geographical study. On the credit side of the balance are sources for which no direct English equivalent exists - the record of land ownership from the early seventeenth century provided by the Register of Sasines for instance. In addition, as evidence of elements of continuity in the Scottish landscape begin to modify our views of the 'revolutionary' transformations of the eighteenth and nineteenth centuries, the face of the country itself holds more promise of providing answers to many questions.

This review is designed to provide an introductory guide to some of the most important sources for historical geography in Scotland. With such a broad scope it cannot claim to be comprehensive. Instead, it is designed to serve as a basis for undertaking research at various levels to anyone unfamiliar with Scottish conditions. Firstly, it surveys various categories of source material of potential use to the historical geographer, noting their location and spatial and temporal coverage and mentioning problems involved in working with them. Secondly, reference is made to published and readily available examples of particular types of source which are representative of their genre. Thirdly, published work which has used them to tackle geographical problems, has been cited. The intention is not to provide a detailed guide to published primary sources or modern research. The information given should, however, assist the location of primary sources which are of greatest relevance to a problem or topic of interest, and allow bibliographies of secondary material to be assembled more rapidly. During the eighteenth and nineteenth centuries Scottish sources increasingly converged with English ones. Accordingly, less space has been devoted to material such as parliamentary papers which are essentially 'British' or which are closely comparable with English sources - for example urban directories or census enumerators' books. Emphasis instead has been placed on sources which are distinctively Scottish or which date from before 1707.

LOCATION OF SOURCE MATERIAL

As Scotland's institutions differed in the past from those of England and continue to do so at the present, it is not surprising that the organization of archive preservation and storage has developed along separate lines. In contrast to England, Scotland has, until recently, centralized the storage of her public and even some of her private records to a marked degree. The central repository is the Scottish Record Office, H.M. Register House, Edinburgh. The S.R.O. contains the records of the Scottish government to 1707 and from that time onwards, records of British government departments which were concerned with Scottish affairs, including those which came into being with the creation of the Scottish Office in 1885, and records of Scottish branches of nationalized industries such as British Rail and the National Coal Board. This archive is divided into the original (East) Register House which contains most of the earlier official records. New Register House, immediately adjacent, holds the Scottish parish registers, the Registrar General's records,

and the Census returns and enumerators' books for Scotland. West Register House, Charlotte Square, Edinburgh, houses among other things the S.R.O.'s plan collection and the records of the Court of Session.

Unlike England there were, until recently, no county or regional record offices in Scotland. The S.R.O., besides having responsibility for official material, also holds various sources created by official and semi-official bodies at a local level such as sheriff, regality and baron court proceedings, burgh records and kirk session and parish registers whose English equivalents are decentralized to at least county level. In addition, many private muniment collections have been gifted to the S.R.O. or deposited on indefinite loan. This does not mean that no material is available locally; rather that facilities for consultation have not been developed to the extent that has occurred in England. Outside the S.R.O. some larger burghs such as Edinburgh and Glasgow, and the libraries of many universities, have archive departments with organised search-room facilities. Apart from these, material is widely scattered, with varying opportunities for access, in the muniment rooms of landowning families, in the hands of business and industrial concerns, with solicitors, the church and in local libraries. Access to sources in private hands which have been surveyed by the National Register of Archives, (Scotland) may be arranged through West Register House.

The National Library of Scotland, George IV Bridge, Edinburgh, is the only Scottish copyright library. It is particularly good for Scottish material, having absorbed the earlier Advocates' Library, and it also has an important manuscript collection. Opposite the N.L.S. is the Edinburgh Public Library, the Scottish Library of which has a good general reference section of books, maps and newspapers relating to Scotland. Occasionally material unobtainable in the National Library may be found here, or may be obtained more readily.

The position of archive storage and the provision of services to the public has changed with recent local government reorganization. From 1975 powers have been available allowing regions and districts to provide archive services. Local government districts have scope, if they wish, to appoint archivists, although most districts have so far used local libraries to retain material. At the regional level the position varies considerably. The Strathclyde Region has perhaps gone furthest in organising its archive services. The Glasgow city record office in George Square has now become an archive for the region and has received material from many of the burghs in the Glasgow area. An increasing emphasis is, however, being placed on the storage of material and the provision of facilities at a sub-regional level. Thus, while the records of the old counties of Dunbartonshire, Lanarkshire and Renfrewshire, with relatively good access to Glasgow, have been transferred to the regional archive, those for Ayrshire are being stored locally with a record office in Ayr staffed part-time from Glasgow. For the more distant Argyll

and Bute district a local archivist has been appointed with the archive located, provisionally, at Lochgilphead. The Central Region has established an archive and has produced an 'Inventory of Central Region Archives Department' Stirling 1977. In the Lothian region, Edinburgh city district has taken on responsibility for the region and for the records of two of the districts, while a similar position obtains with respect to Aberdeen and the Grampian region. Archives have also been established by Moray district, and for Orkney and Shetland. Less progress has so far been made in the Dumfries and Galloway, Fife, Highland and Tayside regions.

II GENERAL RESEARCH AIDS

The following section lists various general works which are of use in identifying and locating material of interest, in providing background information on the area of study, and in identifying previous research both on the sources themselves and their interpretation. Most of this material is available on open shelves in the N.L.S. and S.R.O., as well as in university and major public libraries in Scotland.

1. GUIDES TO SOURCE MATERIAL

N.E.S. Armstrong. *Local collections in Scotland*. Scottish Library Association. (Glasgow 1977). An invaluable guide to the broad categories of material held in public and university libraries throughout Scotland.

P. Cadell. Manuscript resources in the National Library of Scotland. *Local Historian*. 11 1975 445-448.

R.H. Campbell and J.B.A. Dow. *A source book of Scottish economic and social history*. Oxford 1968. Contains sample extracts from various sources, mainly eighteenth and nineteenth century in date, relating to agriculture, industry, labour history, housing, social conditions and transport.

I.B. Cowan. The Vatican archives - a report on pre-Reformation Scottish material. *S.H.R.* 48 1969 227-242.

W.C. Dickinson et.al. (eds.) *A source book of Scottish History*. 3 vols. Edinburgh 1952-54. Prints extracts from a variety of sources, including material on social and economic conditions, as well as political affairs. Particularly good for the sixteenth century and earlier.

G. Donaldson. Sources for Scottish agrarian history before the eighteenth century. *Ag.H.R.* 8 1960 82-92.

G. Donaldson. *Scottish historical documents*. Edinburgh 1970. Reproduces documents (mainly political) relating to some of the most important events in Scottish history before 1707.

J. Imrie and G.G. Simpson. The local and private archives of Scotland. *Archives* 3 no.19 1958 219-30.

M. Livingstone. *A guide to the public records of Scotland deposited in the General Register House, Edinburgh*. Edinburgh 1905. Contains brief details of various classes of official and semi-official records.

M.H.B. Sanderson. Sources for Scottish local history - the Scottish Record Office. *Local Historian*. 11 1974 123-9.

J. Steel. *Sources for Scottish genealogy and family history*. Phillimore 1970.

J.M. Thomson. *The public records of Scotland*. Glasgow 1922. The standard guide to public records in the S.R.O. - particularly good for the seventeenth century and earlier.

B. Webster. *Scotland from the eleventh century to 1603*. The sources of history series. London 1975.

2. SOURCE LISTS

The S.R.O. maintains an index of source lists of material held by them, including both private and public records. The topics of some lists are of direct relevance to the historical geographer, and include coal mining, communications, economic history, emigration, the Highlands and Islands, and local history. The N.R.A. has also issued source lists for material in private hands. Copies of these are available in the S.R.O. They include lists relating to business and industrial archives, the textile industries, travel diaries and transport and communications.

3. BIBLIOGRAPHIES

3.1 *Bibliographies of secondary sources* I.H. Adams. Agrarian landscape terms: a glossary for historical geographers. *Institute of British Geographers Special publication no. 9* 1976. Contains a bibliography of over 2,000 items, including many works on Scotland.

P.D. Hancock. *A Bibliography of works relating to Scotland 1916-50*. 2 vols. Edinburgh 1960. Volume I is organised by county and region and contains general sections on atlases, maps, guides etc. Volume II is organised systematically by topic.

I.D. Whyte. Scottish historical geography - a review. *S.G.M.* 94 1978 4-23. A review of research and writing with a selected bibliography of work by geographers.

The *Economic History Review* has published a series of bibliographies on Scottish economic history: up to 1931; 3 1931-2 117-37, from 1932 to 1951; 2nd ser. 16 1963-4 147-54, and from 1963-70; 2nd ser. 24 1971 469-71.

3.2 *Annual Bibliographies and Reviews Agricultural History Review* - annual bibliography, with reviews.

Discovery and Excavation in Scotland. An annual publication by the Council for British Archaeology with an extensive bibliography.

Economic History Review. Annual bibliography, with reviews.

Scottish Geographical Magazine. Annual bibliography, with reviews.

Scottish Historical Review. Annual bibliography, with reviews.

Urban History Yearbook. Annual bibliography and reviews of research in progress.

3.3 *General Bibliographies of Primary Sources* H.G. Aldis. A list of books printed in Scotland before 1700. Edinburgh 1970.

F. Gouldesbrough, A.P. Kup and I. Lewis. *Handlist of Scottish and Welsh Record Office publications*. British Record Association. London 1954.

C. Mathieson. *A catalogue of the publications of Scottish historical and kindred clubs and societies 1908-27*. Aberdeen 1928. See C.S. Terry below.

A. Mitchell. A list of travels, tours, journeys, voyages etc. relating to Scotland. *P.S.A.S.* 35 1900-1 431-68.

A. Mitchell and C.G. Cash. *A contribution to the bibliography on Scottish topography*. S.H.S. Edinburgh 1917 2 vols. Volume I is divided by county and region, listing historical and topographical material by parish, settlement and locality within each county. Volume II is organised by topic.

C.S. Terry. *Catalogue of the publications of Scottish historical and kindred clubs and societies 1780-1908*. Glasgow 1909. This contains chronological lists of the publications of each club (primary material and secondary articles).

The N.L.S. maintains a large bibliography on Scottish topography indexed by town, county and parish, along with a topic index.

3.4 *Regional Bibliographies* Various regional bibliographies have been published. The most readily available are:-

Bibliography of books and articles relating to Islay. Islay archaeological survey group, London and Bowmore 1971.

N. Craven. *A bibliography of the county of Angus*. Forfar 1975.

J.H. Jamieson and E. Hawkins. *A bibliography of East Lothian*. Edinburgh 1936.

J.F.K. Johnstone. *A concise bibliography of the history, topography and institutions of the shires of Aberdeen, Banff and Kincardine*. Aberdeen 1914.

J.F.K. Johnstone and A.W. Robertson. *Bibliographia Aberdonensis 1472-1700*. New Spalding Club, Aberdeen 1929-30. A list of books relating to or printed in the North East.

J. Mowat. *A new bibliography of the county of Caithness*. Wick. 1940.

4. BIOGRAPHY

Rev. T. Thomson (ed.) *Bibliographical Dictionary of Eminent Scotsmen*. 6 vols. London 1865.

Dictionary of National Biography. Various editions. 63 vols. and index. London 1885 onwards, with 7 vols. on the twentieth century.

G. Donaldson and R.S. Morpeth. *Who's who in Scottish history?* Oxford 1973.

Ibid. *A dictionary of Scottish history*. Edinburgh 1977.

H. Scott (ed.) *Fasti Ecclesiae Scoticanæ*. 6 vols. Edinburgh 1883. The succession of ministers of the Church of Scotland from the Reformation.

5. DICTIONARIES

Sir William Craigie (ed.) *Dictionary of the Older Scottish Tongue from the twelfth century to the end of the seventeenth*. 4 vols. plus supplements. Oxford 1937 onwards. Complete to end of letter 'O'.

Scottish National Dictionary. 10 volumes, Edinburgh. 1931 onwards. Lists all Scottish words known to be in use, or have been in use, since c1700.

6. TERMINOLOGY

I.H. Adams. *Agrarian landscape terms: a glossary for historical geographers*. *Institute of British Geographers Special Publication no. 9*. London 1976.

W. Bell. *Dictionary and digest of the law of Scotland*. Various editions Edinburgh 1828-90. The standard reference work for legal terminology.

G. Donaldson and R.S. Morpeth. *A dictionary of Scottish history*. Edinburgh 1977.

7. PALAEOGRAPHY

G.G. Simpson. *Scottish handwriting 1150-1650*. Edinburgh 1973. A comprehensive guide, including examples of styles which continued into the late seventeenth and early eighteenth centuries. From the early eighteenth century most scripts are recognisably modern.

8. PLACE NAMES

W.F.H. Nicolaisen. *Scottish place names: their study and significance*. London 1976. This is the most recent and authoritative survey of the development of place names. It contains a comprehensive bibliography of specialist and local studies.

9. GAZETTEERS

F.H. Groome (ed.) *Ordnance gazetteer of Scotland*. Edinburgh 1882 and subsequent editions. Gives fairly lengthy descriptions of history, antiquities etc. and also gives areas of most parishes before the late nineteenth century boundary changes.

D.L. MacNie and M. McLaren. *The new Shell guide to Scotland*. London 1977. One of the best of modern topographical guides.

R.W. Munro (ed.) *Johnston's gazetteer of Scotland*. Revised edition. Edinburgh 1973. Brief entries but lists a large number of place names.

Ordnance Survey gazetteer of Great Britain. Southampton 1972. Gives national grid references of all places named on the Ordnance Survey 1:250,000 map.

10. ATLASES

P. McNeill and R. Nicholson. *An historical atlas of Scotland c400 - c1600*. St. Andrews 1975. A series of 117 maps with accompanying explanatory notes and references. The maps cover topics such as physical features, the distribution of place name elements and archaeological finds, political, administrative and ecclesiastical boundaries at various periods, the distribution of mottes, tower houses and castles, and the location of religious foundations and their lands.

11. GENERAL HISTORIES

The most comprehensive of recent general histories is the four-volume 'Edinburgh history of Scotland' comprising:-

A.A.M. Duncan. *Scotland: the making of the kingdom*. Edinburgh 1975.

R. Nicholson. *Scotland: the later middle ages*. Edinburgh 1973.

G. Donaldson. *Scotland: James V to James VII*. Edinburgh 1965.

W. Ferguson. *Scotland: 1689 to the present*. Edinburgh 1968.

These volumes are amply footnoted and provide a good introduction to the general sources available for the study of particular periods. Useful single-volume histories include R. Mitchinson. *A history of Scotland*. London 1970 which is particularly detailed for the early modern period. T.C. Smout. *A history of the Scottish people 1560-1830*. London 1969 remains the best general social and economic history.

12. LOCAL SOCIETIES

Although many local archaeological and historical societies exist in Scotland they have not played as prominent a part in publishing local studies as the English and Welsh societies, perhaps due in part to the centralization of much archive material. Publications by nineteenth and early twentieth-century societies are listed in works cited in section 3.3. The more prominent societies which are still producing local transactions include:- Abertay Historical Society. Ayrshire Archaeological and Natural History Society. Berwickshire Naturalists' Club. Dumfries and Galloway Natural History and Antiquarian Society. East Lothian Natural History and Antiquarian Society. Hawick Archaeological Society. Natural History and Antiquarian Society of Mid-Argyll.

Productions by local societies and local publishers are listed annually in the bibliography of 'Discovery and Excavation in Scotland' (Section 3.2).

13. AERIAL PHOTOGRAPHS

Aerial photographs may be consulted on application to the Scottish Development Department, York Buildings, Queen Street, Edinburgh.

14. ARCHAEOLOGICAL SITES AND HISTORIC BUILDINGS

14.1 *Archaeological Sites* The Ordnance Survey, 43 Rose Street, Edinburgh, formerly held an index of all archaeological sites identified by them in Scotland, related to the 1:10,560 map series. This is in the process of being transferred to the Royal Commission on Ancient and Historical Monuments, 54 Melville Street, Edinburgh. General guides - E.W. MacKie. *Scotland - an archaeological guide*. London 1975 contains an up-to-date bibliography. Outlines of excavations in progress, and of surveys, chance finds etc. are given annually in *Discovery and Excavation in Scotland*. Full reports of many Scottish excavations are published in the annual *Proceedings of the Society of Antiquaries of Scotland*, while others appear in local society transactions (see section 12). The Royal Commission on the Ancient and Historical Monuments of Scotland: volumes covering antiquities and historic sites have been published for some 20 counties, mainly in Southern, Central and Northern Scotland from 1911 onwards.

14.2 *Architecture* Two old but standard works are:-

D. MacGibbon and T. Ross. *The castellated and domestic architecture of Scotland from the twelfth to the eighteenth century*. Edinburgh 1887 5 vols.

Ibid. *The ecclesiastical architecture of Scotland from the earliest Christian times to the seventeenth century*. Edinburgh 1896 3 vols.

More recent guides include:-

J.G. Dunbar. *The historic architecture of Scotland*. London 1966.

G. Hay. *The architecture of Scotland*. London 1977.

H. Petzsch. *Architecture in Scotland*. London 1971.

The National Monuments Record, 54 Melville Street, Edinburgh, has a collection of photographs and plans of archaeological and architectural interest. The National Museum of Antiquities, Queen Street, Edinburgh, has a large library of books, photographs etc. relating to Scottish archaeology and architecture.

14.2 *Vernacular Architecture* R. de Z. Hall. *A bibliography on vernacular architecture*. Newton Abbot. 1972. Contains sections on Scotland.

A. Fenton and B. Walker. *The rural architecture of Scotland*. Edinburgh 1981 is the most important recent study.

Virtually no examples of vernacular building in the countryside have survived from before the early eighteenth century, though many burghs contain examples of houses from the seventeenth and even the late sixteenth centuries. For rural housing, manuscript estate plans and estate papers form an important, and only partly explored, sources. See. I.D. Whyte (1975) and B. Walker (1979). Few rural settlement sites of medieval and later date have been excavated and urban archaeology is a fairly recent development (N.P. Brooks 1977; I.A. Crawford and R. Switsur, 1977). Work on Scottish vernacular architecture is currently co-ordinated by the Scottish Vernacular Buildings Working Group whose newsletter contains details of the group's activities, research in progress, and evaluations of source material. Important collections of visual material relating to vernacular building are housed in the School of Scottish Studies, 27-8 George Square, Edinburgh and the Country Life section of the National Museum of Antiquities of Scotland, York Buildings, Queen Street, Edinburgh, as well as in George Washington Wilson photographic collection of Aberdeen University Library.

III SOURCES FOR SCOTTISH HISTORICAL GEOGRAPHY

1. AGRICULTURAL RECORDS

1.1 *Agricultural Improvers* The writings of agricultural improvers, despite their biased and unrepresentative character, form an important body of information on agrarian change in Scotland from the late seventeenth to the nineteenth century. Their comments on pre-Improvement farming must not, however, be treated uncritically. Care should be taken to differentiate between improvements which were actually being put into practice and those ideas, often idiosyncratic, which were inappropriate and unworkable in a Scottish context. The first works on agricultural improvement appeared during the 1690s by such men as Lord Belhaven and James Donaldson, but as the fashion for estate development spread and economic conditions became more encouraging, Scotland developed a substantial literature in this field. Bibliographies of the writings of Scottish improvers are given in J.E. Handley (1963), J. Symon (1959) and J. Watson and G.D. Amery (1931). Manuscript material relating to the management of estates of improvers sheds a good deal of light on the sources of their ideas and the ways in which they put them into practice, eg. J. Colville (ed.) *Letters of John Cockburn of Ormiston to his gardener. 1727-44.* S.H.S. Edinburgh 1904. H. Hamilton (ed.) *Selections from the Monymusk papers 1713-35.* S.H.S. Edinburgh 1945. A biography of Sir John Sinclair, the most prolific and influential of late eighteenth century improvers, has been written by R. Mitchison (1962). The two series of county reports, covering the whole of Scotland, published by the Board of Agriculture in the 1790s and the early years of the nineteenth century are also an important source on agricultural improvement. For a list of the volumes and authors see J.A. Symon (1959).

1.2 *The Royal Highland and Agricultural Society* Founded in 1784 for encouraging improvements in the Highlands and in agriculture generally, the Royal Highland and Agricultural Society became the premier forum for debate on and the dissemination of new ideas relating to all aspects of husbandry, and the rural economy in general. The Prize Essays of the society, from 1799, continued as the Transactions of the Highland and Agricultural Society from 1843, contain regional reports, case studies and theoretical and practical observations upon a variety of topics. As well as more conventional aspects of agriculture, communications (roads, canals), forestry, rural industry (linen, kelp), fisheries, housing, and rural social conditions are discussed.

1.3 *Sources for Crofting Agriculture* Although the tendency to treat the Highlands as a special problem region has sometimes been overdone, the creation of the crofting landscape in the nineteenth century has given rise to some specialist institutions and sources. Many of the relevant official records for the nineteenth century are available in the S.R.O. and include the evidence presented to the Napier Commission of 1883-4, the records of the late nineteenth century Congested Districts Board, the Crofters' Commission of 1886-1912 and the Scottish Land Court which took over the administration of crofting legislation in 1912. The Scottish Home and Health Department files contain much information on health and social conditions in the crofting areas during the later nineteenth century and also have material on evictions, disturbances and unrest at this period. More up to date information on the crofting counties is available in the library of the Highlands and Islands Development Board in Inverness. The most useful recent studies are A.J. Youngson (1973) and J. Hunter (1976).

1.4 *Rural Material Culture* The Country Life section of the National Museum of Antiquities of Scotland, Queen Street, Edinburgh, has a large collection relating to material culture, farm implements, rural customs etc. See A. Fenton (1976).

2. AGRICULTURAL DATA

It was not until the nineteenth century that the British government collected statistical information except as a by-product of some administrative activity.

2.1 *Agricultural Data 1845-57 (S.R.O.)* It was 1845 before an agricultural survey was started in Scotland. This was restricted to Midlothian and, under the auspices of the Board of Trade, village schoolmasters were authorised to collect the data. Details of individual holdings are not, however, given for most parishes. Parl. Papers LX 1847 (468) 11. In 1853 the Highland and Agricultural Society employed enumerators to collect agricultural data for districts (groups of parishes) in the counties of Haddington, Roxburgh and Sutherland on an experimental basis. Parl. Papers 1852-3 c1 (917) 163. In 1854 this census was extended to cover the whole of Scotland and was carried out annually until 1857. Except for 1854 the surveys do not cover properties rented

below £20 in the Highlands and £10 in the Lowlands. Parl. Paper 1854-5 XLVII (1876) 637; 1856 LIX (2) 369; 1857 XL (2145) 1; 1857-8 LVI (2307) 333. For the 1857 survey and for the county of Linlithgow only data on crops were recorded on Ordnance Survey Maps (S.R.O.).

2.2 *The June Returns* (S.R.O.) Annual agricultural data were collected for the whole of Britain from 1866 and are known as the June Returns because of their month of collection. They were completed on a voluntary basis and estimates were made in cases of omission. The individual returns were destroyed to preserve the anonymity of farmers but the data were preserved at a parish level. In 1866 the minimum size of holding dealt with was five acres but this did not remain constant. Care must be taken in comparing data collected on the basis of different criteria. It must also be remembered that as returns were made on the basis of holdings distortion may result if many of these lay in two or more parishes. The returns list the acreages of a variety of crops, together with the numbers of stock (the categories of which did not remain constant) and the size of holdings at the parish level. The census data may be used to identify spatial and temporal differences in cropping and livestock farming patterns. Information on the collection of agricultural statistics may be found in H.M.S.O. *A century of agricultural statistics*. 1866-1966 London 1968. The June Returns have been used by J.T. Coppock (1958, 1976).

3. BURGH RECORDS

3.1 *Pre-Eighteenth Century* In earlier times Scottish burghs were divided into two groups. Royal burghs held their charters direct from the crown. They enjoyed a monopoly on foreign trade until the later seventeenth century and possessed sole rights to internal trade within defined hinterlands or 'liberties'. They were represented in the Scottish parliament before 1707 and had an influential organization, the Convention of Royal Burghs, to co-ordinate and further their interests. Their privileged position, more complex corporate structure and heavier tax liabilities have resulted in a considerable volume of documentation. The second group, burghs of barony and regality, were held from lay or ecclesiastical landowners and had a lower status, smaller trading areas, and restrictions upon their trading activities (I.D. Whyte 1979b).

The most recent general survey of urban development in Scotland is I.H. Adams (1978). A list of burghs, with dates of foundation, has been prepared by G.S. Pryde (1965). Also useful, particularly for non-burghal sites which received rights to hold markets and fairs, is J.D. Marwick (1890). The original charters of many burghs are preserved in the Register of the Great Seal and the Acts of the Parliaments of Scotland (Section 15). For an example of early burgh material see: W.C. Dickinson. *The early records of the burgh of Aberdeen 1398-1407*. S.H.S. Edinburgh 1957. The records of the Convention of Royal Burghs, which are preserved in the S.R.O., have been published in extract form.

Records of the Convention of the Royal Burghs of Scotland 1295-1738. Scottish Burgh History Society. 4 vols. Edinburgh 1866-85.

The records of 77 royal and other burghs have been donated to the S.R.O., the accent being upon earlier material, although many burghs retained large quantities of documents in their own archives. Since the 1975 reforms much of the material in the S.R.O. is being dispersed to regional, local and university archives, only sasines and protocol books being retained at Register House. The Scottish Burgh Records Society has published extracts from the records of some of the ancient royal burghs including 14 volumes relating to Glasgow between 1175 and 1833, and 18 concerning Edinburgh, along with specialist studies such as J.D. Marwick. *Edinburgh Guilds and Crafts.* Edinburgh 1909. Other burghs included in this series are Lanark, Paisley, Peebles and Stirling. The Spalding Club has published extracts from the records of North Eastern burghs such as Aberdeen, Banff, Elgin and Inverness. Other relevant material can be found in various historical society collection (See Section II 3.3).

The manuscript records of royal burghs include burghess and apprentice registers (see Section 14.3), minute books of the merchant and craft guilds, burgh court books, registers of deed containing business transactions of individuals and the burgh corporations themselves, marriage contracts, dispositions and settlements etc. The transfer of urban property before 1617 is recorded in protocol books (See Section 11.1); e.g. the published series for Glasgow 1547-1600 in the Scottish Burgh History Society publications. From the seventeenth century royal burghs kept their own registers of sasines. See W.C. Dickinson (1946) for a review of some of this material. Manuscript collections also contain the minutes, accounts and correspondence of burgh officials - see L.B. Taylor (ed.) *Aberdeen Council Letters 1552-1681* 6 vols. Oxford 1942 onwards. From 1535 royal burghs were required to keep accounts of their common good funds and to present them to the exchequer each year. These are kept in the S.R.O., E.82 series. See G.S. Pryde (ed.) *Ayr burgh accounts 1534-64.* S.H.S. Edinburgh 1937. Other sources containing valuable material on urban population and occupations in the early modern period, include parish registers, bills of mortality, and late seventeenth-century hearth tax and poll tax returns (See sections 14.5, 14.1, 14.2).

Burghs of barony and regality are not as well documented before the eighteenth century. Information on them may be found in baron and regality court books, kept in the S.R.O. or locally (Section 7.3). G.S. Pryde's volume *The Court book of the burgh of Kirkintilloch 1658-1694* S.H.S. Edinburgh 1963 is a good example of this type of material and contains an introduction discussing the social and economic characteristics of this type of burgh during the seventeenth century. Some burghs of barony become absorbed by neighbouring royal burghs and their records have been incorporated with the records of the latter: for example, material relating to Newton-upon-Ayr is preserved among the Ayr burgh archives, and those of Portsburgh in Edinburgh

while many records relating to Port Glasgow are held in the Glasgow city archives.

3.2 *The Eighteenth Century Onwards* Documentation becomes increasingly complex and voluminous from the middle of the eighteenth century and it is only possible to give an indication of the range of material which is available. The S.R.O. E. series contains the Shop Tax Assessments, giving details of all shops for the period 1785-9, and the window tax and inhabited house tax records. R.C. Fox (1979) has used these sources, along with valuation rolls (Section 11.3) in reconstructing social and commercial patterns in late eighteenth and early nineteenth-century Stirling. Dean of Guild records contain petitions, plans and authorizations for all new urban building projects and alterations. They are a major source of information on urban growth and land use during the nineteenth century and have been used by J. Whitehand (1972) in his study of urban fringe belts and building cycles. See also M. Barke (1974).

As the nineteenth century progressed, more information was collected on public health, housing and urban utilities. Reports presented to town councils contain increasing amounts of information on education, postal and transport services, housing, the church, the regulation of markets and slaughter-houses etc. Two recent studies of urban growth and public health in nineteenth-century Scottish towns which give a good indication of the available sources are those of P.J. Smith (1975) which makes extensive use of town council and police commission records, and E. McKighan (1978). The Board of Supervision records 1867-98 (S.R.O.) contain data on poor law management and public health. Earlier in the century the Commissioners of Police undertook many duties relating to public health (S.R.O.). Details of royal commission reports and other sources concerned with public health, water supply and housing are contained in I.H. Adams (1978). Urban housing has also received more attention recently - see J. Butt (1971, 1979) E. Gaudie (1974, 1976). Medical officer of health reports are available from the third quarter of the nineteenth century. On sources for public health see S.M. Blackden (1976). Valuation rolls may also be used to supply details of house valuation, tenure and householders' occupations (G. Gordon, 1979).

4. CHURCH RECORDS

4.1 *Early Ecclesiastical Records* Many of the cartularies of Scottish monasteries and other religious foundations such as collegiate churches have been preserved among the Advocates' Manuscripts in the N.L.S. where a detailed index is available. Other records are held in various archives: for details, see G.R.C. Davis. *Medieval Cartularies of Great Britain - a short catalogue*. London 1958. Some documents, especially for the sixteenth century, passed into the hands of the lay proprietors who acquired church property after the Reformation. The standard reference work on Scottish religious houses is D.E. Easson and I.B. Cowan. *Medieval Religious Houses: Scotland*. 2nd ed. London 1976. Most of the cartularies have been published in whole or

in part by nineteenth and twentieth-century historical societies. See G.R.C. Davis (1958) for details. These cartularies contain collections of charters extending back to the thirteenth century in some cases, and for later periods, rentals with some accounts and leases. Some of this material, particularly C. Rogers (ed.), *The Register of Coupar Abbey*. Grampian Club, 2 vols. Aberdeen 1880 was used by T.B. Franklin (1952) in his history of Scottish agriculture. The accounts of some of the pre-Reformation dioceses are also informative on social and economic affairs - for example R.K. Hannay (ed.) *Rentale Sancti Andree*. S.H.S. Edinburgh 1913 (chamberlain's and granitar's accounts for the archbishopric of St. Andrews 1538-46). R.K. Hannay (ed.) *Rentale Dunkeldense*. S.H.S. Edinburgh 1915. (accounts of the bishopric of Dunkeld 1505-17).

4.2 *Kirk Session Records* From the Reformation onwards, kirk sessions, assemblies of the minister and elders of a parish, had a powerful influence on all aspects of local society. Their duties were connected with the spiritual welfare of their parishioners but this involved enquiries into many aspects of everyday life. The minutes and other records which they produced are a major source of information on social conditions. Most of these records have been transferred to the S.R.O. but some are still retained locally in church hands. The S.R.O. general index also included details of kirk session records which are incorporated with parish registers and are lodged in New Register House. Kirk session material includes cases dealing with adultery, marriage problems, divorce, Sabbath breaking, blasphemy, gambling, usury, drunkenness, slander and assault. The records also contain cases of witchcraft, details of poor relief (see A.A. Cormack 1932) and communion rolls, while a variety of demographic information may be extracted (see M. Flinn 1977 70-1). An early example of kirk session material has been published: D.H. Fleming (ed.) *Register of the Kirk Session of St. Andrews 1559-1600* S.H.S. 2 vols. Edinburgh 1880-90. A later example is available in: A.M. Munro (ed.) *Extracts from the session records of Old Machar 1621-1758*. in 'Records of Old Aberdeen' New Spalding Club, Aberdeen 1909. For a discussion of kirk session records and their contents see R. Mitchison (1974).

5. COURT RECORDS

5.1 *Court of Session* The Court of Session was the highest civil court in Scotland. Its records, from 1542, are held in West Register House which has alphabetical indexes of processes and pursuers, with a 75-year closure rule. Court of Session records are important for particular types of case, such as divisions of commony: see I.H. Adams (1967, 1971). Processes handled by the court contain depositions of witnesses, rentals, surveys, reports, plans and other original documents.

5.2 *Register of Deeds* From 1554 this was a separate branch of the Court of Session. The register recorded obligations and contracts of all kinds and made them legally binding. A particular advantage is that instead of merely recording a summary of the

proceedings, copies of the actual bonds or agreements were handed in and retained for registration. The register is yet another little-exploited source, although the method of indexing it, by means of the parties involved, and not by topic, makes it something of a lucky dip unless it is used in conjunction with other data. While marriage contracts and agreements concerning money were among the most common types of business, topics as diverse as indentures of apprenticeship, building contracts and agreements to undertake agricultural improvements were also included. Contracts include those relating to economic activities such as the grain trade.

5.3 *High Court of Justiciary* This was Scotland's highest criminal court. Records for the central court are available from 1493 and for the circuit courts from 1576 (S.R.O.). For a published example, see J. Cameron (ed.) *The justiciary records of Argyll and the Isles*, vol I Stair Society Edinburgh 1949, vol. II (ed. J. Imrie) 1705-42, Edinburgh 1969.

5.4 *Sheriff Court* The Sheriff Court records form one of the most important, yet under-used, sources for the study of the economy and society of Scotland, particularly before the mid eighteenth century. The origins of the sheriffdoms and the functions of their courts are discussed in the introduction and appendix of W.C. Dickinson (ed.) *The sheriff court book of Fife 1515-22*. S.H.S. Edinburgh 1928. Sheriff court records extend back into the fifteenth century but regular runs of material rarely occur before the sixteenth century. The courts had jurisdiction over both civil and criminal cases. Their records include registers of decreets and processes, and registers of deeds (see Section 5.2). The types of civil matters which were dealt with included the registration of agreements such as leases, the removal of tenants, the poinding (seizure) and valuation of goods in cases of debt, and the settling of disputes; for example over boundaries. The best published source illustrating the scope and variety of these records is D. Littlejohn. *Records of the sheriff court of Aberdeenshire* Spalding Club. 3 vols. Aberdeen 1904-7, covering the sixteenth and seventeenth centuries. R.A. Dodgshon (1975c) has made extensive use of sheriff court material in his study of the nature and removal of runrig in south east Scotland.

5.5 *Commissary Courts* These were set up in 1563 replacing the pre-Reformation church courts. They continued until 1826. Their main significance to the historical geographer is that they acted as courts of record, particularly for the registration of testaments. The pre-Reformation records are generally in Latin, those after 1560 in the vernacular. Each testament contained the names of the executors, an inventory of the moveable estate of the deceased (in the case of agricultural tenants, details of implements, livestock and growing crops), date of death and, if one existed, a copy of the will. The 15 jurisdictional areas of the church courts coincided approximately with the pre-Reformation dioceses. The later Commissariat districts eventually numbered 22. The Edinburgh register was open to receive testaments from any part of Scotland and from Scots who had died overseas.

The Scottish Record Society have produced indexes of testaments which often commence in the sixteenth century but are frequently incomplete until much later. These have yet to be used systematically for a geographical study in the way that probate inventories have been used in England. See, however, M.H.B. Sanderson (1973). After 1823 registrations of testaments was transferred to the Sheriff Courts.

6. CUSTOMS ACCOUNTS

The S.R.O. E.71 first series of customs accounts spans the sixteenth and early seventeenth centuries. The records of the various customs precincts have survived with varying degrees of completeness but provide a good indication of the state of the Scottish economy at this time. They have been used by S.G.E. Lythe (1960) and A. Murray (1965). The E.72 second series has survived from the 1660s for some customs precincts, but for most areas they are only complete for parts of the 1680s and early 1690s. The format is more standardized than that of the first series, and books are divided into records of imports and exports for customs years beginning on 1st November. The accounts of the Border precincts record overland traffic to England, as do those for the city of Edinburgh (as opposed to the Leith customs precinct which recorded traffic by sea). These records were extensively used by T.C. Smout (1963) in his study of Scottish trade in the late seventeenth and early eighteenth centuries. English customs records in the P.R.O. may also shed light on imports from Scotland. See D. Woodward (1977a, 1977b). From 1742 to 1832 detailed and standardized records of imports and exports for each customs area are available in the S.R.O. (E. series). These await a comprehensive study. This series also contains registers of shipping, including fishing vessels, from 1786. Some burghs, eg. Dumfries, Dundee and Kirkcaldy recorded their own incoming and outgoing shipping during the seventeenth and eighteenth centuries. See A.H. Millar (ed.) Dundee shipping lists 1580-1618 in *The compt book of David Wedderburn, merchant of Dundee 1587-1630*. S.H.S. Edinburgh 1898.

7. ESTATE PAPERS

Introduction Private estate papers are probably the most important, and certainly the most voluminous, source relating to Scottish agriculture and rural society. For periods before the mid-sixteenth century most of the categories of document discussed below are relatively rare, though a thorough examination has yet to be made of the surviving records of medieval lay and ecclesiastical estates. Most of the early material in family muniments consists of formal legal documents such as charters. The volume of material which has survived increases rapidly through the seventeenth and into the eighteenth century. Indeed, the quantities of estate papers retained in the muniment rooms of some of the larger landed families is so great as to defy adequate cataloguing.

The GD (gifts and deposits) section of the S.R.O. has over 350 collections of private papers, the majority of which, including the largest, was donated by landowning families. These have been gifted to the nation or deposited on indefinite loan. Most of them contain estate documents in varying quantities. The earlier deposits are inventoried, each document being described individually. Many of the larger collections, especially those deposited more recently, are only handlisted. The earlier collections are described in summary in "*List of gifts and deposits in the Scottish Record Office*" vol. I Edinburgh 1971 (to GD 39) vol. II Edinburgh 1976 (to GD 96). An appendix to these volumes lists the collections alphabetically giving the regions which they cover and indicating the areas to which the bulk of the collections relate. Estate documents also occur elsewhere in the S.R.O. - for example the RH series of rentals, local court records in RH11, among the Court of Session records (Section 5.1), and among the AF and CR series. The N.L.S. also has several important estate collections. Documents in the main manuscript collection are indexed in detail but the larger individual collections of muniments are only handlisted. Smaller quantities of estate papers are also kept in some burgh archives. Other material is preserved in solicitors' offices and in the libraries of the Scottish universities. A large proportion of the surviving estate collections remains in private hands. These have been surveyed by the National Register of Archives (Scotland) whose handlists (available in S.R.O.) give an indication of their scope. Access to collections in private hands may be arranged through the N.R.A., West Register House.

Despite their importance, the use of estate papers for historical studies has not, so far, been extensive. Even the most dynamic period of rural change, the later eighteenth and nineteenth centuries, has been approached mainly through printed sources such as the Statistical Accounts (Section 16) and the Board of Agriculture Reports. For periods before the mid-eighteenth century, and indeed for the later nineteenth century, even less research has been undertaken. Recent studies which have utilized estate papers in various contexts include R.A. Dodgshon (1975) P. Gaskell (1968) and I.D. Whyte (1979). Estate papers can throw light not only on agriculture but also on topics such as rural industry, woodland management and horticulture. See for example: J.M. Lindsay (1975, 1977) L. Rymer (1974) and A.N.L. Hodd (1975).

7.1 *Rentals* These list the rents due from an estate or portion of an estate. Less detailed rentals, particularly early ones, merely provide the names of farms or tenants and the rents due from each. Fuller ones may give, for each farm or smallholding, the number of tenants, and the rents paid by each in money, kind and labour services where appropriate. For the first half of the eighteenth century, and at earlier dates, rentals may be the principal means of mapping the extent of estates for which estate plans do not exist. Rentals do not normally list sub-tenants and farm servants. They are the principal source for changes in rents and farm structures, and provide details of continuity of tenure

and the mobility of rural society. See 'The rentall of the Lordschipe of Huntlye' *Misc. Spalding Club. IV* Aberdeen 1849 261-319 for a good example of an early rental. For an eighteenth-century one: H. Hamilton (ed.) *Selections from the Monymusk papers 1713-55* S.H.S. Edinburgh 1945 55-7.

7.2 *Leases (Tacks)* These are most commonly for farms, or holdings within a farm, but they also exist for mills, houses, teinds (tithes) fisheries etc. Relatively few leases survive from before the mid-sixteenth century. For a selection of early leases on a monastic estate see: C. Rogers (ed.) *The Rental book of the Cistercian Abbey of Coupar Angus*. Grampian Club. Aberdeen 1880. Leases became more common from the early seventeenth century. Large estate collections may contain several hundred of them but cross-checking with rentals containing details of tenure indicates that their rate of destruction was often high. Some early leases were hastily drafted on scraps of paper, but most were carefully-produced legal documents with a standard format. The number of leases surviving from the nineteenth century is often less than for the seventeenth and eighteenth centuries: by this time their contents had often become so standardized on individual estates that it was only necessary to retain a few for reference. Printed leases with blanks for tenants' names were sometimes issued at this period. Leases are a major source for tenurial conditions and rents, but their detailed clauses often shed light on other facets of the agrarian economy such as crop rotations or housing. See I.D. Whyte (1979c). Some examples of eighteenth-century leases are printed in H. Hamilton (ed.) *op.cit.*

7.3 *Baron and Regality Courts* Baronies and regalities were territorial units conferred by royal charters granting judicial powers to landed proprietors, including the right to hold courts. At an early date the baron court held wide powers, including the right of pit and gallows. Resort to such severe sentences continued into the seventeenth century in remote areas such as the Highlands and Islands. Over most of Lowland Scotland, however, the remit of baron courts became restricted to minor cases of assault, offences like petty theft and debt, and to dealing with breaches of good co-operative agricultural practice, or 'good neighbourhood'. Regalities had a wider jurisdiction which was nearly as extensive as the Crown's in civil or criminal matters, but most of the cases with which they dealt were, by the seventeenth century, similar to those of the baron courts.

Baron or regality courts were held three or four times a year, sometimes less regularly, and tenants and feuars were bound to attend them. The S.R.O. has a series of manuscript court books (RH 11) while court records also occur among estate collections. They contain valuable information on the functioning of rural communities, bringing out the relationship between different strata of society and throwing light on estate management. In the towns the burgh courts fulfilled broadly the same functions. Under a progressive proprietor a baron court could pass legislation encouraging tenants to undertake improvements such as the planting of trees and the sowing of legumes, or efforts could be

made to safeguard improvements instituted by the landowner himself. Courts were often used to press for rent arrears. Birlay courts were informal assemblies held by the birlayman, or arbiters, appointed by the proprietor from among the tenantry and dealt solely with agrarian matters. Written records of birlay courts are much less common. Several seventeenth and eighteenth-century court books have been published; D.G. Barron (ed.) *The court book of the barony of Urie 1604-1747* S.H.S. Edinburgh 1892. C.S. Romanes (ed.) *Melrose regality records* 3 vols. S.H.S. Edinburgh 1914-17. Some of the records of the Norse-derived courts of the earldom of Orkney and Shetland have also been published: J.S. Clouston (ed.) *Records of the Earldom of Orkney 1290-1614* S.H.S. Edinburgh 1914.

7.4 *Accounts* Estate accounts exist in two forms. Summary accounts bring together all the items of income (charge) and expenditure (discharge) for which an estate factor or chamberlain was responsible, either for a calendar or crop year. On well-organised estates, particularly after the middle of the eighteenth century, they may be bound together with annual rentals and records of arrears. Summary accounts are supplemented by individual vouchers and discharges, slips of paper recording the receipt and disbursement of money and commodities. These may contain more detail than the summary accounts but are often incomplete. Accounts may contain information on the personal and household expenditure of a landed family, and the management of the mains or home farm, as well as recording items like expenditure upon improvements such as planting and enclosure, repairs to tenants' houses, wages paid to shearers in harvest time, and the disposal of estate produce to urban merchants. See A.W.C. Hallen (ed.) *The account book of Sir John Foulis of Ravelston 1671-1707* S.H.S. Edinburgh 1894, and H. Hamilton (ed.) *Life and labour on an Aberdeenshire estate 1735-50* Spalding Club, Aberdeen 1946 1-58, 80-136.

7.5 *Inventories* Estate muniments may sometimes contain copies of the inventories of the personal possessions of deceased or bankrupt tenants, together with details of standing and harvested crops (see Section 5.5). Some inventories are reproduced in H. Hamilton (ed.) *Selections from the Monymusk papers 1713-35*. S.H.S. Edinburgh 1945. Another kind of inventory relates to the houses of estate inhabitants. Tenants' houses were often surveyed and valued at the start of a lease so that the occupants could be compensated for improvements or penalised for deficiencies when they removed. Such valuations, usually undertaken by birlaymen, are valuable sources for rural housing. See B. Walker (1979); I.D. Whyte (1975). For a published example, see H. Hamilton (1945) *op.cit.* p. 13-15.

7.6 *Surveys* A few seventeenth-century descriptions of land ownership have survived and are useful in the absence of estate plans. Large-scale comprehensive surveys of entire estates, often designed to be accompanied by detailed plans, relate to periods of more rapid agricultural change, such as the later eighteenth century. Two well-known published examples are M.M. McArthur (ed.)

Survey of Lochtayside 1769. S.H.S. Edinburgh 1936 and R.J. Adam (ed.) *John Home's Survey of Assynt*. S.H.S. Edinburgh 1960. These contain details of land capability as well as listing the acreage under different land uses, holding sizes, crops and livestock, woods, mineral resources and the state of planting and enclosure.

7.7 *Diaries* Many diaries are concerned almost exclusively with personal and family matters. From the late seventeenth century onwards, however, many proprietors who were interested in estate improvement left records of their plans and work. Some published diaries have given their authors a larger-than-life reputation as improvers: A.H. Miller (ed.) *The Glamis book of record 1684-9*. S.H.S. Edinburgh 1887 for example.

7.8 *Correspondence* Family correspondence may contain general information on economic, political and social matters as well as personal and financial affairs. Such correspondence forms the bulk of many of the collections of family papers published by historical clubs. Correspondence with estate officers, agents, legal advisors or business associates is likely to be especially informative but such letters often had a limited survival value and only one side of the correspondence tends to be preserved. Written reports by the factors of estates where the proprietor was an absentee, and landowners' instructions to their estate officers are particularly useful as they provide an over-view of estate conditions, and glimpses of the decision-making processes which are not always obtainable from other sources. For published examples see: J. Grant (ed.) *The Seafield correspondence 1685-1708*; J. Colville (ed.) *Letters of John Cockburn of Ormiston to his gardener 1727-44* S.H.S. Edinburgh 1904; E.R. Cregeen (ed.) *Argyll estate instructions. vol. 1. Mull, Morvern and Tiree 1771-1805*. S.H.S. Edinburgh 1964.

7.9 *The Forfeited Estates* Papers relating to estates forfeited to the crown after the revolution of 1688 and the Jacobite rebellion of 1715 are in the S.R.O. E. series. After the rebellion of 1745 most of the estates which were forfeited were sold by public auction, but 13 Highland estates were retained as part of a government scheme to eliminate the Jacobite threat by removing sources of discontent (see A.J. Youngson 1973). They were annexed to the crown in 1752 and commissioners were appointed to manage and improve them. S.R.O. E.700-788 series contains papers relating to the general management of these estates with rentals, surveys, letters, petitions, accounts and reports on the improvements undertaken. The estates were returned to the families of their original owners during the 1770s and 1780s. A rather random selection of Forfeited Estates papers is presented in A.H. Miller (ed.) *Scottish forfeited estates papers 1715-1745* S.H.S. Edinburgh 1909. V. Wills. *Reports on the Annexed Estates 1755-69* H.M.S.O., Edinburgh 1973, reproduces some of the general material relating to the Forfeited Estates. A survey of the estates has also been published: *Statistics of the Annexed Estates 1977-6* H.M.S.O. Edinburgh 1973. This includes, for each farm, demographic information, numbers of livestock, acreage under arable and meadow, and areas under particular crops, including flax and potatoes.

8. FIARS PRICES

Fiars prices were struck annually in each county to establish the average price at which various types of grain from the previous year's crop had been sold. They were used to settle such fixed payments as rents, feu duties and stipends, and were an attempt to maintain these payments at a constant level and to beat inflation. Fiars were struck by the sheriff court, usually at Candlemas (February 2nd). The practice was an ancient one originally instituted to ascertain the value of victual rents and feu duties payable to the crown, although it was fairly late before the practice became universal. The fiars were meant to cover all main types of grain grown in the county. In the seventeenth and eighteenth centuries this usually meant oatmeal and bere only, but later a variety of crops was covered, sometimes split into grades and qualities. Even after 1823 when an act was passed to regulate the timing and means of striking the fiars they could not be considered truly representative. Sometimes too few witnesses were called or account was not taken of the quantities of grain sold at various prices. A problem of using them is the lack of uniformity of weights and measures in use before 1827. It is, however, usually possible to discover what measure has been used and to convert this to some standard.

Despite their limitations, fiars prices are a useful source of price trends and may be compared with other price information, wage rates and cropping changes. Further information on fiars may be found in G. Paterson, *Historical account of the fiars in Scotland*. Edinburgh 1822. The fiars themselves are in the S.R.O. They are listed under their own heading, but short runs of fiars may also be found in estate collections and the Board of Agriculture Reports. Surviving runs of prices are irregular for the later seventeenth century and are missing for many areas. Long runs are often only available from the second half of the eighteenth century onwards. Conversion tables of weights and measures are available in A. Bald, *The farmer and corndealer's assistant*. Edinburgh 1780. Fiars have been used by R. Mitchison (1965).

9. FISHERIES RECORDS

The main series of fisheries records are in the S.R.O. AF series and include the Fishery Board records, with detailed local reports and statistics for some 18 districts, from 1809-1909. AF 62 contains the main series of fisheries records from the 1880s onwards. The records of the British Fisheries Society, S.R.O. GD 9, cover the work of this society in founding fishing settlements in the Highlands. See J. Dunlop (1978). For earlier sources on Scottish fisheries see J.R. Coull (1969, 1977). The S.R.O. Whaling Bounty Records 1750-1831 record details of whaling vessels, catches etc. Additional information is available from manuscript diaries in the N.L.S. and the records of companies like Christian Salvesen (Edinburgh University Library); see W. Vamplew (1975) S.G.E. Lythe (1964). For recent general studies of Scottish fisheries with detailed bibliographies see M. Gray (1978) and B. Lenman (1975).

10. INDUSTRIAL AND BUSINESS RECORDS

Scottish industrial and business records have only recently begun to receive detailed attention. The following printed sources give some idea of the variety of material available: E. Gaudie (ed.) *The Dundee textile industry 1790-1855* S.H.S. Edinburgh 1969. C. Gulvin (ed.) *Scottish industrial history: a miscellany*. S.H.S. Edinburgh 1978. Data on early urban industry are contained in the guild records and other sources relating to burghs. The S.R.O. has some collections of papers relating to mercantile families from the sixteenth to the eighteenth centuries. For examples of such material see: W. MacKay (ed.) *The letter book of Baillie John Stewart of Inverness 1715-52*. S.H.S. Edinburgh 1915. A.H. Miller. *Compt book of David Wedderburn, merchant of Dundee, 1587-1630* S.H.S. Edinburgh 1898. Estate papers (Section 7) form an important source for rural industries such as textile or mining. eg. J.M. Lindsay (1977). See J.B. Paul (ed.) *The diary of Sir James Hope 1646-54*. Misc. S.H.S. III Edinburgh 1919.

The journal *Scottish Industrial History* lists recent surveys and handlists produced by the N.R.A. for collections of material relating to industry, business and transport. For general guides to business archives see: J. Imrie (1967) A.M. Broom and A. Anderson (1967) F.L. Payne (1967) and W.H. Marwick (1967). For general introductions to published and secondary sources, including parliamentary papers, books, pamphlets and articles the following standard works are useful: H. Hamilton (1932, 1963) W.H. Marwick (1936). For detailed studies of individual industries, see R.H. Campbell (1961) B.J. Duckham (1970) A.J. Durie (1979) B.C. Skinner (1965).

The development of the coal mining industry from the mid-seventeenth century can be traced in the records of the companies which have fallen into the hands of the National Coal Board, whose Scottish records are held in the S.R.O. This series also contains material relating to other industrial concerns such as the Shotts Iron Co. and Coltness Iron Co. Much material remains in private hands though. The best introduction to this, in addition to the bibliographies already cited, is the N.R.A. source lists on business and industrial archives.

The S.R.O. also contains the records of the Board of Trustees for Manufactures which was set up in 1727 to encourage the textile industry, fisheries and other manufacturers using funds voted to Scotland after the Union of 1707. See R.H. Campbell (ed.) *State of the annual progress of the linen manufacture 1727-54*. H.M.S.O. Edinburgh 1964. The records of many eighteenth and nineteenth-century firms have been deposited in the S.R.O. GD series, including merchant and trades guilds, shipbuilding and engineering firms, and wholesale and retail businesses. S.R.O. source list no. 15 gives details of industrial material in private collections held there. The N.L.S. manuscript collection also contains material on industries such as coal mining and shipbuilding, and the papers of firms such as R. Stevenson and son, civil engineers, and of John Rennie, relating to bridge and

harbour schemes. Burgh records may also have substantial quantities of documents relating to local firms. Glasgow city archives, for example are particularly strong on the shipbuilding industry.

For the pre-eighteenth century period, state papers including the Acts of the Scottish Parliament and the Register of the Privy Council (Section 15) contain information relating to industrial development. The S.R.O. port books (Section 6) are also useful. The records of one of the late seventeenth-century 'manufactories' have been published in W.R. Scott (ed.) *Records of the Scottish cloth manufactory at New Mills, Haddingtonshire, 1681-1709*. S.H.S. Edinburgh 1905. Plans of various undertakings are housed in the S.R.O. collection with topic indexes on architecture (including factories, mills and machinery), mining and 'industrial'.

11. LANDOWNERSHIP RECORDS

11.1 *Notarial Records and Protocol Books* Before the institution of the Scottish land register, the Register of Sasines, in the early seventeenth century, the formal record of the giving of possession of heritable property - mainly land and buildings but also fishings, teinds and mineral rights - was done by means of an instrument of sasine drawn up by a notary public (See J.M. Thomson. *The public records of Scotland*. Glasgow 1922 86-112). From the early fifteenth century notaries gradually took over this task from local courts and in place of the oral evidence which had previously been acceptable, detailed written records of such transactions began to be kept. By the sixteenth century the business of notaries was being recorded in protocol books; only a few belonging to the clerks of royal burghs have survived from the fifteenth century.

The dangers of incompetence and forgery prompted the Scottish Parliament, during the sixteenth century, to attempt to exercise increasing control on the activities of notaries. Efforts were made to turn sheriff court books into a record of property transactions, but with little success. In 1567 Parliament required notaries to deposit completed protocol books with sheriffs or burgh councils. This act appears to have had some effect and the S.R.O. NP series contains a collection of sixteenth-century protocol books from the sheriffdoms, indexed by locality and notary, while royal burghs have their own series of books, either donated to the S.R.O. or retained locally. Many examples have been published by the Scottish Record Society, showing the variety of transactions that notaries dealt with. Overall protocol books are probably of greatest value to the historical geographer in recording transfers of property before the institution of the Register of Sasines, and in shedding light incidentally on social and economic conditions - for example on urban land use - during the sixteenth century. See J. Anderson and W. Angus (ed.) *The protocol book of Sir Alexander Gaw* S.R.S. no. 37 Edinburgh 1910, W. Angus (ed.) *The protocol book of Mr. Gilbert Grote* 1552-73. S.R.S. no. 43 Edinburgh 1914.

11.2 *The Register of Sasines* The relative simplicity of Scottish tenurial structure in the post-Reformation period, with the gradual elimination of customary tenures during the sixteenth and seventeenth centuries, made the recording of land transactions in a national register comparatively easy. During the late sixteenth century the Scottish Parliament took steps to try and ensure the legality of land transfers by creating a national register of sasines. In 1599 Scotland was divided into 17 districts, each of which was to have its own register. This scheme was abolished in 1609 and few of its records survive. In 1617 another register was established which has continued to operate to the present day, providing a uniquely detailed record of land occupation and transfer, and containing a wealth of information on land use, urban development, changes in land ownership etc. Royal burghs were not required to keep their own registers until 1681. The register is split into the General Register which was kept in Edinburgh, and the Particular Register, kept in specific counties and districts. Transactions could be recorded in either register. Both registers are available for consultation in the S.R.O., down to the late eighteenth century. Thereafter a fee is chargeable. After 1781, however, abridgements are available which may serve for some purposes although they are heavily abbreviated. Registers for many royal burghs are still held locally.

Sasines were produced in a standard format including the date, type of transaction (whether a disposition, renunciation etc.), and the people involved in the transfer of the property, including the notary. A description of the property normally follows. Boundary descriptions vary and may make the registers difficult to use for some types of study. For estates, the constituent farms may merely be named with no indication of their extent: comparison with rentals and leases (Sections 7.1, 7.2) may be useful in such cases. Smaller properties such as individual farms or burgh tenements may be described in more detail. They may be referred to by means of their physical boundaries, although these may often include features which were impermanent such as march stones, trees and even bushes. Alternatively, the property may be located with reference to the occupiers of the surrounding lands, or in terms of some more or less precise measure of area. The location of the property is then given with details of rights such as peat cutting and common grazings. Alphabetical indexes to the General and Particular registers are kept in the S.R.O.

The register is the major source for assessing changes in the Scottish land market from the early seventeenth century although little use has so far been made of it for this purpose. The growth and decay of landed estates, the purchase of land by urban merchants, the significance of small owner-occupiers and the property structure of burghs are topics which could be pursued by a detailed study of the registers. Some sasines relating to urban property in Kirkwall have been published in J.S. Clouston (ed.) *Records of the earldom of Orkney 1290-1616* S.H.S. 1914 and give an indication of their potential. For a recent study of landownership using the registers see F.J. Shaw (1977).

11.3 *Valuation Rolls* These are also a useful source for patterns of landownership from the seventeenth century onwards. General land taxes were sometimes applied in the seventeenth century, causing rolls of heritors (proprietors) to be drawn up. For a printed example see; A & H Taylor. *The valuation of the county of Aberdeen in the year 1667*. New Spalding Club, Aberdeen 1933. Valuation rolls for this period are preserved in the S.R.O. E.106 series and among private muniment collections. From 1707 this tax was levied annually and valuation rolls were regularly produced for counties under the auspices of the Commissioners of Supply, and for Royal Burghs. The rolls are organised by parish and include the valued rent in pounds and merks Scots. This was based on the rent in 1656 and so by the mid-eighteenth century there was an increasing discrepancy between it and the real rent. It did, however, provide a measure of the relative proportions contributed by various landowners within each parish. The valuation was primarily on property, including teinds, fisheries, mills, and feu duties as well as land. Valuation rolls after 1855 are kept in the S.R.O. VR series. Copies of valuation rolls for urban and rural areas may also be found among burgh records and in local authority archives. L.R. Timperley has produced 'A directory of landownership in Scotland c1770' S.R.S. Edinburgh 1976 using these rolls. For a recent study of the application of valuation rolls to a geographical problem see D. Turnock (1971).

11.4 *Modern Landownership* For a guide to recent patterns of landownership see the series of papers by R. Millman (1969, 1970, 1972).

12. MAPS

General: D.G. Moir *The Early Maps of Scotland to 1850*. Vol 1. Edinburgh 1973. This is principally concerned with small-scale maps of the entire country but it also contains details of the development of surveying and cartography in Scotland including the surveys listed below.

12.1 *The Pont/Blaeu Surveys* For earliest topographical maps on a sufficiently large scale to be of use for research are those of Timothy Pont who, possibly inspired by the work of Saxton in England, undertook a series of surveys of Scotland in the late sixteenth century. Only one of his maps, that of the Lothians, was published during his lifetime. For details of Pont and his work see: D.G. Moir and R.A. Skelton (1964); C.G. Cash (1901); A.M. Findlay (1978). The surviving Pont manuscript maps are preserved in the N.L.S. Considering the crude survey methods used the maps are surprisingly accurate and show efforts to correct misplaced map detail. Their content and accuracy have been analysed by J.C. Stone (1968, 1973), who has suggested that up to 70% of the settlements existing at the time of survey may have been recorded. The maps show rural settlement by means of symbols which cannot as yet be fully interpreted. The houses of larger landed proprietors are depicted by little elevation drawings which are sometimes accurate representation in miniature of the

actual buildings. The Pont maps were edited by Robert and James Gordon during the 1630s and 1640s and were published as 46 regional maps by the Dutch house of Blaeu in volume five of their 1654 world atlas. It is thought that most of the maps were prepared by Blaeu direct from the Pont manuscripts and that only a few were drawn from revisions undertaken by the Gordons. Perhaps only four or five maps were produced from original work undertaken by the Gordons themselves, thus depicting a seventeenth-century and not a sixteenth-century landscape (J.C. Stone, 1970). The published Blaeu maps may be consulted in original or facsimile editions of the atlas. Bartholomew's also produce individual facsimile sheets of some of the maps. There is no reason to think that the accuracy of the Blaeu maps differs greatly from that or the original manuscripts, so that for many research purposes the published maps may prove more useful than copies of the original manuscripts, which can be difficult to interpret. The Pont and Blaeu maps have been used in studies of rural settlement by J.H.G. Lebon (1952) and M.L. Parry (1976).

12.2 *The Surveys of John Adair* The late seventeenth-century maps of John Adair mainly cover parts of eastern Scotland and as the original work which Adair undertook for the Scottish Privy Council was hydrographical in character, some of the maps show little detail inland from the coast. County surveys such as those of the Lothians and Fife, however, achieve a higher level of accuracy and detail than those of Pont. Enclosure and planting around country houses is well shown, as are roads, and the morphology of some burghs. See D. Laing (ed.) *Collections of papers relating to the geographical description, maps and charts of John Adair F.R.S., Geographer to the Kingdom of Scotland 1686-1723*. Bannatyne Club Miscellany II Edinburgh 1836. See also H.R.G. Inglis (1918). Adair's maps have been used in settlement studies (M.L. Parry 1976) and as a source of information on early enclosure (I.D. Whyte 1979).

12.3 *The Military Survey* Between 1747 and 1755 William (later Major General) Roy was commissioned to undertake a military survey of the Scottish Highlands and later of the entire mainland of Scotland. Although described by Roy as a 'sketch' and embodying nothing exceptional in the methods of survey, military precision and the large scale of one inch to approximately 1,000 yards, makes this a detailed map although insufficient research has yet been undertaken for its accuracy to be satisfactorily determined. Its completeness and relative uniformity are also great virtues (R.A. Skelton 1967). The map shows settlement in detail though the layout of buildings in rural nucleations is stylised. Land use is indicated by symbols for rough pasture, open-field arable, enclosed land, planting and natural woodland. The distributions of some of these have been mapped by A.C. O'Dell (1953). Roads are indicated and industrial operations shown. Relief is dramatically represented by brushwork hill shading. The original maps are preserved in the British Library. Photocopies are available in the N.L.S. and some Scottish university libraries. These are less satisfactory to use, however, as the brown relief colouring of the originals reproduces as heavy black and obscures map de-

tail, particularly in the Highlands. The date of the survey is especially significant as it precedes the most dynamic phase of agricultural change in Scotland and gives a good impression of the pre-enclosure rural landscape. Despite this, little detailed research has been done using the survey. An exception has been the work of M.L. Parry (1976a,b) on the abandonment of upland settlements and cultivation in South East Scotland.

12.4 *Eighteenth and Nineteenth-Century County Maps* A variety of these are available at different scales and with different levels of accuracy. M.L. Parry (1975) has shown that many such maps were compiled from secondary sources, embodying little or no original survey work. He was, however, able to differentiate these from the ones which were based on more accurate data. J.B. Harley (1969) provides maps showing the coverage of county surveys at scales of one inch to one mile or greater for the eighteenth and early nineteenth centuries. Detailed bibliographies of available maps have been published for only two areas: J.C. Stone (1967) and J. Mowat (1938). The standard reference work is E.M. Rodger (1972).

For details of coastal charts see: J.B. Harley (1968) with maps showing coverage of eighteenth and nineteenth-century charts of Scottish waters, and A.W.H. Robinson (1958).

12.5 *Urban Plans and Views* J. Wood. *Atlas of Scottish Towns*. Edinburgh 1818-25 is a good source for urban morphology while J. Thomson. *The atlas of Scotland containing maps of each county*. Edinburgh 1832 also contains plans of several burghs drawn in the 1820s. Some town plans from the seventeenth and eighteenth centuries exist, particularly for Edinburgh: the Edinburgh section of the Edinburgh Public Library, George IV Bridge, has a good selection. Various perspective views are useful in the study of medieval and early modern urban development. For a selection, see J. Slezer. *Theatrum Scotiae*. London 1693. An early view of St. Andrews has been analysed in detail by N.P. Brooks and G. Whittington (1977).

12.6 *Manuscript Estate Plans* There was no Scottish tradition of land surveying before the eighteenth century. The earliest large-scale estate plans, dating from the first decades of the eighteenth century, are often crude sketches. Landowners such as the Duke of Buccleuch, who commissioned a series of accurate plans of parts of his estates in 1718, had to bring in surveyors from England. During the course of the century, however, and as agricultural improvement increased, indigenous land surveyors began to appear, and made an increasingly important contribution to the mapping and planning of the new landscape. See I.H. Adams (1968, 1971, 1976), M.J.F. Barnett (1963). The S.R.O., West Register House, has an index of land surveyors for its extensive plan collection. From the mid-eighteenth century the number of surveys and the quantity of maps increased dramatically. The R.H.P. series in the S.R.O. has over 60,000 plans, a considerable proportion of which fall into this category. The main collection, in West Register House, is catalogued in sequence by date of

accession, and also topographically by county and parish. Some of the earlier accessions have been described in detail by I.H. Adams (1966, 1960, 1974). Estate plans are also held by the N.L.S. and in various university and private collections, as well as among burgh records. Outlines of this material can be obtained from N.R.A. surveys.

Estate plans are a major source for the transformation of the rural landscape, although much material on rural industry may also be included (eg. the plans in the Hopetoun collection of the Leadhills lead mining district). A substantial number of plans show the pre-improvement landscape. Most instructive of all, perhaps, are the 'before and after' surveys, or those where the surveyor himself marked on the maps the improvements which he intended to carry out. Also of especial value are estate plans linked to detailed written surveys (see Section 7.6). A number of published papers have used estate plans. General introductions have been produced by B.M.W. Third (1955, 1957). For examples of detailed case studies see H. Moisley (1961) and H. Fairhurst (1964).

12.7 *Ordnance Survey Maps* The first edition of the O.S. 1:10,560 map was surveyed from the late 1850s onwards and the sheets were published from the 1860s in the south of the country to the 1880s in parts of northern Scotland. Publication of the first edition of the 1:63,360 map began from the late 1850s. The map library of the N.L.S. (Causewayside Annex, Edinburgh) has a virtually complete set of all editions of O.S. topographical maps of Scotland. University libraries and the larger public libraries also have substantial holdings of the earlier editions of O.S. maps. The original O.S. name books from the county surveys of the 1840s to the 1860s are held in the S.R.O. RH 4/23 series.

13. NEWSPAPERS

While some Scottish newspapers like the Edinburgh Courant and the Scots Courant go back to the early eighteenth century, newspapers were not, in general, published for most of the larger towns until the later eighteenth or even the early nineteenth century. The N.L.S. has a good collection of national, provincial and local newspapers, and local libraries, especially in the larger towns, also have good runs of material - see N. Armstrong. *Local collections in Scotland*. Glasgow 1977 for details. The content of Scottish newspapers at this period does not differ materially from those of England and Wales and their advertisements provide a similar range of information; for example, see J.R. Walton (1973). D.G. Lockhart (1978a) assesses the evidence of newspaper advertisements for the study of planned villages. Newspapers are also useful for the study of eighteenth and nineteenth-century urban development: see M. Barke (1974). See R.M.W. Cowan (1946) for the development of newspapers in Scotland in the nineteenth century.

14. POPULATION

Scotland has none of the records, such as Lay Subsidies, which have been used for studying the population of medieval England. Nevertheless, the variety of material for undertaking research into population in early-modern Scotland has often been underestimated and has been little utilized until recently. The recent major work by M. Flinn et al. (1977) has been an important achievement in this respect.

14.1 *Hearth Tax Records (S.R.O. E.69)* The hearth tax lists of 1690-1, covering some 20 counties, provide the earliest extensive, relatively uniform data relating to population distribution, albeit indirectly. Similar records have been used in England for studies of the distribution of wealth, size of dwelling etc. (Meirion-Jones, 1971; Pattern, 1971; Spufford, 1962). The Scottish hearth lists have scarcely been used though D. Adamson (1970-2) has considered aspects of population distribution in Dumfriesshire, and has also reproduced the list for that county (1972). The records are generally organised on a parish basis but their quality varies from county to county. For some areas the returns give names of householders and the number of hearths per household, indicating ovens, kilns, forges etc. For other counties only totals of hearths per parish, without the names of householders, may be given.

14.2 *Poll Tax Returns (S.R.O. E.70)* The poll tax was first imposed by the Scottish Parliament in 1693 for the payment of debts due by the country and for arrears of pay to the army. Commissioners for each shire, and magistrates in the burghs, were required to draw up lists of pollable persons. A second poll tax was levied in 1695 for financing the navy. Two further taxes were granted in 1698. Surviving records relate mainly to the 1695-6 tax. The lists of pollable persons provide the most complete record of the structure of early-modern Scottish society, both urban and rural. Unfortunately the records are fragmentary. Nearly complete lists survive for Aberdeenshire and Renfrewshire and have been published: *List of pollable persons within the shire of Aberdeen 1696*. 2 vols. Spalding Club, Aberdeen 1844. D. Semple (ed.) *Renfrewshire poll tax returns* - produced privately 1864 - copies in S.R.O., N.L.S. Manuscript lists survive in the S.R.O. for most of West Lothian and Midlothian, much of Orkney, parts of Berwickshire and scattered parishes and burghs elsewhere.

The records list all adults, male and female, of over 16 years of age, apart from those poor who were maintained by their parishes and, presumably, unregistered vagrants. Name, residence and occupation are given, though occupational categories are not always well defined. The tax assessment provides an indication of wealth - the poll was charged at a flat rate per head and in addition according to wealth defined by various criteria. Landowners were assessed on the rented value of their lands, tenants at a hundredth of their rents. Wage earners paid a proportion of their fees and merchants and craftsmen paid according to the value of their stock, excluding household goods and tools. The published

Aberdeen and Renfrew poll lists have been used in studies of population distribution by K. Walton (1950) and N.A. McIntosh (1956) while I.D. Whyte (1979) has used them to analyse rural social structure.

14.3 *Apprentice and Burgess Registers* Little work has been undertaken on migration into the Scottish burghs before the Industrial Revolution. Suitable source material exists in the form of burgh and apprentice registers which are available among burgh records in the S.R.O. and locally. Burgess registers normally give the name, occupation, and status of people entered as burgesses, whether they obtained entry by marriage, by way of apprenticeship, or by family connexions. For a published example see: J.R. Anderson (ed.) *The Burgess and guild bretheren of Glasgow 1573-1750* S.R.S. Edinburgh 1925. 1751-1846 S.R.S. Edinburgh 1935. Apprentice registers give the name, father, father's occupation and domicile, and to whom the apprentices were bound. See: F.J. Grant. *The register of apprentices of the city of Edinburgh 1583-1666* S.R.S. Edinburgh 1906. C.B.B. Watson. *Register of Edinburgh apprentices 1666-1700* S.H.S. Edinburgh 1929, 1701-1775 S.R.S. Edinburgh 1929. Rural population mobility for certain social groups can be established from leases and feu charters which generally give the place of last residence of the incomers. D.G. Lockhart (1978b) has used chartulary books, bound collections of feu charters, for determining the migration fields for nineteenth-century planned villages. Family genealogies may also be useful in studying the mobility of the upper levels of society: see I. Carter (1976).

14.4 *Private Censuses* Various privately-conducted surveys of population, undertaken for diverse purposes, can be used to supplement the other sources described in this section. For example:- W. Scott (ed.) *Parish lists of Wigtownshire and Minigaff 1684*. S.R.S. Edinburgh 1916. Episcopalian curates of Dumfries and Galloway were instructed to produce lists of all people, male and female, over twelve years of age. The data are grouped by farm and household. J. Gray (ed.) *Scottish population statistics*. S.H.S. Edinburgh 1937. This contains Alexander Webster's census, based on returns from parish clergy, for 1755. See A.J. Youngson (1961). E.R. Cregeen (ed.) *Inhabitants of the Argyll estate 1779*. S.H.S. Edinburgh 1963. This has been claimed as the earliest proper recorded census in Scotland. It was instituted by John, fifth Duke of Argyll. It gives name, age, status, occupation and dependents of the inhabitants of one of the largest Highland estates. The *Statistics for the Annexed Estates 1755-6*. H.M.S.O. Edinburgh 1973 (Section 7.9) also includes a list of the number of families on each estate broken down into male and female for three age categories and indicating how many of them spoke English. The parish surveys in the statistical accounts (Section 16) generally give population totals, often for several years, and sometimes provide additional data on births, marriages and deaths. N. Tranter (ed.) *The Reverend Andrew Urquhart and the social structure of Portpatrick in 1832*. *Scot. Stud.* 18 1974 39-62. The original survey is in the S.R.O. The information is broadly similar to the 1841 census, providing data on immigration into a

non-industrial town, and on occupation, family size etc.

14.5 *Parish Registers (S.R.O.)* Scottish parish registers have a poorer survival rate and were less systematically kept than their English equivalents. The keeping of parish registers was first enacted in 1552 when each parish was required to record the names of children who were baptised, along with those of their parents, and the proclamation of banns of marriage. Registers of burials had supposedly been instituted in the fourteenth century. These statutes appear to have had little effect, as was the case with re-enactments by the reformed church after 1560. Little control, was exercised over the session clerks who were responsible for keeping the records. Very few registers have survived for the late sixteenth and the early seventeenth century. They become more numerous from the late seventeenth century but for many parishes records do not commence till much later. Until the recent study by M. Flinn et.al. (1977) little systematic work had been done on them. There is considerable scope for further research.

The S.R.O. has an index by parish of over 3,000 registers, indicating the years covered and whether births or baptisms, proclamation of banns or marriages, and deaths or burials are given. V.B. Bloxham (1970) states for each parish the years which are missing and those which are defective. Few parish registers have been published compared with England but for an indication of the content of the Scottish records see: D. Beaton (ed.) *Parish registers of Canisbay (Caithness) 1652-66*. S.R.S. Edinburgh 1914 - baptisms and marriages only. C.S. Romanes (ed.) *Melrose parish registers 1642-1820* S.R.S. Edinburgh 1913. These give baptisms, with residence of father, indications of illegitimate births, parish of marriage partners. The mortuary rolls from 1760 give name, place of death and age. F.J. Grant (ed.) *Index to the registers of burials in the churchyard of Restalrig (near Edinburgh) 1728-1854* S.R.S. Edinburgh 1918. These give name, occupation cause of death and date of burial. J.S. Marshall (ed.) *Calendar or irregular marriages in the South Leith Kirk Session Records 1697-1818* S.R.S. Edinburgh 1968. Irregular marriages were contracted by declarations before witnesses and were celebrated by someone other than a parish minister. The records contain names, occupation, residence, the person who celebrated the marriage, and the witnesses.

For a recent study of nineteenth-century Scottish parish registers using family reconstitution techniques, see N.L. Tranter (1978). A.G. McPherson (1967, 1968) has undertaken a detailed social analysis of the parish of Laggan in the late eighteenth and early nineteenth century, including a study of marriage distances, using parish registers.

14.6 *Registrar General's Returns* From 1855 parish registers were superseded by the Registrar General's Statutory register of births, marriages and deaths. These records are kept in New Register House. Due to pressure on space, especially in summer, it is advisable to contact the staff to arrange an appointment. A

fee may be levied for the consultation of these records and the census enumerators' books.

14.7 *The Census of Scotland* From 1801 until 1831 only the total population per parish was recorded. From 1841 the census enumerators' books (New Register House) contain details of family structure, occupation, place of birth etc. similar to those for England. (see E.A. Wrigley 1969) Material down to the census of 1891 may be consulted. Census enumerators' books have been used in several studies of settlement, population and occupational structure, for example: M. Barke (1973); M. Storrie (1962) I.M.L. Robertson (1967).

14.8 *Migration and Emigration* Rural depopulation and emigration were major features of Scottish demography during the later eighteenth and nineteenth centuries and were particularly important in their effects on the Highlands. The S.R.O. source lists no. 6 and 19 indicate the location of material on emigration, mainly in its private collections and in the P.R.O. in London. The S.R.O. also has information on emigration from the Highlands in its AF 51 series, particularly for the second half of the nineteenth century. The N.L.S. has a separate index of manuscript material relating to emigration. The bibliography in J. Hunter (1977) is also useful. On population movements in general see: D.F. MacDonald (1937); R. Osborne (1956); J.D. Wood (1964); M. Gray (1973).

15. STATE PAPERS

15.1 *State Papers relating to Scotland pre-1707*

The Acts of the Parliaments of Scotland 1124-1707 ed. T. Thomson and C. Innes 11 vols plus general index volume, London 1814-44. The index provides chronological lists of legislation relating to topics, people and places. Supplementary parliamentary papers, including memoranda, and petitions are in the S.R.O. PA series with a chronological index. *Register of the Privy Council of Scotland*. 1st series 14 vols. 1545-1625 Edinburgh 1877-1898, 2nd series 8 vols. 1625-1660 Edinburgh 1899-1908 3rd series 16 vols 1661-91 Edinburgh 1908-70. Each volume contains a separate index. The Register from 1691-1708 is in manuscript in the S.R.O. PC series. The registers contain much information on social and economic affairs - eg. trade, communications, law and order. *The Exchequer Rolls of Scotland*. 1264-1600 26 vols. Edinburgh 1878-1908. In manuscript to 1708 in S.R.O. These provide a general picture of royal finances, including the income derived from crown estates. The S.R.O. also has miscellaneous crown rentals from the fifteenth to the seventeenth centuries. *Register of the Great Seal of Scotland, 1306-1668* 12 vols. Edinburgh 1883-1908. In manuscript into the eighteenth century in S.R.O. An abbreviated record of grants by the Scottish crown, mainly of land but also including burgh charters and charters of incorporation of companies. The published volumes are indexed by person and place. The register has been used by R.A. Dodgshon (1975, 1977a) in studying early settlement organization. *Calendar of documents relating to Scotland preserved in Her*

Majesty's Public Record Office, London 1108-1509 4 vols. London 1881-8, 1509-1603 2 vols London 1858 *Calendar of state papers relating to Scotland preserved in the Public Record Office, British Museum and elsewhere in England 1547-1603* 13 vols. Edinburgh 1898-1969 *Calendar of letters and papers relating to the Borders of England and Scotland preserved in Her Majesty's Public Record Office, London 1560-1603.* 2 vols. Edinburgh 1894-6.

15.2 *Parliamentary Papers, Reports etc. post-1707* Material relating to Scotland can be extracted from the various general guides and indexes to Parliamentary papers. For the eighteenth century see S. Lambert (ed.) *List and Index Society special series vol. 1 List of House of Commons Sessional Papers 1701-50* London 1968 and S. Lambert (ed.) *House of Commons Sessional Papers of the eighteenth century. Vol I Introduction and List 1715-60, Vol II List 1761-1800* Delaware 1975, 1976. For the nineteenth century see the volumes in the Irish University Press series of *British Parliamentary Papers*, Shannon 1968. For information on particular topics during the nineteenth century see: *Checklist of British Parliamentary Papers 1801-99.* Irish University Press, Shannon 1972. *The Catalogue of British Parliamentary Papers 1801-1900*, Dublin 1977 contains brief summaries of the contents of relevant reports etc.

16. THE STATISTICAL ACCOUNTS

16.1 *The Statistical Account of Scotland (commonly called the Old Statistical Account)* The O.S.A. is a 21-volume work which was compiled by Sir John Sinclair in the 1790s. It was based on a detailed questionnaire sent by Sinclair to the ministers of every parish in Scotland. He requested information on various aspects of the parish including climate, natural features, population, history, eminent persons, agriculture and industry. As representatives of a reputable national body the ministers were the obvious people for the task, though some of them took to it more readily than others. After some prodding returns were obtained for all parishes, and were published in the sequence in which they were edited, with a general index and index of parishes in the last volume.

The parish accounts are highly variable in length and quality and, despite Sinclair's editorship, lack uniformity. One must allow for the individual bias of authors, but there is also collective bias relating to matters such as local chauvinism, public morals and the praise due to local landowners. In addition the reports are written in a verbose style typical of their period. It is important to note that the word 'statistical' was used to refer to matters pertaining to the state or to the state of things in general, and not in its current mathematical sense. Nevertheless, data are frequently given on population, employment, and agriculture and industrial production, although their accuracy may frequently be open to question.

Despite its limitations the O.S.A. is one of the most important and most frequently quoted of late eighteenth-century sources.

It has been the subject of some separate studies; A Geddes (1959); V. Morgan (1968); F.A. Leeming (1963) has applied the technique of social accounting to a selection of the most detailed parish accounts. A wide variety of distributions have been mapped from it, despite its problems of uneven coverage; e.g. see W.H.K. Turner (1972).

16.2 *The New Statistical Account* The success of the O.S.A. prompted the Society for the Sons and Daughters of the Clergy to carry out a new survey in the 1830s. This appeared in 15 county volumes in 1845, each with its own index, though many of the accounts were written in the later 1830s. A similar approach to the O.S.A. was used but while the same problems of variability in quality and depth of coverage can be detected, the editors were more successful than Sinclair in persuading parish ministers to write at least something on most topics, and in achieving greater uniformity. The gap of 40 years or so between the two accounts is wide enough for economic and social changes to be apparent. For example, the changes in agricultural practices and standards of rural housing are manifest in many areas.

16.3 *The Third Statistical Account* A third statistical account was instituted in the 1950s and some 15 county volumes have been published between then and the later 1970s. The concept of parish studies written by local ministers as the most educated and best informed men in the community was found to have outlived its usefulness and these volumes were prepared by specialists including several geographers. They may be of some use to the historical geographer.

17. TOPOGRAPHICAL ACCOUNTS AND TRAVELLERS' JOURNALS

17.1 *Topographical Accounts* The writings of Scottish topographers are an important source for the period before the mid-eighteenth century. Many regional and local descriptions from the seventeenth century and earlier have been collected in A. Mitchell (ed.) *Macfarlane's Geographical Collections*. 3 vols. S.H.S. Edinburgh 1906-8. Others have been published separately (See Research Aids, Section 3.3). These accounts often contain information on the rural economy, industry, inter-regional trade and the condition of the towns, but few contain the detail and sharp observation of A. Symson's description of Galloway in 1684 (in *Macfarlane's Geographical Collections*). Some important descriptions remain unpublished, such as those of Sir Robert Sibbald and John Adair in the N.L.S. among the *Advocates Manuscripts*. J.R. Coull (1977) has used such descriptions in a study of the Scottish fishing industry from the sixteenth to the eighteenth centuries. The writings of two seventeenth-century Scottish topographers have been analysed by F.V. Emery (1958).

Nobody before Sir John Sinclair (Section 16) succeeded in compiling a topographical account of the whole of Scotland based on parish reports, but two early attempts which cover parts of Scotland are *Reports on the state of certain parishes in Scotland* 1627 Maitland Club, Edinburgh 1835, a survey carried out by the

church (originals in S.R.O. TE series), and a series of early eighteenth-century parish accounts which is reprinted in Macfarlane's Geographical Collections. These cover north-eastern Scotland particularly well and have been analysed by F.V. Emery (1959).

17.2 *Travellers' Journals* Less systematic but often more interesting are the accounts of English and foreign travellers in Scotland. While Scottish topographers often took a rosy view of the potential and resources of the country, English travellers in the seventeenth and early eighteenth centuries were often biased by anti-Scottish feeling. The eyes of the sharpest observers, however, often picked out marked differences between the landscape, economy and customs of Scotland and their own countries. Many travel journals, particularly of trips in the more remote parts of the Highlands and Islands, are also available for the eighteenth and nineteenth centuries. Some of these have been published (see General research aids, Section 3.3). Others are still in manuscript: see the N.L.S. catalogue of manuscripts and the N.R.A. handlist of travel diaries. Some seventeenth-century accounts have been collected and edited by P.H. Brown (1891). The journals of some travellers, such as Samuel Johnson and Dorothy Wordsworth have achieved literary fame in their own right. Others, though less polished, may be more informative, such as Thomas Morer's description of Scotland in 1689, (in P.H. Brown 1891) or Edward Burt's letters from the Highlands in the early eighteenth century.

18. TRANSPORT RECORDS

18.1 *Roads and Bridges* Early material relating to roads and bridges occurs among official and estate papers, burgh records and private muniment collections. For the early development of road construction and maintenance see D.G. Moir (1957) and A.D. Anderson (1967-8). The material remains of some old road networks are considered by A. Graham (1948-9, 1959-60). S.R.O. source list no. 5 describes material in the S.R.O. GD series while a N.R.A. source list covers material in private hands. During the eighteenth century road maintenance was the responsibility of the Commissioners of Supply, whose records, including those of the Scottish turnpike trusts, can be found in the records of the old county councils, some of which have been transferred to the S.R.O. while others are retained regionally. S.R.O. E.330 series contains the reports of the Commissioners for Highland Roads and Bridges from the early nineteenth century. The N.L.S. also has the papers of John Rennie the engineer and bridge builder. For road development in the Highlands see A.R.B. Haldane (1962). The S.R.O. DD series contains material on road transport from the nineteenth century onwards.

18.2 *Railways* The main corpus of material is the records of the British Railways Board (with a 30-year closure rule) in the S.R.O. which also holds the Comyn-MacGregor collection of railway material. The British Railways Board records contain the archives of earlier railway companies, indexed alphabetically with brief

historical notes, and other papers relating to relevant acts of Parliament. The Scottish Development Department DD series in the S.R.O. has railway material from the late nineteenth century onwards relating in particular to light railways and to the Highlands. West Register House has a large collection of railway plans. Published examples of railway records are rare but see W. Vamplew (ed.). *The North British Railway Inquiry of 1866* in C. Gulvin (ed.) *Scottish industrial history*. S.H.S. Edinburgh 1978. For recent case studies see I.H. Adams (1972) and C.J.A. Robertson (1978). The history of most of the larger Scottish railway companies has been chronicled, though with a technical rather than a geographical emphasis. For example, see J. Thomas (1969, 1971).

18.3 *Canals* Much documentary material on Scottish canals was acquired by the later railway companies and has been preserved among the S.R.O. BR series - for example records relating to the Crinan and Caledonian Canals. The records of the Scottish Waterways Board (S.R.O.) also contain material on the Crinan Canal. The Ministry of Transport Files MTI (S.R.O.) includes minute and letter books relating to these canals while the Scottish Development Department DD series has information on the Forth and Clyde Canals from the late nineteenth century, along with the records of the Royal Commission on Canals and Waterways 1906-8 and the Railway and Canal Commission of the 1930s. Burgh records may also contain information on canals and their traffic. The standard reference work is J. Lindsay (1968).

18.4 *Shipping and Harbours* For pre-eighteenth-century sources see A. Graham (1968-9) and T.C. Smout (1963). Glasgow city archives contain a considerable amount of material relating to the deepening of the Clyde - see W.I. Stevenson (1973) and J.F. Riddell (1979), although the S.R.O. also has relevant records in its HH 41 series. River deepening schemes and harbour developments are well covered in the plan collections of the S.R.O. and N.L.S. - in the case of the Clyde, from John Adair's map of 1731 at a scale of 20 inches to one mile (N.L.S.).

The records of the later harbour trusts are kept in the S.R.O. BR series along with material from companies such as the Caledonian Steam Packet company and the Clyde and Campbeltown Shipping Company. The S.R.O. AF series has information on shipping services in the Highlands and Islands in the later nineteenth century. Their DD 17 series includes records relating to harbours and piers from the 1890s and steamer services from the early twentieth century. The S.R.O. MT 2 series also has data on the operation of steamer companies in the Highlands and Islands, including MacBrayne and Company. The records of many other shipping companies are handlisted in N.R.A. Surveys. Maps and plans relating to all forms of transport are preserved in the S.R.O. R.H.P. series which has special topic indexes for railway plans, roads and bridges. The N.R.A. has a separate source list of plans and other transport material in private hands.

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THE EVOLUTION OF RURAL SETTLEMENT IN LOWLAND SCOTLAND IN MEDIEVAL AND EARLY- MODERN TIMES: AN EXPLORATION

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Abstract: While a good deal is known concerning the evolution of rural settlement patterns and characteristics in medieval and modern times for many parts of Europe, the basic frameworks for studying Scottish rural settlement during these periods are still unclear. This article considers aspects of pre-improvement rural settlement in Scotland, reviewing some of the approaches which have been used in the past and suggesting some possible directions for future work in the light of recent research.

In 1967 Crawford wrote that more was known about the nature of Scottish rural settlement during the Iron Age than during the seventeenth century.¹ This situation has not changed greatly in the last dozen years. Scottish settlement studies have yet to bridge the gap between the post-Improvement landscape of the later eighteenth and nineteenth centuries — itself neglected from many points of view — and those of the late prehistoric and Dark Age periods which, if still very imperfectly understood, have at least received a good deal of attention from archaeologists. While the study of the evolution of rural settlement during medieval and early modern times has achieved considerable sophistication in England,² the basic frameworks for examining Scottish rural settlement during the same periods are still unclear. Historical geographers have yet to make major inroads into the evidence which is available from documentary sources and the landscape itself. The purpose of this article is to review the approaches which have been used in the study of pre-Improvement rural settlement in Scotland in the light of recent research and to chart some possible directions for future work.

CONVENTIONAL MODELS OF SCOTTISH RURAL SETTLEMENT

There are indications that our present views of Scottish rural settlement and its evolution are oversimplified, due largely to a lack of detailed research. This simplistic approach may also be the result of models which

are too generalized and terminology which is too restricted. Fairhurst has written that, in terms of settlement, "Scotland is in many senses an old country"³ yet the models of pre-Improvement rural settlement which have been formulated are uniform and static rather than diversified and dynamic. It is almost a truism that the basic element of Scottish rural settlement before the changes of the later eighteenth century was the 'ferm toum' (the term 'clachan' has been used by geographers in a Highland context): but what exactly was a ferm toum?

I. H. Adams has defined the ferm toum as "a small community of four to eight families of joint tenants who farmed in runrig".⁴ This is essentially the definition which has been used in most previous studies of the evolution of the Scottish rural landscape.⁵ The implication is that the ferm toum was normally associated with a joint-tenant farm, but if this was so how does one classify, for example, settlements consisting of:

- (a) A farm worked by a single tenant with the aid of several dependent cottars and hired farm servants. Such a farm might have had a similar population to the classic ferm toum made up of joint tenants but it had a very different social structure?
- (b) A cottar settlement? The term 'cottar toum' has sometimes been used,⁶ but how large were they, did their distribution and that of the type of rural economy which created them vary regionally? Was their function primarily to provide labour for neighbouring farms or did they function as small-scale centres of artisan manufacturing?
- (c) A settlement of feuars, small but independent owner-occupiers?

The stereotype image of the pre-Improvement Scottish rural landscape is one which was uniformly dotted with standard-sized hamlet clusters possessing a similar social and economic structure. The existence of some of the variant types of settlement mentioned above suggests, however, that settlement patterns were more complex with more regional and local variations than the umbrella term 'ferm toum' suggests. This can be demonstrated by considering aspects of rural settlement at various scales. Many of the examples considered below are drawn from South East Scotland, an area for which some previous work has already been undertaken. It may be argued that this region was not necessarily representative of rural settlement patterns elsewhere in Scotland. This may, however, merely reflect our lack of knowledge regarding regional variations in other parts of the country while any trends which can be established for the South East can, moreover, serve as a yardstick against which evidence from other regions can be compared.

POPULATION DISTRIBUTION

Figure 1 shows the distribution of population in parts of South East Scotland in the late seventeenth century based on the 1691 hearth tax returns.⁷ This distribution can be considered as the end product of a variety of social, economic and environmental influences. The large size of the parishes, even in this part of Scotland, undoubtedly masks sharp local contrasts in population density but marked variations are nevertheless apparent. There is a notable concentration of population along the coasts of Fife and East Lothian due to the existence of a substantial urban population engaged in trading, manufacturing, and the production of coal and salt. It is interesting to note, however, that relatively high densities of 6-8.9 families

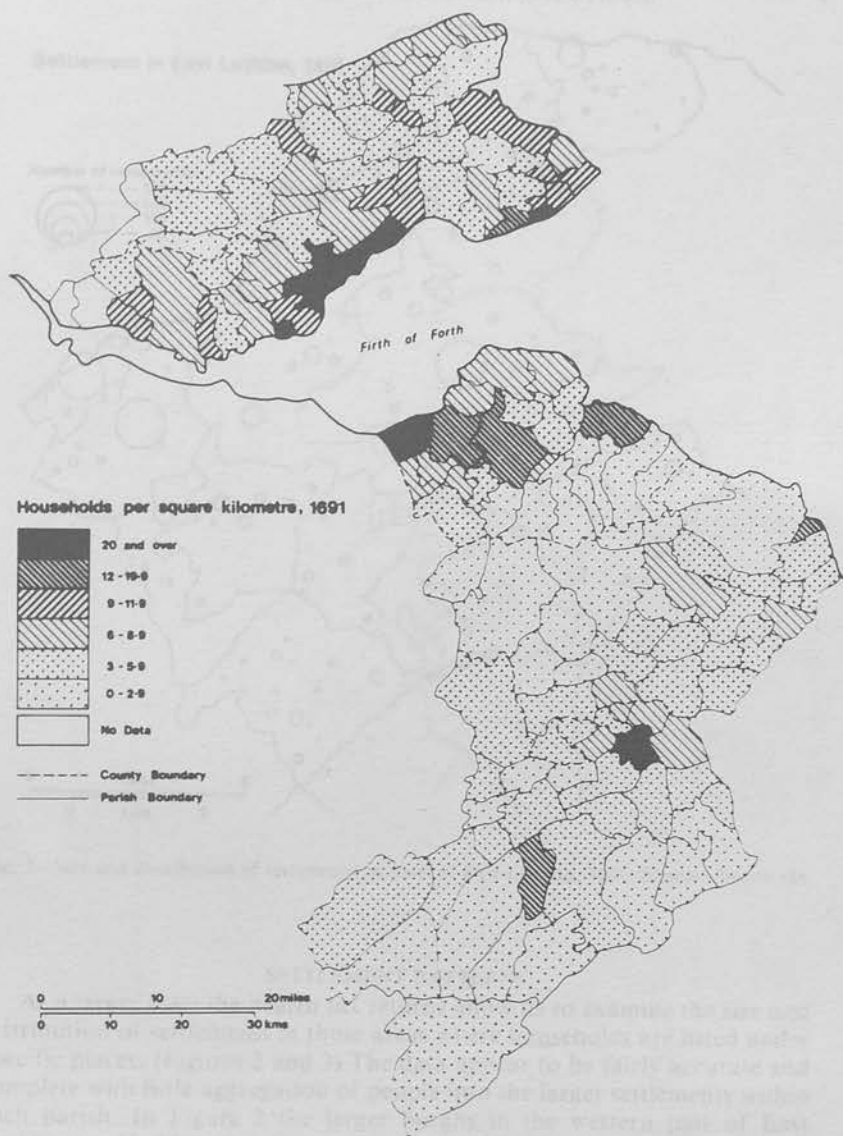


Fig. 1—Distribution of population in parts of South East Scotland, 1691. Source—hearth tax.

per square kilometre existed in purely rural areas such as the Lower Tweed valley and parts of the interior of East Lothian and Fife, districts where arable farming dominated. These contrast with very low densities in upland pastoral areas like the Lammermuirs and South Roxburghshire. Such differences in density indicate markedly different resource bases, different agricultural economies, and imply possible contrasts in the distribution and nature of settlement.

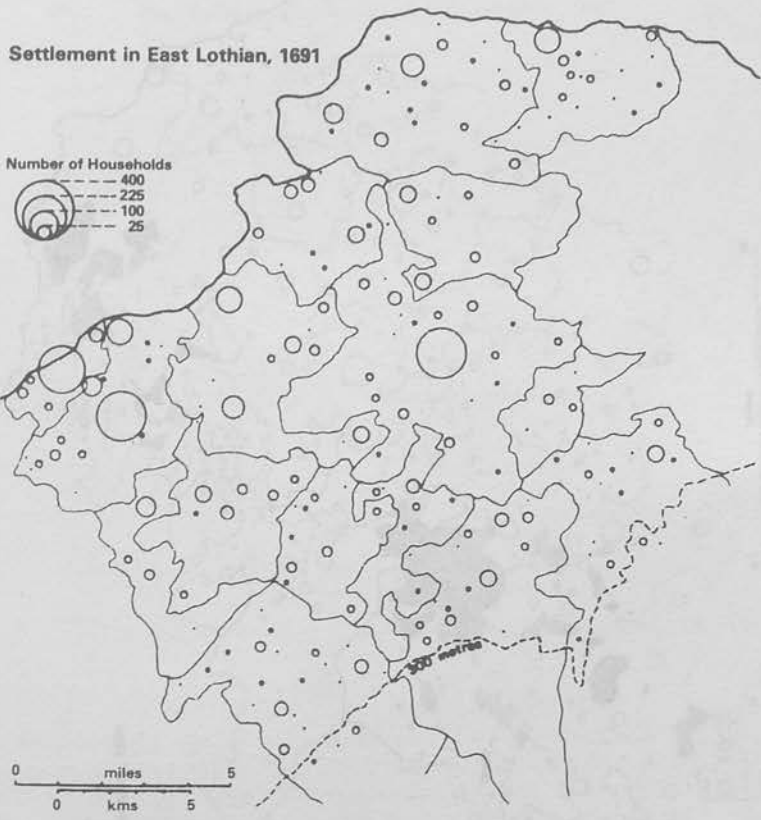


Fig. 2—Size and distribution of settlements in parts of East Lothian, 1691. Source—hearth tax.

SETTLEMENT PATTERNS

At a larger scale the hearth tax returns allow us to examine the size and distribution of settlements in those areas where households are listed under specific places. (Figures 2 and 3) The data appear to be fairly accurate and complete with little aggregation of people into the larger settlements within each parish. In Figure 2 the larger burghs in the western part of East Lothian — Haddington, Prestonpans and Tranent — stand out but the diversity of size of the rural settlements is also striking, ranging from villages with 40-60 households such as Dirleton, Gullane, Ormiston and Pencaitland down to isolated farmsteads and cottar houses with only a single family. Berwickshire (Figure 3) was less influenced by the presence of burghs and non-rural activities. Again there was a marked gradation in settlement size from isolated habitations with one or two families to substantial villages. These maps show only settlements which could be located using large-scale Ordnance Survey maps and older surveys such as those of Adair, Pont and Roy. Those settlements which have not been located were mainly small, with one, two or three households. Among all

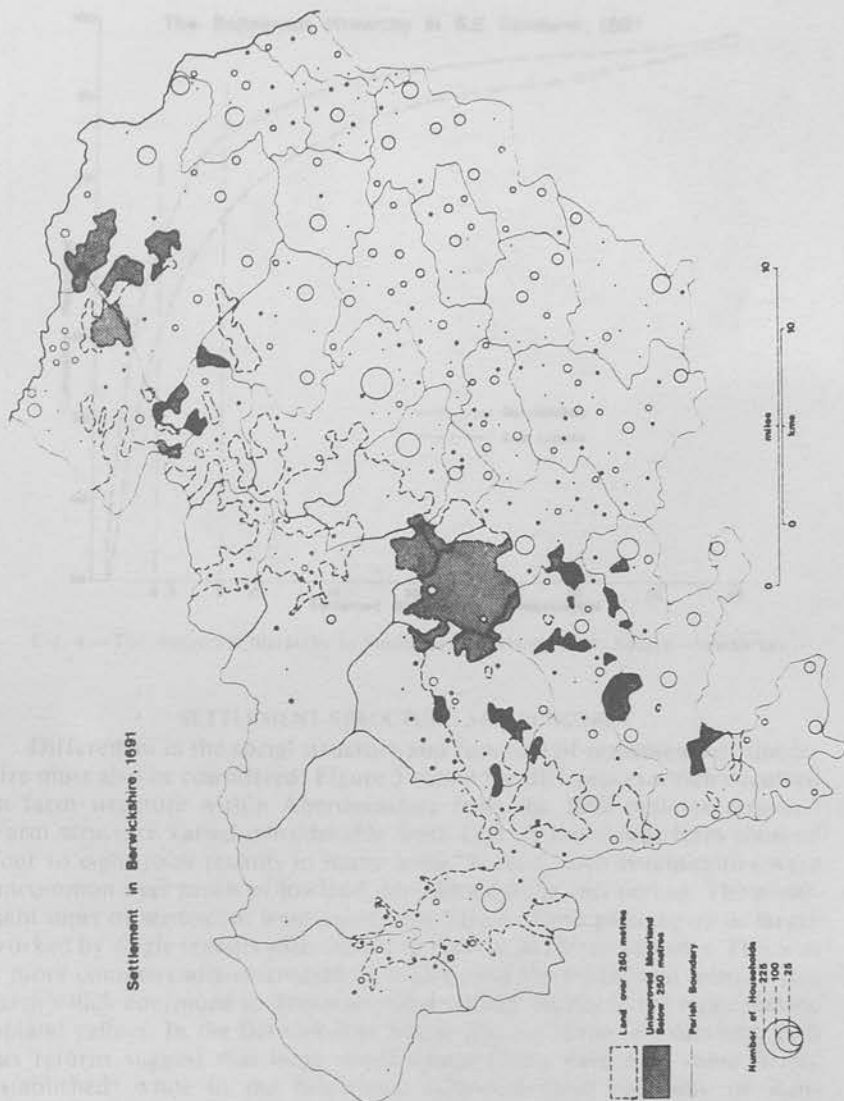


Fig. 3—Size and distribution of settlements in Berwickshire, 1691. Source—hearth tax.

this diversity, where does the ferm town of four to eight families fit in? Figure 4 shows a cumulative percentage graph of the sizes of all the settlements in Berwickshire and the western half of East Lothian in 1691. Only about 14% of the settlements in the former county and 16% in the latter fell within the four to eight-family range of the model ferm town. Settlement was strung out in a continuum and did not correspond to a uniform pattern.

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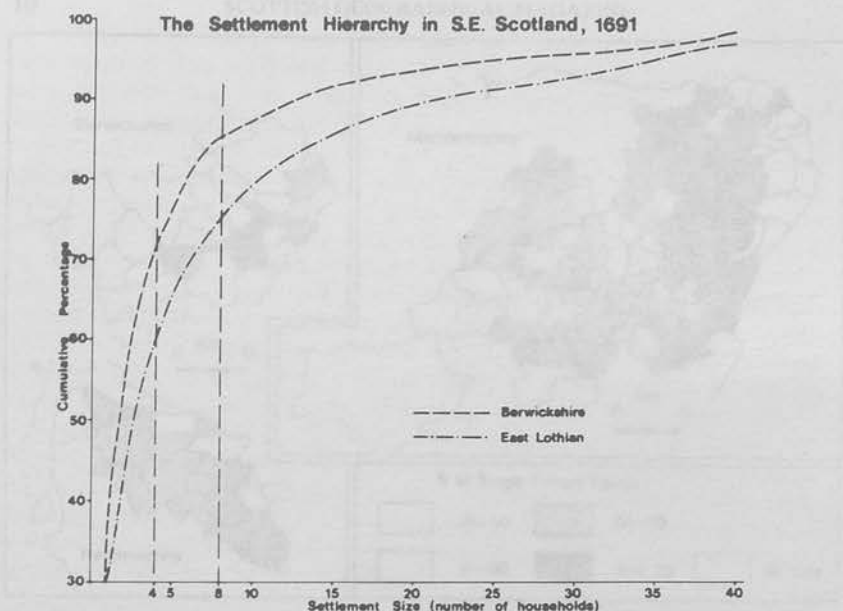


Fig. 4.—The settlement hierarchy in South East Scotland, 1691. Source—hearth tax.

SETTLEMENT STRUCTURE AND FUNCTION

Differences in the social structure and function of settlements of similar size must also be considered. Figure 5 shows the differences which occurred in farm structure within Aberdeenshire from the 1696 poll tax returns. Farm structure varied considerably from that of the classic farm town of four to eight joint tenants in many areas. Indeed, such communities were uncommon over much of lowland Aberdeenshire at this period. The dominant units of settlement were substantial farms of one ploughgate or larger worked by single tenants with the aid of cottars and hired servants. This was a more commercially-orientated structure than the traditional joint-tenant farm which continued to dominate rural society mainly in the more remote upland valleys. In the Berwickshire Merse (Figure 5) the few surviving poll tax returns suggest that large single-tenant farms were even more firmly established⁹ while in the more pastorally-orientated economy of Renfrewshire they were also frequent.¹⁰ That these were dynamic and not static patterns can be seen in some cases where runs of rentals show a progressive reduction of tenant numbers and consolidation from tenant runrig.¹¹ The farm town was thus an evolving social and economic community.

A different social structure can be seen in another settlement form, the feuar town consisting mainly of small owner-occupiers instead of tenants. Most of these were created in the move towards feu-ferme tenure during the sixteenth century, especially on church lands in the decades before and after the Reformation of 1560, although they may have had earlier antecedents. We do not, as yet, have a clear idea of their distribution and characteristics though some recent work has suggested that they may have been more common than has sometimes been appreciated.¹²

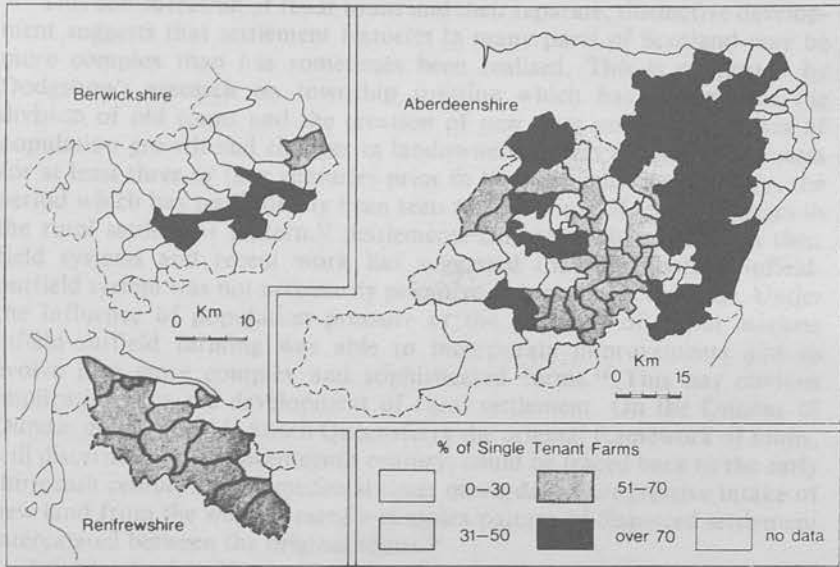


Fig. 5—Percentage of single-tenant farms per parish in selected areas. Source—poll tax, 1694-6.

The records of the estates of Melrose Abbey indicate how such settlements differed from the classic ferm town. The regality court rolls of 1684 — roughly contemporary with the hearth tax returns — show that settlements like Newstead and Lessudden contained over 30 feuars, Darnick and Gattonside over 40.¹³ Such communities probably also contained some cottars and labourers. The last two townships mentioned were larger than Melrose itself despite the latter's status as a burgh of barony. The function of such settlements perhaps approached more closely that of the English nucleated village than the more restricted, purely agricultural role traditionally associated with the ferm town. Newstead, according to the occupations listed in the court rolls against some of the inhabitants, had four weavers, three masons, a webster, a maltman and a smith as well as a glover and an ostler.¹⁴ The last two occupations were more normally associated with urban centres, while Darnick and other feuair towns had merchants, doubtless small-scale operators, but indicating a distributive as well as a manufacturing role. That these townships were in existence as substantial nucleated settlements before the Reformation is suggested by the original feu charter for Newstead dated 1564. The town was granted to 33 feuars, mostly the tenants already in occupation, with only one incomer from nearby Melrose.¹⁵ The same number of feuars were present in 1684. Rentals of other monastic estates indicate that similar-sized feuair towns existed elsewhere but at the moment we can only speculate regarding their distribution and morphology.¹⁶

SETTLEMENT EVOLUTION

This consideration of feuar towns and their separate, distinctive development suggests that settlement histories in many parts of Scotland may be more complex than has sometimes been realised. This is supported by Dodgshon's research on township splitting which has shown that the division of old towns and the creation of new ones under the stresses of population growth and changes in landownership was an ongoing process for at least three or four centuries prior to the late eighteenth century, the period which has traditionally been seen as the source of major changes in the rural settlement pattern.¹⁷ Settlements cannot be divorced from their field systems and recent work has suggested that the Scottish infield-outfield system was not necessarily primitive or incapable of change. Under the influence of population pressure or the demands of urban markets infield-outfield farming was able to incorporate improvements and to evolve into more complex and sophisticated forms.¹⁸ This has obvious implications for the development of rural settlement. On the Dundas of Dundas estates outside South Queensferry the original framework of towns, still discernible in the seventeenth century, could be traced back to the early thirteenth century. From medieval times onwards the progressive intake of new land from the waste created a complex pattern of dispersed settlement intercalated between the original towns.¹⁹

Looking back to the early medieval period there is also the problem of the origins of the nucleated village settlements which are widely scattered throughout the lowlands of South East Scotland and may extend north of the Forth.²⁰ Barrow²¹ proposed early origins for these communities associated with territorial frameworks of shires similar to those which G. R. J. Jones has identified in other parts of Britain.²² Documentary evidence for the early medieval period is limited but a late thirteenth century rental of the priory of Coldingham provides insights into the character of some of these village settlements.²³ The larger villages had complex structures with areas of demesne and occupiers of land variously styled *liberi*, *husbandi*, *firmari*, *cotari* and *bondagia*. Yet even at this early date there are indications of more than one stage in the evolution of such settlements. In Swinton the 24 husbandmen holding 12 carucates of land appear to have formed the core of the settlement, perhaps a regularly planned one like many of the villages of Northern England. The lands of the 18 *firmari*, ranging from half an acre to two bovates and held for money rent rather than services, appear to have been later accretions to this core.

Large settlements such as Coldingham, immediately adjacent to the priory, had 65 recorded bondagers and over 2150 acres of arable land in the late thirteenth century. In 1691 the settlement still had about 70 families. In the case of Paxton, the 16 occupiers of the late thirteenth century had grown to 42 families by the time of the hearth tax while Flemington had shrunk from 27 occupiers to 14 families. Thus, within a framework of settlements of ancient origin, there are elements of stability, growth and decline, with perhaps more than one cycle, operating over four centuries.

Population growth in Scotland from the thirteenth to the seventeenth centuries may have been relatively modest but at low levels of technology even small increases could have had profound effects on settlement patterns. A gradual, but not necessarily continuous, process of expansion

of the margins of settlement appears to have taken place along with the infilling of more difficult, less desirable environments within the settled area. So far only occasional glimpses of this are available but the documentary record has yet to be searched rigorously. Much of this expansion must have taken the form of small-scale individual and communal intakes from the waste helping to produce, in South East Scotland at least, the pattern of numerous small units of settlement interspersed with older nucleated settlements which can be seen in Figures 2 and 3.

Some of the features of this expansion can be demonstrated by an analysis of place names. For example, if the size of those settlements in the Berwickshire hearth tax returns which possessed classic Anglian place name endings in *-ington* and *-ingham* are compared with those suggesting later clearance and expansion into more difficult environments (elements with *-muir* indicative of reclamation at the uphill margin, *-shiel* names marking the permanent settlement of former temporary shieling sites, and 'low level' names incorporating moss, haugh, bog and myre, suggesting movement into ill-drained areas), a mean square contingency coefficient test gives a correlation coefficient of -0.72 , statistically significant at the 95% probability level. In other words, the settlements whose names incorporated these presumed later expansion elements were generally much smaller than those with earlier Anglian names. Work of this kind is simplistic in the extreme but suggests that a combination of place name and landscape studies in conjunction with the documentary record could accomplish a good deal.

Changes at the margins of cultivation are also significant for our understanding of the development of rural settlement. Parry's work on South East Scotland has provided a chronology which needs to be tested against trends in other regions. Parry found evidence of an expansion of settlement to high limits around the Lammermuirs during the early medieval period with the colonisation of former shieling sites. This was followed by the abandonment of many marginal settlements, particularly during the sixteenth and seventeenth centuries, with climatic deterioration as a possibly significant factor.²⁴ Yet the story is likely to have varied from one area to another under the influence of economic and social as well as environmental influences. The medieval expansion was delayed into the fifteenth and sixteenth centuries in areas of former royal hunting forest like Etrick Forest.²⁵ The conversion of shielings into permanent farmsteads was still continuing as late as the early eighteenth century in parts of the eastern Grampians.²⁶

SETTLEMENT MORPHOLOGY

Moving down in scale once more, can anything be said about settlement morphology? The standard model of the farm town has usually incorporated the ideas of a random scatter of buildings within particular clusters unless factors such as terrain forced some sort of environmental conformity. Studies of late eighteenth and early nineteenth-century deserted settlements in the Highlands tend to support this view.²⁷ It has been shown, however, that rural settlement in Lowland Scotland varied considerably in the past and that some of the nucleated villages of the South East may

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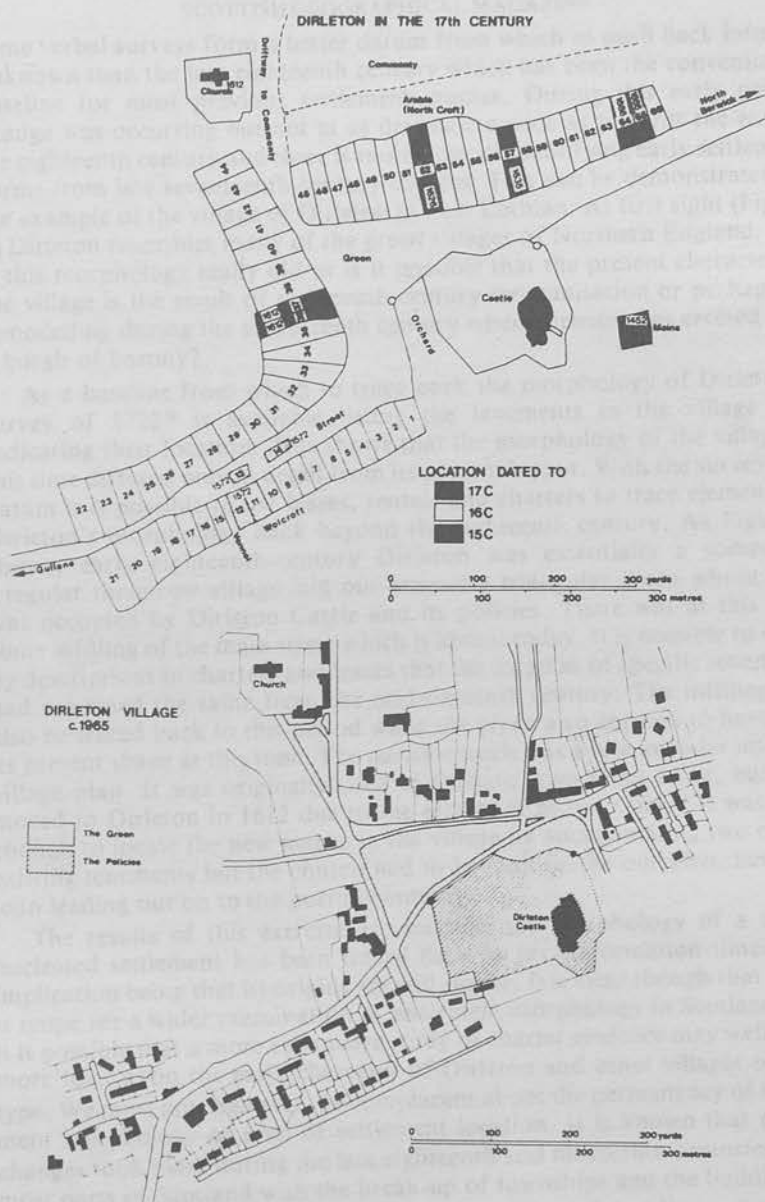


Fig. 6—Morphology of Dirleton village in the seventeenth and twentieth centuries.

originally have possessed regular layouts. There is thus a case for examining settlement morphology in more detail than has been done hitherto. While documentation is undoubtedly poor compared with England this is not an entirely hopeless task. The late seventeenth and early eighteenth centuries, with sources like the hearth tax and poll tax, plentiful estate papers and

some verbal surveys form a better datum from which to push back into the unknown than the late eighteenth century which has been the conventional baseline for most previous settlement studies. During this early period change was occurring but not at as dramatic a pace as towards the end of the eighteenth century and there is more hope of identifying early settlement forms from late seventeenth-century sources. This can be demonstrated by the example of the village of Dirleton in East Lothian. At first sight (Figure 6) Dirleton resembles many of the green villages of Northern England. But is this morphology really old or is it possible that the present character of the village is the result of eighteenth-century reorganisation or perhaps of remodelling during the seventeenth century when Dirleton was erected into a burgh of barony?

As a baseline from which to trace back the morphology of Dirleton a survey of 1722²⁸ is available listing the tenements in the village and indicating their location. This shows that the morphology of the village at this time differed only in detail from its present layout. With the survey as a datum it is possible to use leases, rentals and charters to trace elements of Dirleton's morphology back beyond the eighteenth century. As Figure 6 shows, early eighteenth-century Dirleton was essentially a somewhat irregular three-row village laid out around a triangular green whose base was occupied by Dirleton Castle and its policies. There was at this time some infilling of the main street which is absent today. It is possible to show by descriptions in charters and leases that the location of specific tenements had remained the same from the mid-sixteenth century. The infilling can also be traced back to this period while the green also appears to have had its present shape at this time. The parish church was a late intruder into the village plan. It was originally sited at Gullane, two miles away, but was moved to Dirleton in 1612 due to the effects of blown sand.²⁹ It was easy enough to locate the new manse in the village by amalgamating two of the existing tenements but the church had to be built on the outskirts, beside a loan leading out on to the north commony.

The results of this exercise are modest: the morphology of a single nucleated settlement has been traced back to pre-Reformation times, the implication being that its origins are still earlier. It is clear though that there is scope for a wider examination of settlement morphology in Scotland and it is possible that a more exhaustive study of charter evidence may well shed more light upon the early character of Dirleton and other villages of this type. We must not, however, be complacent about the permanency of settlement morphology or even of settlement location. It is known that major changes took place during the late eighteenth and nineteenth centuries over most parts of Scotland with the break-up of townships and the building of new farmsteads on amalgamated and consolidated holdings. Equally, important changes may have occurred at earlier periods. At Dirleton, pottery finds and the occurrence of the place name 'Eldbottle' or 'old settlement' a mile to the north suggests that the village may have been resited at some early date.³⁰ There are hints of this process in the early histories of other settlements in South East Scotland. Both Greenlaw and Duns³¹ seem to have shifted their location while retaining the same names. We do not know enough about estate management policies during the late middle ages and early modern times to be sure whether or not the settlement changes

which were prompted by reorganisation in Northumberland had any parallels north of the Border.³² Enough is known about the flimsy nature of seventeenth-century peasant housing³³ to suggest that, as in late medieval England, rebuilding and perhaps resiting over short distances must have been frequent in the normal course of events, as well as following periodic swathes of devastation like that cut by English forces through South East Scotland in 1544 and 1545.³⁴ This opens up possibilities of locational change and settlement desertion. A few deserted settlement sites pre-dating the changes of the eighteenth and nineteenth centuries are known in Lowland Scotland but this is a topic which has yet to be tackled systematically using the full range of sources available. The impact of the thorough excavation of a single English deserted village, Wharram Percy, is only just beginning to be appreciated, and archaeological work, even at a much smaller scale, on a deserted settlement site from medieval or early modern times might add greatly to our knowledge of the character of rural settlement in Lowland Scotland. This paper has stressed the possibilities of documentary sources but it must be emphasised that the need is for an integrated and multi-disciplinary approach using not only all varieties of historical sources, but the landscape itself and the remains beneath it in order to build up as complete a picture as possible.

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³ H. Fairhurst. The rural settlement pattern of Scotland with special reference to the west and north. In R. W. Steel & R. Lawton (eds.). *Liverpool essays in geography*. London 1967 193.

⁴ I. H. Adams. *Agrarian landscape terms — a glossary for historical geography*. Institute of British Geographers special publication 9. London 1967 60.

⁵ For example, G. Kay. The landscape of improvement — a case study of agricultural change in North East Scotland. *Scot. Geogr. Mag.* 78 1962 100-11.

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⁶ K. Walton. The distribution of population in Aberdeenshire in 1696. *Scot. Geogr. Mag.* 66 1950 19.

⁷ Scottish Record Office E 69 series.

⁸ *List of pollable persons within the shire of Aberdeen, 1696*. Spalding Club. 2 vols. Aberdeen 1844.

⁹ Scottish Record Office E 70 series.

¹⁰ D. Semple (ed.) *Renfrewshire poll tax returns*. Glasgow 1864.

¹¹ R. A. Dodgshon. The removal of runrig in Roxburghshire and Berwickshire 1680-1766. *Scot. Stud.* 16 1972 121-37.

¹² See M. H. B. Sanderson. The feuars of kirklands. *Scot. Hist. Rev.* 52 1973 117-48.

¹³ C. S. Romanes (ed.) Melrose regality records. *Scot. Hist. Soc.* Vol. III Edinburgh 1917 45-56.

¹⁴ *Ibid.* 15 *Ibid.* 357.

¹⁶ Eg. Liber Sancti Marie de Calchou. *Bannatyne Club*. Edinburgh 1846 Vol. II Rental 1567.

¹⁷ R. A. Dodgshon. Changes in Scottish township organisation during the medieval and early modern periods. *Geogr. Ann.* 58 ser. B. 1977 51-65.

¹⁸ I. D. Whyte. Infield-outfield farming on a seventeenth-century Scottish estate. *Jnl. Hist. Geog.* 5 1979.

¹⁹ *Ibid.*

²⁰ Dr G. Whittington. Department of Geography, University of St Andrews. Personal communication.

²¹ G. W. S. Barrow. Rural settlement in central and eastern Scotland. *Scot. Stud.* 6 1962 124-44. *The Kingdom of the Scots*. London 1973 257-78.

²² G. R. J. Jones. Early territorial organisation in England and Wales. *Geogr. Ann.* 43 1961 174-81.

²³ The Priory of Coldingham. *Surtees Society*. London 1841 kxxxv-cii.

²⁴ M. L. Parry. Secular climatic change and marginal agriculture. *Trans. Inst. Brit. Geogr.* 64 1975 1-14. The abandonment of upland settlement in Southern Scotland. *Scot. Geogr. Mag.* 92 1976 50-60.

²⁵ M. L. Anderson. A history of Scottish forestry. London 1967 1 165-81.

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THE HISTORICO-GEOGRAPHIC EXPLANATION OF URBAN MORPHOLOGY: A DISCUSSION OF SOME SCOTTISH EVIDENCE

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Abstract: The search for a theoretical framework for the investigation of urban morphology has produced two apparently divergent schemes. Whitehand has proposed a model based upon the adoption of innovations and related such diffusions to building cycles and rent theory. An alternative approach, favoured by Carter and by Vance, stresses the role of individual landowners and institutions in the shaping of morphology. This paper argues the need for a theoretical framework which can accommodate both explanatory approaches in addition to the numerous detailed studies of specific morphological relationships. An examination of Scottish evidence suggests that the role of decision-makers is central to the creation and modification of the elements of urban morphology, the patterns of plots, buildings, use, streets, areal plan and townscapes.

THE SEARCH FOR A THEORETICAL FRAMEWORK

At the International Geographical Union Symposium on Urban Geography at Lund in 1960 discussion touched upon the progress made in studies of urban morphology. W. Garrison was critical of the failure to develop general theory and the absence of satisfactory measurement devices. In reply, M. R. Conzen stressed that quantitative precision merely sharpened description whilst the primary concern should be the study of the formative processes creating morphology. Others emphasised the importance of the human element in urban development, H. Mayer observing that "the city is primarily a collection of human beings living in a society, with historical development and social institutions, with almost an infinity of motivations, of desires, of ambitions, of emotions". Mayer argued that the city is a human creation resulting from numerous decisions by public authorities and private bodies, by organisations and individuals. Mayer considered the understanding of the decision-making processes in urban development to be fundamental to a satisfactory explanatory analysis of morphology. Carter (1970) considered that urban morphology required to be rescued from "the barren outpost of urban geography which it has so

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IAN D. WHYTE

George Dundas of Dundas: the context of an early eighteenth-century Scottish improving landowner

The traditional view of Scottish agricultural development has postulated a state of stagnation or even decline during the sixteenth and seventeenth centuries, gradually giving way from the middle of the eighteenth century to changes which culminated in the rapid transformation of agriculture and rural society—the classic ‘agricultural revolution’ during the later eighteenth and early nineteenth centuries.¹ Recent research has modified these ideas by demonstrating that the processes of agrarian change in Scotland were more complex, more protracted and more regionally varied than this framework has allowed for. On one hand significant developments undoubtedly took place during the seventeenth century and perhaps earlier,² while on the other it has been suggested that many facets of improvement were far from complete or universally adopted by the early nineteenth century.³ The paradigm of revolution has been modified by an increasing emphasis on evolutionary processes operating over longer time-scales. The actual mechanisms of change and the underlying forces which promoted them are, however, still imperfectly understood. Previous work has emphasised the importance of landowners in changing the Scottish rural landscape. In the society of seventeenth- and early eighteenth-century Scotland they were the only group with the resources, power and knowledge to initiate change in agriculture and they may have played a more prominent role in this context than landowners in England.⁴ Attention has focused on the activities of a limited number of ‘improvers’, men like John Cockburn of Ormiston and Archibald Grant of Monymusk who have been presented, implicitly or

1 J. E. Handley, *Scottish Farming in the Eighteenth Century* (Edinburgh, 1953) and *The Agricultural Revolution in Scotland* (Edinburgh, 1963); H. Hamilton, *An Economic History of Scotland in the Eighteenth Century* (Oxford, 1963).

2 I. D. Whyte, *Agriculture and Society in Seventeenth-Century Scotland* (Edinburgh, 1979).

3 R. H. Campbell, ‘The Scottish improvers and the course of agrarian change in the eighteenth century’, in L. M. Cullen and T. C. Smout (eds.), *Comparative Aspects of Scottish and Irish Economic and Social History, 1600-1900* (Edinburgh, 1977), 204-15.

4 G. E. Mingay, *English Landed Society in the Eighteenth Century* (London, 1963), 166-9.

explicitly, as isolated figures of heroic stature battling single-mindedly against the prejudice and ignorance of the majority of their contemporaries.¹ The private correspondence and estate papers of a limited number of improvers have been central in previous interpretations of the earliest phases of the Scottish agricultural revolution, yet their very survival and ease of accessibility in published form may give a misleading impression of the importance of such men.² In recent years there has been a tendency to topple the legendary innovators of eighteenth-century English agriculture—men like Coke, Tull and Townshend—from their pedestals.³ The significance of such figures has recently been questioned in a Scottish context too, and it has been stressed that there is a considerable difference between the first tentative trial of an innovation on the home farm of an improving landowner and its widespread dissemination among his tenantry.⁴ Examination of late seventeenth- and early eighteenth-century manuscript estate papers suggests that the rôles of men such as Cockburn as innovators may have been exaggerated and their progressive character overstressed. Many other proprietors were active in transforming their estates at this period, yet their attitudes to improvement and the ways in which they put these ideas into practice have not been studied in detail. We know little about the means by which estates were developed, or about the scale and effects of the operations involved. A case-study approach has manifest pitfalls but, until more collections of estate papers are studied in detail, questions regarding the nature, scale, cost and effect of agricultural improvements cannot be answered in general terms.

In this context the survival of a manuscript diary of policy and improvement covering the years 1706–57, with associated estate papers and correspondence, by a hitherto virtually unknown landowner, George Dundas of Dundas, is particularly interesting. In providing an example of the attitudes of landowners towards estate development in early eighteenth-century Scotland, by highlighting the strengths and limitations of their approach, and by demonstrating the scale of their activity, the Dundas papers provide valuable insights into the nature of early agricultural improvement in Scotland.

1 J. E. Handley, *Scottish Farming*; H. Hamilton, *Economic History*; T. H. Franklin, *A History of Scottish Farming* (London, 1952).

2 J. Colville (ed.), *Letters of John Cockburn of Ormiston to his gardener, 1727–1744* (Scot. Hist. Soc., 1904); H. Hamilton (ed.), *Selections from the Monymusk Papers, 1713–1735* (Scot. Hist. Soc., 1945); and *Life and Labour on an Aberdeenshire Estate, 1735–1750* (Spalding Club, 1946).

3 G. E. Mingay, 'The agricultural revolution in English history—a reconsideration', in W. E. Minchinton (ed.), *Essays in Agrarian History* (London, 1968) ii, 11–21.

4 R. H. Campbell, 'Scottish improvers', 210–12.

Little is known about George Dundas beyond the internal evidence of his diary and other papers. He was born in 1690, the eldest son of George Dundas, the proprietor of a small estate centred on Dundas Castle, 12 km west of Edinburgh, and succeeded to the estate on his father's death in 1706. He trained as an advocate and served as member of parliament for Linlithgowshire from 1722 to 1727 and from 1741 to 1743. A staunch Hanoverian supporter, he was appointed to the office of Master of the King's Works in Scotland in 1743. He died in 1759.¹

His diary, entitled 'A short account of all the planting, policy and improvements I have done about Dundas',² commences in 1707 with an introductory memorandum describing the condition of the estate when he took it over the previous year. He only began writing it in 1719 and noted that some of the early pages were lacking in detail as a result.³ Even so, coverage of the early years is still fairly full, suggesting that he had been working from existing notes and accounts.

In 1706 there was little planting on the estate apart from a few mature deciduous and fruit trees around Dundas Castle.⁴ Enclosures were also lacking; apart from the yards, garden and orchard adjacent to the house there was only the North Park, extending to 13 Scots acres, which had existed from at least the middle of the previous century,⁵ and two other grass parks, both badly fenced; the tenant of the mains or home farm also had two small enclosures.

Dundas finished his legal studies in 1708 and immediately began to improve the policies, or parkland, surrounding the house. He was occupied until 1710 in creating a nursery and procuring seeds for it. He then started to enclose land for the block-planting of deciduous and coniferous trees. The planting still formed part of the policies, but Dundas was careful to begin work at their perimeter, leaving the ground closer to the house undeveloped in case he should change his mind about the layout which he intended.

In 1711 Dundas went abroad, not returning until 1714. The purpose of his journey and his itinerary are not stated but he spent some time in Holland. He left instructions to his servants to continue the planting but, inevitably, in his absence the work was not carried out as rapidly or as carefully as he would have wished. Soon after his return he received two consignments of trees and shrubs from Holland, indicating that his interest in embellishing the estate had remained active. In 1715 and 1716 the enlargement of the nursery

¹ Sir Robert Douglas of Glenbervie, *The Baronage of Scotland* (Edinburgh, 1798); J. Forbes, *Members of Parliament: Scotland 1357-1882* (London, 1882).

² N[ational] L[ibrary of] S[cotland], MSS. 80.6.13-14.

³ *Ibid.*, 80.6.13, p. 88.

⁴ *Ibid.*, Flyleaf I-IV.

⁵ I. D. Whyte, 'Infield-outfield farming on a seventeenth-century Scottish estate', *Journal of Historical Geography*, v (1979), 394.

was continued, as was the enclosure by hedges and dykes of further areas for block-planting, although Dundas experienced various setbacks including the destruction of many young trees by a neighbour's livestock and the failure of others to thrive due to the shallowness of the soils on the more rocky parts of the hill of Dundas.

The labour force used by Dundas for improving his policies was modest. He employed a gardener to look after the nurseries and, after trying day-labourers on an irregular basis and finding their work unsatisfactory, he decided that faster progress would be made by taking on two men full-time to do the work of planting, ditching, hedging and dyking. He did this in 1714 and from then onwards most of the work recorded in the diary was undertaken by these two servants, aided by the gardener and supplemented by extra day-labour when required. If Sir John Clerk's force of seven or eight men at Penicuik¹ was a small one with which to improve an estate, then Dundas' was minute. This form of estate development evidently involved the application of very limited resources over long periods of time; in the case of Sir John Clerk, over some thirty years and with Dundas over forty. The Dundas estate accounts which have survived for the period 1718-32 show how small a proportion of the estate's income was used for improvement² (Table 1). The wages of the gardener and the two workmen formed the greatest proportion of the expenses, the remainder being raw material costs, additional day-labourers' wages and the purchase of seeds and plants. The significance of this last item diminished once Dundas' own nurseries were functioning.

Never more than five per cent and usually around three or four per cent of the estate's income was spent upon the improvement of

TABLE 1 Expenditure upon estate improvements at Dundas 1717-29

	Income of estate			Total cost of improvement				Servants' wages			Additional			Money gained from sale of trees, etc.		
	£	s	d	£	s	d	%	£	s	d	£	s	d	£	s	d
1719	587	1	1	19	12	7	3.4	19	0	3	1	0	4	3	11	8
1721	617	8	4	19	4	1	3.1	18	12	7	11	6		11	1	0
1722	708	12	1	22	16	7	3.2	18	12	10	4	3	9			?
1723	887	5	1	28	10	2	3.3	18	12	2	9	18	10	10	10	0
1725	784	6	11	21	1	6	2.7	15	6	11	5	15	7	10	12	2
1726	608	16	9	30	1	9	4.9	21	1	7	11	0	2	8	19	0
1727	746	19	0	33	8	7	4.4	20	3	0	13	5	7	12	16	0
1728	742	19	0	30	8	10	4.0	14	5	0	16	13	10	10	7	4
1729	626	12	0	26	19	10	4.3	20	13	11	6	5	11			5

1 J. M. Gray (ed.), *Memoirs of the Life of Sir John Clerk of Penicuik* (Scot. Hist. Soc., 1892), 160.

2 NLS, MSS. 80.3.28, 80.3.31.

the policies, and in some years up to a third of this expenditure was offset by the sale of seeds and plants from the nurseries. The ability of a small landowner like Dundas to lay out policies with such modest expenditure—albeit over a very long time-scale—indicates why this procedure was so popular in late seventeenth- and early eighteenth-century Scotland, at a time of economic difficulty when capital was in short supply.

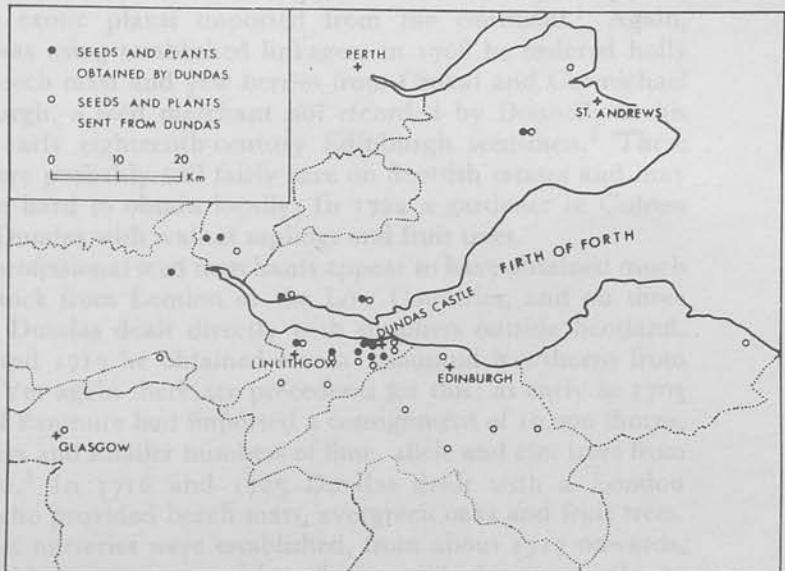
Work on the policies was often hindered by the need to divert Dundas' small, fixed labour force to other tasks such as the repair of tenants' houses, the cultivation of the portion of the mains which Dundas retained in his own hands, and construction and repair work on the castle and its outbuildings. Moreover, as the nurseries and the area of enclosures and planting grew, their maintenance took up more and more time. Thus the pace of improvement diminished perceptibly during the 1730s. By the mid-1730s most of the planting had been finished and merely required regular maintenance. Dundas then began to lay out gardens immediately around the house. During the 1740s, however, he turned his attention to constructing more enclosures beyond the planting, to accommodate crops and livestock. In addition he planned a new avenue to the south of the castle and undertook a good deal of road improvement on the estate. By the mid-1740s he was cultivating the mains on a rotation which regularly incorporated sown grasses, although he had experimented with rye grass and clover as early as 1725.¹ By this time, however, Dundas was ageing and he directed operations with less vigour. Much of the effort of his workmen went into maintaining existing improvements and in the last years of the diary little new work was accomplished.

In order to set Dundas' work in context, it is necessary to determine the extent to which it mirrored the attitudes and actions of other contemporary landowners. Was Dundas an innovator or was he following an established trend? That the latter was the case is suggested by the ease with which he was able to build up his nurseries in the early years of his management of the estate. He obtained plants and seeds from three types of source. The most important of these were the nurseries of other landowners. A fashion for tree-planting and the embellishment of policies can be discerned throughout lowland Scotland as early as the 1660s. This was aided after 1661 by parliamentary legislation which was designed to promote enclosure and afforestation, legislation which may itself have been framed under the influence of progressive landowners.² The pace of this activity seems to have quickened from the 1680s and by the early eighteenth century most estates in south-east Scotland

1 NLS, MSS. 80.6.13, p. 149.

2 APS, vii, 263; see I. D. Whyte, *Agriculture and Society*, chaps. 4-5.

Figure 1. Estates with which Dundas was in contact 1708-25.



employed gardeners, not only to look after kitchen gardens and orchards but also to maintain seed beds for rearing trees and hedge shrubs. Between 1708 and 1721 Dundas obtained seeds and plants from at least fifteen landowners. As figure 1 shows, they were situated entirely around the Firth of Forth, within a radius of about 35 km from Dundas Castle. Several of them, such as the neighbouring lairds of Duddingston and Duntervie were, like himself, small proprietors—improvement of this kind was far from being the prerogative of larger landowners. From 1717 onwards Dundas dealt with the gardener at Newliston, a nearby estate forming part of the lands of the earl of Stair, a noted early improver who after 1720 devoted a good deal of attention to the development of this property.¹ Local landowners were able to provide Dundas with most of the more common species of tree which he needed: ash, elm, lime, plane, rowan, Scots pine and willow; and also with some which one would have expected to be less common, such as dwarf box, horse chesnut and walnut. Far from being a focus for innovations, improvement at Dundas seems to have proceeded belatedly in comparison with many other estates in the area.

A second source of seeds which Dundas used on two known occasions was professional merchants, one in Edinburgh and the other in Culross. The accounts of the marquis of Tweeddale who was planting and enclosing the policies around Yester House, East

¹ H. Hamilton, *Economic History*, 61.

Lothian, on a large scale from the late 1670s, show that there were several gardener burgesses and seed merchants in Edinburgh as early as the 1680s who could supply a wide variety of species, including exotic plants imported from the continent.¹ Again, Dundas was using established linkages: in 1708 he ordered holly berries, beech mast and yew berries from Crockat and Carmichael of Edinburgh, a seed merchant not recorded by Donnelly in his study of early eighteenth-century Edinburgh seedsmen.² These species were probably still fairly rare on Scottish estates and may have been hard to obtain locally. In 1722 a gardener in Culross supplied Dundas with walnut saplings and fruit trees.

These professional seed merchants appear to have obtained much of their stock from London or the Low Countries, and on three occasions Dundas dealt directly with suppliers outside Scotland. In 1714 and 1717 he obtained several thousand hawthorns from Holland. Yet again there are precedents for this: as early as 1703 the earl of Panmure had imported a consignment of 10,000 thorns, 1,000 alders and smaller numbers of lime, abele and elm trees from Rotterdam.³ In 1716 and 1725 Dundas dealt with a London supplier who provided beech mast, evergreen oaks and fruit trees.

Once his nurseries were established, from about 1717 onwards, Dundas sold or gave away seeds and plants which were surplus to his needs. By 1720 his nurseries were large enough for him to give away over 8,000 holly plants: the twenty-eight named recipients between 1717 and 1725 were mainly proprietors of estates around the Forth (figure 1), although their distribution was wider than that of the estates with which he had dealt when setting up his nurseries, extending to East Fife, East Lothian and Glasgow. He supplied plants to 'improvers' such as the earl of Stair and Sir John Clerk of Penicuik, to large landowners like Lord Torphichen and the earl of Rosebery and to many smaller lairds.

It is thus clear that the fashion for planting and ornamenting estate policies which had developed in the last decades of the seventeenth century was, by the early eighteenth century, affecting estates of all sizes, in east-central Scotland at least. While some larger landowners who were prominent in these activities have received most of the credit as innovators, there must have been a lively interchange of ideas concerning improvement at all levels of estate ownership, with considerable numbers of smaller proprietors also being active.

1 NLS, Hay of Yester Muniments, 14,641 (bills for seeds and plants) and 14,653 (gardening accounts).

2 T. Donnelly, 'Arthur Clephane, Edinburgh merchant and seedsman 1706-30,' *Agricultural History Review*, xviii (1970), 151-60.

3 S[cottish] R[ecord] O[ffice], Dalhousie Muniments, GD 45/17/738.

Some of the sources of Dundas' ideas on estate improvement can be determined from two sets of notes which he left. The first, undated, comprised 'notes on trees, shrubs, walks and groves'¹ in which he recorded the qualities of forty-two species of 'trees proper for pleasure gardens' and twenty-five flowering shrubs, with their suitability for different types of soil and their proper place in a garden. These are accompanied by notes on how to lay out the elements of a formal garden, including walks, parterres, groves and ha-has, down to the ancient deities which were most appropriate for statues. Whether or not the notes were taken directly from a published work, it is clear that the model had been derived from outside Scotland, either from France or the Low Countries, perhaps via England. The second set of notes were taken from Richard Bradley's *A General Treatise of Husbandry and Gardening* published in London in 1724.² They thus postdate by many years Dundas' earliest improvements but may still be indicative of his interests. Not surprisingly, many of the notes are taken up with details of tree growth in relation to soil characteristics, but he also copied material relating to crops. After noting Bradley's comments on the reclamation of 'worn out and heathy soil' using clover and sainfoin, Dundas wrote 'he might have added, I think, lucerne', indicating that the relative merits of various sown grasses were known to him. Regarding the cultivation of clay soils, a matter of immediate relevance to the till-covered lands of Dundas, he noted Bradley's recommended rotation of barley-turnips/peas/wheat followed by a grass ley, and also the proper use of clover, lucerne, sainfoin and potatoes as field crops. The new husbandry of sown grasses and root crops was, then, as familiar to Dundas as to John Cockburn of Ormiston although his experiments with them were belated: the gap between theory and practice had yet to be properly bridged.

An interesting feature of the Dundas papers is the existence of a series of letters from John Cockburn of Ormiston, the celebrated agricultural improver.³ The letters cover the years 1737-9 when, following the death of his father, Cockburn was undertaking 'a fever of development'⁴ on his East Lothian estate. Yet despite the interest which both men had in estate improvement and agriculture there are few hints of this in Cockburn's letters, which were principally concerned with coal-mining ventures which both men were undertaking. As a source of profit from invested capital, coal-mining was potentially risky but not necessarily more so than sinking a lot of money into agriculture at a time when the growth of population and demand was sluggish. Cockburn's problems were concerned

¹ NLS, MSS. 80.6.3.

³ NLS, MSS. 80.1.3-4.

² NLS, MSS. 80.6.2.

⁴ J. Colville, *Letters of Cockburn*, p. xxxvi.

more with selling his coal in the face of opposition from neighbouring landowners than with actually mining it.

Cockburn did, however, mention that he was sending Scottish tradesmen to England to have them trained properly with a view to re-settling them at Ormiston, and also that he was encouraging English tradesmen to come to the village.¹ In addition, he was concerned about the bad road conditions which were hindering the sale of his coal, partly due to obstructive landowners who were slow in mending roads which traversed their lands. His neighbours, Cockburn decided, were 'capable of . . . malice under profession of a zeal for our improvements'.²

Another matter touching on rural conditions concerned the transport of some pumping machinery from Ormiston to Dundas.³ Cockburn wrote that overland transport of the equipment, requiring seven carts, was impracticable owing to the difficulty of hiring carts locally and the bad state of the roads. The carts of his tenants were, he explained, defective: 'their axle trees are commonly of birch and generally rotten . . . and their graith (gear) . . . rottener than the axle trees.' Even Alexander Wight, Cockburn's prize improving tenant, did not escape criticism: he had bought proper harness and traces for a cart in England 'but nothing can prevail with him even to try them . . . for the saving of a birch axle tree'. Cockburn gloomily concluded that 'you'll wash the black(a)moor white before you'll make one of them change this way of saving'. Whether Dundas and Cockburn had known each other previously in Scotland or had become acquainted in London when they were attending parliament, their interests were obviously closely linked at this time. But the most interesting aspect of the correspondence is that it shows the range of activities in which each man was engaged. Cockburn has been presented almost as a monomaniac with an all-consuming passion for agricultural improvement. The correspondence indicates that he was interested, as was Dundas, in economic development on a broad front, including the improvement of transport and industry as well as agriculture.

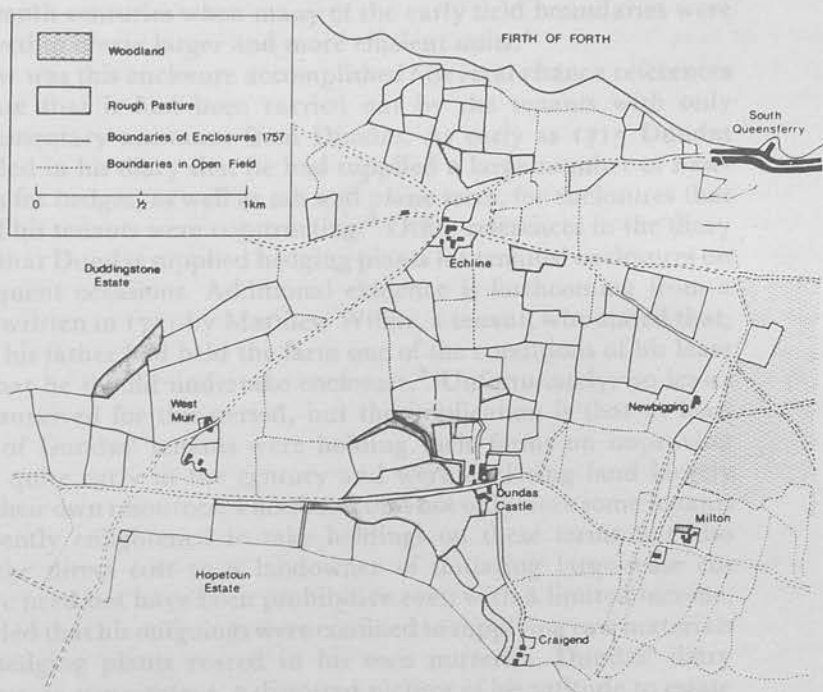
It is symptomatic of the limitations of Dundas' approach to estate development that there is no reference in the diary to his having provided labour for the enclosure and improvement of the lands of his tenants. The evidence of the diary might, indeed, lead one to believe that change on the estate was entirely confined to the policies and the mains. Yet a survey carried out in 1756 by Lewis Gordon, the civil engineer who had laid out John Cockburn's planned village of Ormiston, shows that a considerable amount of

1 NLS, MSS. 80.1.3, letter 23/12/1737.

2 *Ibid.*

3 NLS, MSS. 80.1.4, letter 29/1/1739.

Figure 2. Enclosure on the Dundas estate in 1757.



enclosure had in fact been achieved.¹ Disregarding the policies, out of a total acreage of around 840 Scots acres some 346 acres or forty-one per cent of the estate had been enclosed by this date (figure 2). The process was continuing at the time of the survey, for an account dated 1757 refers to hawthorns being provided by Dundas for hedging enclosures at Westmuir and Echline.² The survey gives the impression that piecemeal, unsystematic enclosure had occurred: the size of the new fields was small, averaging only 8.3 Scots acres. While some enclosures were as large as 15–20 Scots acres many others extended to only two or three. The smaller ones were located around Echline and Dundas itself, the larger ones between the townships. The impression is that the former were earlier, and that the most recent enclosures had been constructed on a larger scale; it was an experimental landscape in which, as within the policies, there was scope for later modification. The pattern of enclosures was substantially remodelled during the later eighteenth and

1 SRO, Register House Plans 3370: estate plan, 1757.

2 NLS, MSS. 80.2.16.

nineteenth centuries when many of the early field boundaries were removed to create larger and more efficient units.¹

How was this enclosure accomplished? Several chance references indicate that it had been carried out by the tenants with only supplementary assistance from Dundas. As early as 1715 Dundas recorded in his diary that he had supplied a large number of hawthorns for hedges, as well as ash and plane trees, for enclosures that two of his tenants were constructing.² Other references in the diary show that Dundas supplied hedging plants for tenants' enclosures on subsequent occasions. Additional evidence is forthcoming from a letter written in 1751 by Matthew Wilkie, a tenant, who stated that, when his father had held the farm one of the conditions of his lease was that he should undertake enclosure.³ Unfortunately, no leases have survived for this period, but the implication is that at least some of Dundas' tenants were holding their farms on improving leases quite early in the century and were enclosing land largely with their own resources. This shows that not only were some tenants sufficiently enlightened to take holdings on these terms but also that the direct cost to a landowner of initiating large-scale enclosure need not have been prohibitive even with a limited income, provided that his outgoings were confined to supplying raw materials and hedging plants reared in his own nurseries. Dundas' diary presents, to some extent, a distorted picture of his attitude to estate development, confined as it was to recording changes on the policies and mains in which he provided both the labour and the capital.

The diary and other papers show that the improvements which Dundas carried out on his estate were largely confined to the mains and policies but that, by the middle of the eighteenth century, a significant start had been made on the enclosure of the entire estate although a good deal of further work and modification of the existing field patterns was necessary before the nineteenth-century landscape of enclosure was achieved. The principal motives for the earliest enclosures were aesthetic, with the planting of trees as a commercial asset probably a secondary motive. In this Dundas was following a trend which had been initiated throughout lowland Scotland in the later seventeenth century, and he was only one of many like-minded landowners who were pursuing similar objectives alongside the more famous 'improvers'. In the economic circumstances of the time the apparent slowness to modify arable farming systems and the interest in tree-planting are hardly surprising. The trees could serve both ornamental and commercial needs. As Henry Kalmeter who visited Scotland in 1719-20 observed, no landowner would willingly

1 SRO, Register House Plans 20,079: estate plan.

2 NLS, MSS. 80.6.13, p. 33.

3 NLS, MSS. 80.1.5, letter 1751.

levels of investment spread over a long time span. The immediate object was not to raise the income of the estate by investing larger amounts of capital in enclosure and attempting to raise the general standards of husbandry. Within these constraints, however, men like Dundas encouraged such changes on their tenants' lands as they could afford. If the scale of their investment was limited, they were nevertheless undertaking long-term planning of a kind which had not previously been evident in Scotland. The work of proprietors like George Dundas represents an important transition stage in the development of Scottish agriculture and the transformation of the Scottish rural landscape. It forms a bridge between the conditions of negligible long-term investment of either capital or labour, which characterised most of the seventeenth century, and the higher levels of investment of the later eighteenth century which were linked to a growing population and rising prices, and were only tried by a few proprietors such as John Cockburn of Ormiston in earlier decades. It was a phase of limited experiment, making modest gains without risking major losses. It tested new techniques and developed new skills. Where these could be shown to be workable on a small scale under the immediate supervision of the proprietor, the way was open for their wider application on the lands of the tenants when more capital was available for investment and the economic situation was more favourable.

The contrast between Dundas and Cockburn is instructive. Dundas worked within the established frameworks of his time; his approach was more cautious and his achievements more restricted than those of Cockburn. Yet Cockburn over-reached himself by trying to accomplish too much in too short a time and, bankrupt, he was forced to sell out to Dundas' neighbour, the earl of Hopetoun: Dundas, with his more low-key approach to agricultural improvement, was able to pass on an estate of enhanced value to his son.

THE HISTORICAL GEOGRAPHY OF RURAL SETTLEMENT

IN SCOTLAND:

A REVIEW.

IAN WHYTE

RESEARCH DISCUSSION PAPER

NO. 17

1.

INTRODUCTION

The history of settlement in Scotland spans several thousand years from the camps of Mesolithic man to modern urban agglomerations. Until the last two centuries, however, most of Scotland's population lived in rural, predominantly agricultural, communities. The history of rural settlement has been complex with marked spatial and temporal variations. Thorpe, (1964) in his map of rural settlement types in Britain, distinguished 16 regional subdivisions in the present landscape. Notwithstanding, this diversity has not always been recognised and settlement history has sometimes been written in terms of a uniform pattern of hamlet clusters of ancient origins which was transformed into a landscape of single dispersed farmsteads under the influence of eighteenth and nineteenth-century improvers (Uhlir 1961).

Numerous peoples have contributed to the diversity of past and present rural settlement in Scotland from dimly-perceived waves pre-historic immigrants to later incomers like the Scots, Angles, Norse and Anglo-Normans. Within any period social and economic contrasts, as well as environmental differences, have created regional and local variations in the character of settlement while changes through time have reshaped existing patterns or replaced them by new ones.

Our knowledge of Scottish rural settlement at any period is at best imperfect and at worst negligible. This is reflected in the limited treatment accorded to Scotland in Roberts' recent (1977) survey of rural settlement in Britain. It might be assumed that understanding of settlement patterns and the processes which shaped them would be greatest for

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recent periods and would tail off into the distant past. This is not necessarily so. Some settlement forms - hill forts, brochs or tower houses for example - have, by their size and solid construction, remained as enduring landscape features. If their context is not always fully understood then at least their distribution can be reconstructed with some accuracy. By contrast, medieval and early-modern peasant settlements were transitory and have been obliterated by later human activity or, if undisturbed, have left no surface traces. It is a curious paradox, as Crawford (1967) and Whittington (1980) have stressed, that more is known about Scottish rural settlement during the Iron Age than in the seventeenth century. This is due not only to the differential survival of evidence but also to academic fashion. Historical geographers have concentrated on the changes which occurred in the Scottish rural landscape during the eighteenth and nineteenth centuries. This was understandable when the favoured paradigm was one of revolutionary change with the present rural landscape being seen as the planned creation of the improvers. Recent opinion has, however, stressed elements of continuity from earlier periods (Parry and Slater 1980). As yet, however, there has been comparatively little research on the geographical implications of settlement continuity. Archaeologists have been more concerned to excavate funeral monuments than settlement sites (Whittington 1980). Scottish historians have only in recent years begun to look more closely at the social and economic backcloth against which political and ecclesiastical affairs were conducted.

Research has also been hindered by the relative poverty of surviving documentary and cartographic sources which relate to periods before the

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seventeenth century. There is nothing comparable with the medieval lay subsidies and Tudor land surveys which have contributed so much to English historical geography. Estate plans are non-existent before the eighteenth century and the earliest tax surveys which provide details of the distribution and structure of the population are the incomplete hearth and poll taxes of the 1690s. The legal system and landownership structure of Scotland rendered unnecessary the enclosure awards and tithe surveys which have formed the starting point for many English settlement studies.

As a result research in Scotland has not advanced as far as in England or other European countries. It is thus possible to attempt a brief over-view of the historical geography of Scottish rural settlement in a way which would be impossible for other countries. This review surveys the work of historical geographers and related specialists on spatial aspects of rural settlement in Scotland. Research from many disciplines has contributed to our knowledge and it would have been meaningless to have imposed artificial boundaries to what was, and was not, geographical. Historical geographers have made important contributions to some aspects of rural settlement studies while for others their role has been more limited. The work of geographers forms only one strand in a composite skin. Less attention has been given here to prehistoric and dark age settlement as the task of providing primary data for these periods is essentially one for the archaeologist and geographers' contributions are always likely to be less significant than for contexts in which they can act both as specialists in their own right and as synthesizers of a wide range of evidence. A chronological approach has been adopted but

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within the broad time spans selected the treatment is essentially thematic and concentrates on the processes which have shaped rural settlement. The intention is to highlight areas where future research would be particularly welcome as well as to evaluate the achievements of past work. Shortage of space has limited the discussion of many topics and has excluded some themes which are relevant to settlement studies and on which historical geographers have worked, such as vernacular building and the operation of transhumance systems. References to these are, however, included in the bibliography.

The bibliography is not designed to be comprehensive. In a sense all historical geography is settlement geography as settlement patterns are one of the most fundamental spatial expressions of human activity. The references have had, necessarily, to be selective but they should serve as a basis from which to conduct a more thorough exploration of the literature.

PREHISTORIC AND DARK AGE SETTLEMENT

While the Prehistoric and Dark Age periods cover the greater proportion of the time in which man has been active in Scotland data relating to settlement are meagre. Information for prehistoric times comes largely from the work of archaeologists and its collection and analysis requires a specialist training which is not often acquired by geographers. The study of the field evidence of settlements dating from these periods is also fraught with problems. Unless remains are of clearly identifiable structures relating to limited time contexts the lack of dating evidence makes attempts to reconstruct settlement patterns hazardous. Indeed, for

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pre-Iron Age times it is meaningless to talk of settlement 'patterns' at all as so few dwelling sites have been excavated and accurately dated.

Our knowledge of settlement in late Neolithic and Early Bronze Age Scotland is confined to a handful of sites. Some of these, such as Rinyo and Skara Brae in Orkney, represent clustered settlements, albeit small ones, which seem to have been occupied over extended periods. (McInnes 1971). Other sites such as Northton in Harris appear to have been the homes of individual family groups (Simpson 1971). While the excavation of a particularly well-preserved site like Skara Brae (Childe 1931) provides considerable insight into the life of one community there are no indications of how representative it was of settlements elsewhere in terms of size, layout, construction and economy. It is a matter for speculation whether the stone-built Orkney sites had mainland counterparts which were constructed largely in timber and which have left no visible trace. In the Northern and Western Isles the location of such sites on machair land, combining the most fertile areas for pasture and cultivation with ready access to the resources of the sea, indicates a keen appreciation of environmental potential by their builders. Unfortunately, it is precisely these locations which have remained in intensive use until modern times and which have been subject to heavy erosion as a result.

Even in later prehistory when the provision of defensive works allowed the survival into the present landscape of greater numbers of settlement sites reconstructions of patterns are problematical. Such sites tend to survive in areas which are marginal to modern settlement and which have usually been marginal in historic times as well. It may be impossible to

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decide whether such sites are truly representative of their contemporary setting. Aerial photography is now demonstrating that Iron Age settlement in Southern Scotland was less confined to the hill fringes than had once been thought and was more extensive on the heavier soils and thicker woodlands of the valleys (Cunliffe 1978). Indeed, although studies of man's impact on the vegetation and soils of Scotland are still few, evidence is accumulating to suggest that environmental modifications were more profound and more extensive than was previously suspected (Whittington 1980).

Notwithstanding, some attempts to examine spatial patterns of human activity in pre-Iron Age Scotland have been made, notably by Renfrew (1973) in situations where islands such as Arran and Rousay provide small, well-defined territorial units. It should, however, be noted that Renfrew was attempting to provide a social context for the building of megalithic chamber tombs. This involved the attempted reconstruction of territorial units rather than of the settlement patterns which existed within them and it must be admitted that a comparison of the distribution of pre-historic funerary monuments with the extent of modern improved land may tell us little about prehistoric settlement.

It is only for the later Iron Age that settlement patterns begin to be discernible and it becomes possible to examine some of their components such as the development of hierarchies, regional variations in dwelling types and evolution through time. In eastern and southern Scotland the settlement pattern has features which link it with that of Lowland England, though modified by a greater emphasis on pastoral farming. The similarities between Southern Scotland and Northern England are sufficiently great for

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the area from the Tyne to the Forth to have been treated as a single settlement province (Cunliffe 1978). Within this region at least three levels of a settlement hierarchy can be distinguished. Firstly there were family farmsteads which in earlier times may have been open but which by the Late Iron Age were usually defended by a palisade or ramparts. Secondly, larger clusters existed with a similar form. Many enclosed settlements have traces of multiple hut circles but failing total excavation it is impossible to be sure how many dwellings were occupied at any one time. At the settlement near Hartburn in Northumberland 36 huts occurred but overlaps indicated that there had been many replacement phases (Jobey 1973).

There is a gradation in size and a similarity in character between the single-family homesteads and these larger nucleations but altogether different in scale and, presumably, function were the large hill forts enclosing up to 12-15 ha. and, in the case of Eildon Hill North, containing the remains of some 300 hut circles. While it is unlikely that more than a fraction of these were occupied simultaneously the hill forts still emerge as important large-scale nucleations. While Feachem (1966) believed that they may only have been inhabited seasonally other writers have suggested a more permanent occupation linked with quasi-urban functions (Cunliffe 1978, Robertson 1971). The scale and complexity of such sites implies a degree of social stratification, political organization and territoriality which is confirmed by Roman writers who identify specific forts as the capitals of particular tribal groups. No attempt has yet been made to apply models of central place theory to hill forts and their

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potential hinterlands as has been done for Southern England (Cunliffe 1976 though see the maps in Jobey 1976 and MacKie 1976). In this context, however, it is worth remembering the existence of a system of territorial units based on shires or multiple estates which can be identified in eastern Scotland in early medieval times (Barrow 1973). By analogy with other parts of Britain such a system may preserve a territorial framework which had its origins in the later Iron Age (Jones 1976).

During the latter half of the first millennium B.C. the character of settlement in South East Scotland began to change. Earlier farmsteads and clustered settlements were surrounded by simple palisades or were open and undefended, such as the unenclosed platform groups which are common in parts of the Tweed valley (Feachem 1960-1) and which may well be direct descendants of later Bronze Age settlement forms (Whittington 1980). A gradual trend towards the construction of defensive works can be seen as in the case of the simple ring house at West Plean near Falkirk which lies within later enclosures (Steer 1955-6).

South West Scotland, an area which seems barely to have been affected by Roman influences, exhibited differences in the character of its settlement from South Eastern Scotland. These have been implicitly linked with tribal grouping but in its settlement characteristics the South West had much in common with a province extending through the Hebrides to the Northern Isles (Cunliffe 1978). One settlement form which occurred here but which has not been found in eastern Scotland was the crannog, a homestead constructed on an artificial island, usually linked to the shore by a causeway. The number of crannogs which were known was limited until

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recently. Survey work by I. Morrison (1973a, 1979) in Loch Awe and other Highland Lochs has indicated that they were much more common than had been thought. In the case of Loch Awe their relatively dense scatter was related to the availability of suitable high-quality land on shore coupled with the need for shallow water in situations which were not exposed to prevailing winds.

The more varied physical resources of Southern Scotland allowed a denser population with a relatively complex social organisation and a correspondingly sophisticated settlement hierarchy but in the north and west conditions were different. There it has been suggested that the occurrence of fertile land in discontinuous, isolated pockets encouraged society to remain fragmented in smaller groups with less centralized control. This is reflected in a more markedly dispersed settlement pattern in which large communal hillfort settlements are rare. Again, as in the south, there is an evolution from open undefended settlements in the early Iron Age towards fortified structures, particularly the development of duns and brochs, from the second century B.C. onwards with a later reversion to the more open wheelhouse in the first and second centuries A.D. This sequence has been demonstrated at Jarlshof in Shetland (Hamilton 1956) where the pre-broch phase spans some 1,000 years and also at Clickhimin (Hamilton 1968).

Superficially late Iron Age settlement forms in the West Highlands and Islands differ radically from those of Lowland Scotland. Linkages between them have, however, been suggested by MacKie (1976) through the development of vitrified forts. The distribution of this type of fort

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implies an initial development in lowland areas surrounding the Moray Firth and on the southern and eastern margins of the Highlands followed by penetration of the uplands, though this chronology is not yet confirmed by dating evidence. In the course of this penetration the forts became smaller until they were barely distinguishable from duns. MacKie has suggested that this miniaturization process represents the adaptation of a lowland settlement form to highland conditions with small, scattered units of population and that stone duns and brochs developed directly from these adapted structures.

Evidence of pre-broch settlement in Northern and Western Scotland is scarce as little excavation has been undertaken. Clusters of hut circles are known from many areas: over 2,000 have been recorded in Sutherland (Fairhurst 1970-1, 1971). These may be approximate counterparts to the open settlements of the mid first millennium B.C. in southern Scotland. Fairhurst (1970-1, 1971) has excavated one such site at Kilphedir in Sutherland, revealing two phases of occupation associated with clearance cairns and small irregular fields relating to the 5th and 2nd centuries B.C. A study of the distribution of similar groups of hut circles in this area showed that they tended to occur at altitudes of between 60 m and 130 m, out of the valley bottoms which were probably thickly wooded, but avoiding exposed situation and poorer soils.

The origin, function and development of brochs, a distinctively Scottish settlement form, has aroused considerable debate. (Curle 1927, Scott 1944, Hamilton 1962, MacKie 1965a,b 1974) has proposed an origin in the Hebrides from a series of semi-brochs or promontory forts, possibly under

the influence of settlers from southern Britain. Insufficient evidence is available to determine how long into Roman and post-Roman times the use of brochs and wheelhouses continued but excavations such as that by MacKie (1974) at Dun Mor Vaul in Tiree showed that after use as temporary fortified refuges brochs might be converted to permanently occupied, undefended farmsteads.

Another settlement form found predominantly in western and northern Scotland is the dun, a small homestead defended by massive stone walls, sometimes incorporating galleries and cells. They occur throughout the west coast from Luce Bay to Sutherland but are uncommon in the east save for concentrations in the Upper Tay and Middle Forth basins. Duns may have originated at an early date but like crannogs they sometimes continued to be used or re-used into Dark Age and even medieval times.

The Roman occupation of Scotland was short-lived and almost exclusively military in character. The direct contribution of the Romans to the settlement pattern was limited. While civilian settlements appear to have developed alongside some of the Antonine Wall forts the brevity of their occupation prevented them from making any lasting impression on the landscape (Robertson 1971). More important were the effects of Roman control over southern Scotland during the more extended period when it formed a frontier zone beyond Hadrian's Wall. The Roman presence may have lain behind the abandonment of defended settlements in exposed situations and the relocation of population in lower, more attractive sites (Cunliffe 1978). While some hill forts such as Traprain Law, capital of the Votadini, continued to be

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occupied, presumably under the Roman aegis, others like Eildon Hill North were abandoned.

Less is known about the character of settlement in Dark Age Scotland than in the late Iron Age (Whittington 1980). This is unfortunate in that there are indications that this was a major formative phase in settlement development, during which communities and their associated administrative frameworks stabilised into the patterns which we can begin to discern in medieval records. Nevertheless, place name evidence has aided attempts to elucidate the nature of Pictish settlement in eastern Scotland because of the occurrence of the element 'pit' meaning a portion of land or a share. An early study of the distribution of 'pit' place names in relation to environmental features in part of southern Pictland (Whittington and Soulsby 1968) demonstrated that there was a relationship between the place names and well-drained, fairly light soils in sheltered, inland locations. A more recent general study (Whittington 1974-5) of the distribution of 'pit' names throughout Scotland shows that while they are frequent through the east-coast lowlands from Fife to Cromarty, areas such as Buchan and the eastern Moray Firth lowlands are devoid of them. Again there was a tendency towards inland locations and a close relationship existed between their distribution and the occurrence of Class I and II soils suggesting that arable farming had played a significant role in the Pictish economy.

Whittington (1974-5) has suggested that the element 'pit' may have referred to both an actual settlement and a unit of land administration in which the main centre bore the 'pit' name. Barrow's (1973) study of

shire units north of the Forth in which he suggested that many dependent settlements within these larger administrative groupings bore 'pit' names supports this suggestion. Of the settlements to which such names were applied little is known. Souterrains, underground chambers believed to have been associated with surface dwellings and to have functioned as byres or storehouses, occur widely through Pictland (Wainwright 1953, 1963). They also exist in areas like Skye the Outer Hebrides and Sutherland which have few or no pit names though (Thomas 1971).

Cottam and Small (1974) have applied techniques of locational analysis to archaeological and place name evidence in order to test hypotheses regarding the distribution of settlement in Southern Pictland. Their techniques are, however, more sophisticated than the quality of the evidence warrants and the use of distributions of features like symbol stones as surrogates for the distribution of rural settlement has manifest pitfalls in relation to function and dating. Their conclusions concerning increasing settlement nucleation due to changing political conditions and the possible diffusion of Anglian agricultural methods north of the Tay leading to a reorganization of society and a greater emphasis on pastoral farming must be considered, on the basis of the available evidence, as speculative.

Our knowledge of the extent and character of Scandinavian settlement in Scotland also relies on place name evidence supported by archaeological material and a few historical sources. The area settled by Norse colonists in northern and western Scotland has been demarcated by Nicolaisen (1969) on the basis of Scandinavian place-name elements following the chronology proposed by Stewart (1965) for Shetland farm names. Places containing the

element 'stadr', 'stadir', a dwelling place or farm, thought by Nicolaisen to relate to an early phase of Norse settlement possibly during the ninth century, occur mainly in the Northern Isles, Lewis, Harris and North Skye. Place names with the element 'setr', 'seatr', a shieling, which are considered to have been formed before the Viking colonization of Iceland, thus relating to c880-900 A.D., have a slightly wider distribution including Caithness. The element 'bolstadr' which occurs down the west coast as far south as Islay and in Caithness, Sutherland, Ross and Cromarty, is thought to have been less period-specific and to reflect the widest extent of Norse settlement in this area. The tight chronology proposed by Nicolaisen has been disputed (Wilson 1976) but the distribution of settlement is generally accepted. A scattering of names incorporating the classic Scandinavian ending '-by' indicates a limited influence in south east Scotland (Nicolaisen 1967) while a cluster of '-by' and 'thwaite' names in Dumfries-shire suggests an early penetration of this region from Northern England (Nicolaisen 1960).

The effect of the Norse colonization on the pre-existing inhabitants and their settlements is harder to evaluate. There has been speculation (Crawford 1974) concerning the degree to which there was interaction between Celt and Norseman and whether there was a continuity of Norse tradition into medieval and later times. It was once thought that building types like the Hebridean black house, and the horizontal water mill of the Northern and Western Isles, which continued in use into the late nineteenth century, had a direct Norse ancestry (Roussell 1934, Curwen 1939). This long-term continuity has, however, foundered on the archaeological gulf which separates the few known Norse sites and the remains of nineteenth-century structures.

Crawford's recent work at Udal in North Uist (1965, 1974) suggests that the black house at least does not have an early ancestry.

Although Norse place names are thick on the ground they have not aided the location of Norse settlement sites. As Crawford (1974) has stated, the areas of potential settlement in Norse times have been liable to later disturbance, particularly since the eighteenth century. Less than a dozen Norse settlement sites have been excavated (Wilson 1976). Most of these have been single farmsteads ranging from small examples as at Underholl in Shetland (Small 1966) to Jarlshof where the farm consisted, in its later phases, of a relatively elaborate house with a cluster of outbuildings (Hamilton 1956). At Birsay in Orkney (Cruden 1965) the settlement grew from a single farm into a complex including the remains of the eleventh-century hall of Earl Thorfinn and later the palace and cathedral of the Bishop of Orkney.

It has been suggested that the economy of the incoming Norse did not differ greatly from that of the natives (Ritchie 1976-7). Ritchie (1974) has suggested that continuity of location from pre-Norse times was a feature of Scandinavian settlement, colonists preferring sites which had already been occupied to new ones, though insufficient evidence is at present available to indicate whether this was true in all the areas of Scotland affected by Viking colonization. Several of the Norse settlement sites which have been excavated do show a continuous history from earlier times. At Buckquoy and Udal the rectangular Norse building style was markedly different from the cellular houses of the preceding period. (Ritchie 1976-7, Crawford 1974). Nevertheless, at Buckquoy the artefacts pointed

to a measure of integration between native and Norseman, the finds from the Norse levels being dominated by native objects.

RURAL SETTLEMENT IN MEDIEVAL AND EARLY-MODERN TIMES

Some general surveys of the evolution of the Scottish cultural landscape have given the impression that the pattern of rural settlement in medieval and early-modern times was simple, uniform and static (Millman 1976). That this was not the case is shown by some recent research (e.g. Parry and Slater 1980, Dodgshon 1975b, 1977, Parry 1975, 1976a). This does, however, highlight the lack of studies of the evolution of Scottish settlement patterns before the later eighteenth century. The tendency to concentrate on the well-documented eighteenth century is understandable but it must be recognised that this period was one of steadily accelerating change and was not necessarily representative of earlier times. The sixteenth and seventeenth centuries are by no means poorly documented and while the volume of source material tails off rapidly into the early medieval period extant documents have yet to be thoroughly sifted by geographers. There is plenty of scope for attempting to trace the salient themes in the development of the rural settlement pattern between the introduction of Anglo-Norman feudalism and the eighteenth century. Some indication of the diversity of the problems which remain to be solved can be found in the following section. Research in this field requires to be undertaken with a broad perspective. A feature of much previous work has been its tendency to consider Scotland in isolation from trends elsewhere in Europe. Some comparative studies have, however, tried to set Scottish settlement within a wider context. Close parallels have been drawn between the West Highlands and Ireland (Johnson 1959,

Thorpe 1964, Uhlig 1961). This is hardly surprising considering the strong links between these areas from prehistoric times onwards. There are many similarities in the evolution of rural settlement in Ireland and Scotland from Dark Age times onwards including the changes which led to the break up of hamlet clusters in both countries from the late eighteenth century.

Uhlig (1959, 1961, 1962) has tried to place the hamlet clusters and infield-outfield systems of Scotland in a broad European framework though his generalizations based on similarities in morphology may often mask important contrasts in the processes which gave rise to them. As Uhlig (1962) has remarked, much further research is needed before it can be shown that similarities at this scale were the result of evolutionary links and a common inheritance or merely due to similar responses to comparable geographical conditions. Flatres (1957) did not consider Scotland in his detailed study of the cultural landscape of Celtic areas but there are nevertheless similarities with Scotland in his discussion of rural settlement forms in Ireland, Wales, Cornwall and the Isle of Man (Evans 1958).

While the adoption of a broader perspective may aid the understanding of the nature and development of settlement in Scotland there are reciprocal advantages to be gained too. Because Scotland's economic and social development was slower than that of many European countries, particularly England, the study of the evolution of Scottish settlement may shed light on trends elsewhere. Patterns which disappeared in England at an early date when documentation was sparse may have continued in Scotland, albeit with differences, into comparatively late and well-recorded times. Just as there are implications for the development of English field systems in recent work

on Scotland, (Dodgshon 1973 1975a,c) so there may be much to learn from research on the evolution of Scottish settlement. (Dodgshon 1975c, Parry 1975, Baker 1979).

Dispersed Settlement

The preoccupation with the concept of the 'ferm toun' as the basic unit of Scottish settlement has led to a lack of attention being paid to patterns of dispersed rural settlement. It might be supposed that dispersed settlement poses fewer problems of definition than those involved in attempting to distinguish between hamlet clusters and villages, and that isolated dwellings would encompass less variety of form and function than larger groupings. This is not the case: dispersed settlement units ranged from insubstantial huts erected by squatters on the common waste through the steadings occupied by crofters and more substantial tenant farmers to the houses of small proprietors and ultimately to the residences of great land-owners which, within one 'household', could contain a population equivalent to that of a village. That dispersed settlement has an early origin and a long history as part of the Scottish landscape cannot be doubted. The existence of Neolithic sites like Northton alongside multi-family groupings like Skara Brae suggests that the isolated homestead may have a history as ancient as that of the hamlet cluster rather than being the creation of the improvers as has sometimes been implied.

The existence of dispersed settlement in the pre-improvement landscape can be readily demonstrated in the Lowlands though its distribution and character have yet to be studied in detail. Walton (1950) and Carter (1977a)

have recognised that some farms in seventeenth-century Aberdeenshire were leased by single tenants and worked with the aid of cottars and hired labourers. Geddes and Forbes, (1947) studying the 1696 poll tax returns for Aberdeenshire, pointed to a contrast in the structure of townships between upland areas where farms with large numbers of joint tenants were common and lowland areas where substantial farms held by only one tenant were frequent. The 1690's poll tax returns for other lowland areas such as Berwickshire show that such units existed there too alongside joint and multiple-tenant farms and often dominated the settlement pattern. Dodgshon (1972) and Whyte (1979a) have indicated that during the seventeenth and early eighteenth centuries single-tenant units were being created on many estates by the gradual reduction of tenant numbers as leases expired or tenants died. This slow process of consolidation and amalgamation had already led to single-tenant farms prevailing on many estates, especially in upland pastoral areas, by the early eighteenth century (Dodgshon 1972). The single-tenant and multiple-tenant farm possessed contrasting social structures. They did not, however, necessarily differ in population size and this emphasizes the difficulty involved in distinguishing settlement types on the basis of both size and function.

At a lower social level many seventeenth century rentals list crofters, people who occupied discrete smallholdings and paid rent directly to the proprietor, as opposed to cottars who sublet portions of larger farms. Many crofters had part-time occupations as ferrymen, estate officers, brewers ect. and many of their crofts, judging by their separate place names, existed outside the framework of hamlet clusters.

The hearth tax returns for the Lothians and Berwickshire show that between the more substantial nucleated settlements with Anglian origins an intercalated pattern of single homesteads occurred. Settlements with only one household formed some 30% of the total named settlements in the Berwickshire hearth tax lists. A number of these isolated dwellings had place names suggesting a relatively late evolution and pointing to an expansion of population into more difficult, less desirable environments. These included the uphill margins of settlement and areas with poorer soils (place names with 'shiel' and 'muir' elements) or poorly drained land (names with 'myre', 'bog', or 'haugh' elements). On the Dundas estate in West Lothian a similar process can be identified, with a pattern of single holdings being created during the later medieval period between larger townships which had been established before the thirteenth century, (Whyte 1979c).

The process in which tenants who had been displaced by farm reorganization squatted on the common waste and laboriously brought portions of it into cultivation has been described for the eighteenth and nineteenth centuries (Kay 1962, Gray 1973 Carter 1977a). The role of squatting and of individual clearance and reclamation in creating a more diversified settlement pattern has yet to be studied in a pre-improvement context though details of the perambulations of some common grazings list encroachments which may relate to settlement of this type (Parry 1973).

In medieval and early modern times Scottish rural society was sharply differentiated on one hand into the landowning classes, with relatively few small owner-occupiers, and on the other a peasantry of tenants, cottars and labourers whose legal rights to the hereditary occupation of the lands which

they worked were limited or non-existent. In earlier times, from what is known of Celtic society, Scottish society was probably still markedly hierarchical. Thus it is scarcely surprising that a significant element in the rural settlement pattern was the dwellings of the ruling group in contrast to those of the dependent population. The character and evolution of the settlements of ruling and ruled differed considerably in most periods yet they were linked spatially and functionally within a landholding framework with all the social, economic and kin-based relationships which this entailed.

The residences of the landowning elite only housed a small proportion of the population but were nevertheless important. They acted as local and regional centres of authority and administration as well as foci for the storage, consumption and redistribution of produce. For these reasons it is important to consider their character and spatial relationships with other settlement elements. In Scotland the late date to which such dwellings remained fortified is a striking feature, reflecting the weakness of central authority. Fortified houses were still in use in the Highlands and parts of the Lowlands in the later seventeenth century. Defended structures tend to survive more readily than undefended ones which were less durable. As will be suggested, this tendency may have unduly influenced our understanding of the types of dwellings which were in use at certain periods.

Insufficient is known about the organization of prehistoric society to allow the separation of the settlements of the two major strata of society with confidence. For example, brochs were considered by some early writers to have been analogous to later tower houses, representing permanent dwellings of local chieftains. More recent opinion views them as temporary refuges for

surrounding agricultural populations.

The distribution of mottes - artificial defensive mounds or in some cases natural features altered for defensive purposes - has attracted attention because mottes are an intrusive settlement form in Scotland reflecting important social changes. They have not been readily destroyed and are in general unlikely to be confused with other landscape features. A list of known mottes has been published by Simpson and Webster (1970) and revised by Talbot (1974). Mottes relate to a limited time period; they were introduced in the twelfth century as a symbol of new Anglo-Norman feudal influences. Mottes surmounted by earth and timber structures gave way to stone castles from the thirteenth century onwards though some mottes may have remained in use with little structural alteration until the later Middle Ages. Simpson and Webster (1970) have shown that their distribution reflects an internal frontier of political domination. Mottes were introduced from England by Anglo-Norman nobles who were attracted north by Scottish monarchs and who were given grants of land in areas which were not wholly under royal control. Thus there are few mottes in the core areas of eastern and south eastern Scotland. They are most frequent in south west Scotland where about half of the c250 known mottes are located. Galloway retained a separate identity and a measure of independence into the twelfth century and was the object of punitive military expeditions by the Scottish crown. The distribution of mottes is far from being completely understood though. The location of large numbers of them in areas like Nithsdale has been linked to patterns of small estates held direct from the crown. On larger estates their occurrence appears to be associated with

demesne lands and sub-infeudation to lesser vassals (McNeill and Nicholson 1975). Some mottes possessed defensive baileys around or adjacent to them and current opinion favours the existence of a class of ringworks, defensive enclosures similar to baileys but not possessing a motte (Fairhurst and Scott 1951). Taibot (1974) has suggested that ringworks may have been a more normal structure in areas such as south east Scotland which are devoid of mottes.

The development of the stone castle in Scotland has been described in detail by architectural historians from the classic work of McCibbon and Ross (1887) onwards. A useful summary is contained in Dunbar (1966). The timber palisades surrounding some mottes were replaced by stone curtain walls. Stone castles of enclosure, built on sites where there had not been an earlier Anglo-Norman earthwork, also exist and have been seen as descendants of the earlier duns (Dunbar 1966).

From the thirteenth century improvements in siege technology and fortification led to increasingly intricate plans with more complex curtain walls, heavily fortified gateways, central keeps and defensive outworks. The great Scottish baronial castles were the prerogative of the wealthy few at the apex of the social pyramid. In terms of their number and distribution the historical geographer is less concerned with them than with the more numerous dwellings which were built by proprietors of more modest means. Some stone-built hall houses comparable to those of medieval England survive but they are few in number and it has been suggested (Dunbar 1966) that they are only the most substantial of a vanished class of hall generally built in timber. It is possible that the sites of a few of these

can be identified in the landscape today by means of their surrounding earthworks and moats.

Moated homesteads belonging to small proprietors form perhaps the most common medieval earthwork in England. They were constructed mainly between the twelfth and early fifteenth centuries and are often abundant in areas of medieval clearance and colonization. In Scotland they are less common but some do occur in the south. The Royal Commission inventory for Roxburghshire (1956) for example lists three definite and five possible sites in the county. The social context of such settlements is unknown though and even their dating to the period between the thirteenth and fifteenth centuries is largely based on calculated guesswork.

The tower house constitutes perhaps the most common surviving domestic structure from late medieval and early-modern Scotland, occurring throughout the Lowlands and extending into the fringes of the Highlands (McNeill and Nicholson 1975). Tower houses were durable, easily-defended structures whose plan was flexible enough to serve small proprietors and more substantial landowners (Dunbar 1966). Essentially the tower house was a medieval hall house turned on its end so as to expose the smallest possible area to attack. They first appeared during the thirteenth and fourteenth centuries and continued in use as fortified houses until the later seventeenth century in such areas as the fringes of the Highlands where raiding persisted. Space within earlier tower houses was often limited and it is probable that most examples were surrounded by ranges of outbuildings, often comprising the home farm of the proprietor, and sometimes enclosed by a defensive barmkin into which stock could be driven. Such outbuildings can be detected in excavated examples such as Lour, near Peebles, where the

barakin was the re-used rampart of an Iron Age fort (Dunbar and Hay 1960-1).

Defensive structures of a more humble character than the tower house were not common in early modern Scotland, possibly due to the relative poverty of the country. Some bastel houses, fortified farmsteads on the Northumbrian model, were built in the Borders during the sixteenth century though few have survived, (R.C.H.A.M. Roxburghshire 1 1956) and a few examples of stone pele houses, less substantial temporary refuges, are also known.

Country mansions on a neo-classical model first appeared in Lowland Scotland during the later seventeenth century, (Dunbar 1966) by which time lairds were also constructing smaller undefended houses, many of which have survived in the present landscape. Thereafter the development of the country house proceeded along similar lines to that of England. Landscaped partlands and woodlands, or 'policies', were laid out around such houses (Whyte 1979a Slater 1980) and the early enclosure of these and adjacent home farms must have resulted in the remodelling of many townships. Insufficient work has been done to ascertain how frequently settlements were obliterated by this process or removed to new sites. This was sometimes done in conjunction with the creation of new planned settlements with improved layouts and better standards of construction; for example by the Dukes of Argyll at Inverary.

Hamlet Clusters

The characteristic unit of Scottish rural settlement before the improvements of the later eighteenth century has been seen as the hamlet cluster. The term most frequently used to describe this has been 'ferm toun',

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a term derived from the writings of eighteenth and nineteenth century agricultural improvers but involving some confusion with the big dispersed farmsteads of the nineteenth century that replaced the hamlet clusters, especially in eastern Scotland, and which were also known as ferm touns. The term 'clachan' has been used in a Highland context (Fairhurst 1960, 1964, Gailey 1962) to describe settlement clusters, paralleling Irish usage (Proudfoot 1958-9, Johnson 1961). In Gaelic 'clachan' should strictly refer to a settlement possessing a church and so should not be applied indiscriminately. The study of nucleations whose size was swollen by population growth and subdivision of holdings in the early nineteenth century has led writers like Robertson (1967) to make a distinction - not clearly defined - between clachans and hamlets, so adding to the confusion.

The origins and early development of hamlet clusters are uncertain. There is little archaeological evidence for the form of rural settlement in the Highlands or the Lowlands before the sixteenth century (Fairhurst 1971 Gailey 1962) and the documentary evidence has yet to be analysed in detail. The problem is to bridge the gap between Iron Age and early-modern times. It is still true, as Fairhurst suggested in 1960, that in the absence of specific knowledge settlement studies have largely projected into the distant past patterns which are known to have existed during the better-documented eighteenth century. Fairhurst (1967a) has claimed that the ancestors of hamlet clusters may have been the prehistoric hut circle groups which have been widely recorded in Scotland. He has, however, interpreted the evidence of the clearance cairns and field systems associated with some of them as the result of individual rather than group efforts.

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He suggested that the move towards a more nucleated settlement pattern, reflecting greater reliance on communal operations, may have come with the adoption of the heavy plough and the large oxen team. It is debatable whether this simple deterministic solution can be accepted though - it has to explain the evolution of hamlet clusters in the basically pastoral Highlands where it is doubtful if the classic heavy plough and oxen team was ever widely used. Nicolaisen has suggested (McNeill and Nicholson 1975) that the Celtic baile, preserved in the ubiquitous place name element 'bal', may have been the pre-medieval equivalent of the ferm toun in the settlement pattern.

In late medieval and early modern times the ferm toun has been seen as a settlement form which expressed a type of organisation in which farms were leased in joint or multiple tenancy to, typically, between four and eight tenants (Caird 1964 Kay 1962, Fairhurst 1971a). Implicit in this definition has been the idea that ferm touns were fairly uniform in their size and social character. As has been discussed above, however, variations in tenurial organisation could produce settlements of similar sizes but with different social structures.

Variations in the functions of hamlet clusters have been suggested and some specialist categories defined. Walton (1950) distinguished kirk-touns, clusters which were grouped around a parish church and which, as a result of their enhanced importance and centrality, specialized in artisan craft functions. Walton also identified mill-touns where the focus was an estate's grain mill and seatouns or specialist fishing communities. Castletouns, where the nucleus was the residence of a major landowner, have also been distinguished. The demands of the large households of many proprietors may well have given adjacent settlements a greater emphasis on non-agricultural activities although many such clusters were also associated

with the mains or home farm. Cot-touns, clusters inhabited by cottars and sited apart from ferm touns occupied by joint tenants, have also been discussed (Walton 1950). Caird (1964), in suggesting that kirk-touns had 'some elements of agriculture' may have over-estimated the functional differences between such settlements and ordinary hamlet clusters. Differences between ferm touns and other types of clusters are likely to have been even less marked, but a detailed study of the variations in the size and function of rural settlement clusters before the eighteenth century has yet to be undertaken though Gailey (1962) has suggested that regional contrasts may have existed within the south west Highlands at least, an idea echoed by Fairhurst (1967a) in a wider context. Certainly many kirk-touns acquired rights to hold markets and fairs in the seventeenth century (Whyte 1979d) stressing their importance as local service centres, and many were later transformed into planned villages. Robertson (1967), in her study of settlement changes in south west Argyll from 1841 to 1961, uses census enumerators' books to show that some of the 'clachans' studied were sufficiently large and diversified in their functions to be considered almost as villages. This occurred, however, at a period of rapid population growth and was not necessarily representative of the situation in earlier times.

It has usually been accepted that the ferm toun was essentially unplanned with no regular morphology, individual houses within a settlement being oriented with respect to small-scale topography. Gailey (1962) has suggested, however, that linear townships existed in the south west Highlands with houses built end to end in regular rows, the result of a phase of planning by improving landowners like the Dukes of Argyll. The impression that such regular clusters were late in date has been confirmed by Fairhurst (1960, 1967a,b) more generally throughout the Highlands and at the excavated site of Lix where the rectilinear layout of one settlement is

linked to its late and temporary function of accommodating tenants who had been displaced from other parts of the estate.

Nucleated settlements

Nucleated settlements of sufficient size to be termed villages rather than hamlets, with origins earlier than the planned village movement of the eighteenth and nineteenth centuries, occur principally in southern and eastern Scotland. The exact boundary of the area in which they occur is difficult to determine; Skene (1976-8) drew it precisely at the Firth of Forth but there is evidence that green village plans may underlie Fife burghs such as Crail. The trend of recent research (Barrow 1973) has been towards emphasizing the similarities rather than the differences between 'Celtic' and 'Saxon' Scotland. Smout (1969) has suggested that the restriction of early villages to south east Scotland may reflect environmental influences. There was no need for nucleation round sources of water supply; over most of Scotland excess of water rather than its absence was the problem. A basically pastoral economy favoured dispersed settlement while extensive areas of well-drained land suitable for arable farming were uncommon. Good arable land was scattered and settlement followed it. While these influences were undoubtedly important in shaping the overall character of Scottish settlement patterns they nevertheless fail to explain why there was no tradition of village settlement in the lowlands north of the Tay. Likewise, a simple settlement model contrasting Highland and Lowland Scotland underestimates the variety which existed at a local scale. (Barrow 1973).

Cultural influences are also likely to have been at work. Some of the villages of south eastern Scotland possess greens or vestiges of them. The documentary evidence for the large one at Dirleton in East Lothian shows that it existed in the mid sixteenth century, before possible estate re-planning

in the eighteenth and nineteenth centuries or reorganization due to Dirleton's erection into a burgh of barony in the seventeenth century (Whyte 1980). An early rental for the estates of the Priory of Coldingham suggests that the original core of villages like Swinton may have been regularly laid out. The existence of greens and elements of planning suggest links with the regular villages of Northern England. The Anglian invasions of the seventh century provide a context for the introduction of a new settlement type, the nucleated village, though, by analogy with Yorkshire and County Durham the regular layouts may have come at a later date.

Barrow (1973) and Duncan (1975) have studied these communities and their relationship to groups of outlying settlements within an administrative framework centred on the shire or multiple estate similar to those units which have been identified in England from Kent to Northumbria (Jones 1976). In the eleventh century, when documentation first becomes more detailed, these shires were administered by thanes who were, in effect, hereditary tenants. The shires consisted of central settlements containing the lord's court and dependent communities whose inhabitants delivered rents in kind to the principal village. The names of some of these shires have survived in the later sheriffdoms of Stirling, Linlithgow, Edinburgh, Baddington and Berwickshire, their chief centres having grown to the status of royal burghs. Shires or thanages can also be traced north of the Forth. This in itself indicates that they were not Anglian institutions but ones which, in the south east, were taken over and adapted. It is possible that the 'Anglian' villages of south east Scotland conceal an earlier type of settlement structure beneath a later form. North of the Forth the names of the chief settlements are Brittonic in origin while their dependent settlements often have names containing the Pictish element 'pit'. This reinforces the argument for an ancient origin, perhaps in the pre-Roman period, as has been suggested for similar units in England.

Considering the villages of the south east once more there may be a danger of oversimplification in the implicit assumption that they necessarily developed at one period under a common set of influences. The creation or modification of village communities by incoming Anglian settlers remains a plausible explanation for the origin of many of them. Nevertheless, later reorganization by Anglo-Norman incomers or the church may provide a context for the later establishment of some villages or the re-siting and re-planning of others while their function as central places within a pre-Anglian administrative framework shows that they had enhanced importance at an earlier date. While no detailed work has yet been done on origins of the morphology of present-day villages in this area it should be remembered that twelfth and thirteenth century origins have been proposed for some regular village plans in North Eastern England. Insufficient research has been undertaken to establish the stability of the form and function of Scottish villages over long time periods. There is evidence that settlements like Duns and Greenlaw were re-sited at a fairly early date while the influence of events such as the destruction wrought by English armies during the 1540's has yet to be determined.

Another form of nucleated settlement whose distribution and origins are at present uncertain are feuar towns, communities of small, independent feu-ferme proprietors. In the decades before and after the Reformation in 1560 the break up of Scotland's ecclesiastical estates often involved the granting of large blocks of land in feu-ferme tenure for fixed money payments to existing lay proprietors. Recent work by Sanderson (1973, 1974-5) has shown however, that the granting of feus to existing tenants, often 'kindly tenants' who had acquired a customary right to the hereditary occupation of the land which they worked, was more extensive than has been previously acknowledged. The records of the post-Reformation regality of Melrose provide indications of the

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size and occupational structure of some of these feuair settlements. They show that communities like Darnick and Gattonside had over 40 feuars, possibly with cottars and labourers in addition. They also had occupational structures which were more diversified than normal hamlet clusters. Settlements like Newstead and Darnick contained weavers, masons, maltmen and smiths as well as grovers and ostlers, occupations which were more normally associated with urban centres, and merchants indicating that they had a distributive as well as a manufacturing role.

Feuar towns in the Tweed basin have been studied by Dodgshon in his work on runrig and infield-outfield systems (1973, 1975a). It is not clear to what extent such settlements existed on ecclesiastical estates outside the south east, nor are the origins of these communities clear. Eighteenth and nineteenth centuries and environmental modifications such as alterations of sea level and the erosion of machair land, have made the survival of such sites a rarity. We do not have, as yet, a comparable example of an excavated multi-period mainland site.

Settlement continuity may take many forms. The intermittent reoccupation of a site at different periods by people using various settlement forms but having a broadly similar perception of the economic potential of an area is not uncommon. It is nevertheless difficult to prove continuity over long periods by the mere proximity of different types of site. Thus deserted townships such as Rosal and Kilphedir in Strathnaver dating from the early nineteenth century (Fairhurst 1967a,b, 1967-8) lie close to Iron Age hut circles, souterrains and brochs with no visible remains to fill the gap between them (A. Morrison 1974).

Another problem is the re-use of settlement forms long after their initial period of development. Crannogs, a characteristically Iron Age settlement form, have provided evidence of medieval occupation (Ritchie 1941-2)

and the Scottish Parliament was passing legislation against them as late as the seventeenth century (A. Morrison 1974). It is also likely that the Iron Age duns often continued in use as fortified homesteads until much later times (Gailey 1962 A. Morrison 1974). The late survival of such settlement forms helps to explain the apparent lacuna between the Iron Age and the eighteenth century which has already been referred to. Talbot (1974) has suggested that there is considerable potential for the discovery of unsuspected traces of medieval occupation on many Iron Age and Roman sites.

While the continuous use or re-use of sites like Udal and Jarlshöf indicate a consensus in the appraisal of the environment over extended periods, the existence of abandoned settlements shows that such evaluations were not always constant and could be altered by human and physical influences. This has been demonstrated by Parry in his study of the relationships between marginal settlement, cultivation limits and climatic change. (1973, 1975, 1976a, b, 1980). In the Lammermuir hills a combination of field survey, interpretation of aerial photographs and the study of cartographic and documentary sources has allowed the identification of substantial areas of cultivation ridges and associated settlements well above the limits of nineteenth-century agriculture. Some ridge and furrow is situated at such a height that under climatic conditions prevailing in recent times harvest failure would have been occurred in two years out of three. Documentary sources suggest that the settlements associated with this cultivation were permanent rather than temporary and were established during a phase of settlement expansion to high levels in early medieval times when climatic conditions were more favourable. The abandonment of some of these high-lying sites has been plausibly linked to climatic deterioration from the sixteenth to the eighteenth centuries though some of the farms concerned may have been abandoned as a result of farm amalgamation, and Parry is

careful not to press for a simple deterministic model of settlement desertion.

Deserted settlements are also frequent in the Highlands from Kintyre to Sutherland but relate to a different context. They are often depicted on early Ordnance Survey maps but so far no attempt has been made to map their distribution throughout the Highlands or to examine their size, layout and situation, apart from the work of Gailey (1962). Most of the visible remains appear to be of townships which were cleared to make way for commercial sheep farming in the later eighteenth and early nineteenth centuries, or were abandoned during the same period as being too marginal to offer an acceptable income with rising living standards (Gailey 1962, Fairhurst 1967b). Sometimes these clusters are accompanied by ruined shepherds' cottages testifying to a subsequent phase of desertion with the fall in sheep prices later in the nineteenth century.

Much of the work which has been carried out on deserted Highland settlement has been concerned with house types and building construction rather than with the overall nature of the settlements themselves but work on these immediately pre-Clearance sites has been pioneered by Fairhurst and Gailey. Fairhurst's excavations of sites at Lix in Perthshire (1968-9) and Rosal in Sutherland (1967-8) show how the use of a variety of sources of evidence can provide a detailed context for the occupation and abandonment of such sites. In his more general surveys (1960, 1964, 1967a, 1971) Fairhurst warns that these settlements were the product of a period of rapid change when population was growing at an unprecedented rate, while Gailey (1962) has remarked on the large size of many of the deserted townships. The settlement at Lix indeed appears in part to have been a temporary one designed to accommodate people who had been moved from other parts of the Breadalbane estates. Fairhurst insists that it would be dangerous to suggest that the construction techniques employed, or the size and layout of the clusters, necessarily reflected

conditions which had existed in the Highlands even 50 years earlier and that it would be even more unrealistic to claim that they could provide a model for rural settlement in the Lowlands in earlier times. Gailey (1962) believed that the standards of construction of houses in deserted townships in the south west Highlands were an improvement on those described by travellers earlier in the eighteenth century, reflecting rising living standards and greater security of tenure.

Some of these sites have remains of earlier more primitive structures alongside the remains which immediately pre-date the clearances. The date of these structures is problematical and the excavation of a suitable site would be invaluable in demonstrating how far back the sequence of occupation could be traced.

The eighteenth century Highland settlement pattern was greatly modified by later changes but, as in the Lowlands, it did not disappear entirely. Some hamlet clusters survived with little change and one which has attracted attention in the literature, Auchindrain in Argyll (Fairhurst 1968, Dunbar 1965, 1966), has been preserved as a museum.

Locating deserted settlements in the Lowlands and establishing a chronology for them poses different problems as remains are scarce and the potential for field studies more limited. The greater density of population, the relative intensity of land use and the earlier onset of agrarian change has ensured that visible remains of deserted settlements are rare, though some are known (Dunbar 1966). Unlike the Highlands there is no convenient context of rapid conversion from a mixed peasant economy to commercial pastoral farming producing wholesale desertion. As soon as one begins to deal with pre-eighteenth century sites the lack of maps and detailed documentation make it difficult to date visible remains. The problems of

dating excavated sites can also be great due to the poverty of artefacts. The site excavated by Dundar and Hay (1960-1) at Lour was only dated to the seventeenth century by a fragment of a tobacco pipe. Finds of coins, such as that obtained by Fairbairn (1937-8) in his excavation of an early medieval settlement in Loch Doon, are rare. While deserted settlement sites which are known to relate to medieval and early modern times are few this does not mean that others do not exist. The absence of surface traces of the old royal burghs of Roxburgh and Kincardine shows that even urban settlements can be lost. More careful field survey in conjunction with aerial photographs and documents may uncover other sites and it would be particularly useful if one could be excavated.

RURAL SETTLEMENT IN THE EIGHTEENTH AND NINETEENTH CENTURIES

Revolution or Evolution?

The traditional paradigm within which the development of Scottish rural settlement has been viewed has been one of stability throughout medieval and early-modern times followed by rapid change from the mid eighteenth century onwards, the period which has been labelled the 'Agricultural Revolution'.

The revolutionary view of settlement change has perhaps been best expressed by Caird (1964, 1980), though it is implicit in other studies. The revolutionary processes which operated involved the application of new ideas or order and rationality to agriculture leading to the creation of a planned landscape. Greater capital investments were made in infrastructures, including housing, while the nature of rural society was altered by the adoption of new techniques of husbandry and improved organisation designed to increase the commercial efficiency of agriculture. These innovations had inevitable repercussions on rural settlement. The consolidation and

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amalgamation of holdings led to the replacement of the ferm toun and co-tenancy by large farmsteads run by single tenants employing hired labour. The scattered craft and service provision of the traditional settlement pattern was rationalised by the concentration of such activities into planned estate villages. The application of improved technology and more capital led to the drainage and reclamation of much formerly marginal land creating new farmsteads in some cases and peripheral crofts in others. In many parts of the Highlands the onset of change was delayed and its results were consequently more dramatic. The introduction of commercial sheep farming into the north west Highlands and Islands in the early nineteenth century, replacing the old mixed peasant economy, radically altered the settlement pattern by the virtual depopulation of many areas and the concentration of settlement into the new regimented crofting townships, often in areas which had previously been almost uninhabited.

While it is still clear that the pace of change in the Scottish countryside accelerated from the mid-eighteenth century, and that many of the changes were different in kind as well as in degree from earlier trends, recent research has begun to stress elements of continuity from earlier settlement patterns. A pioneer effort in this direction, but one which was not immediately followed up, was the work of Lebon. (1946a,b, 1951). Using cartographic evidence from the late sixteenth-century surveys of Pont to the earliest Ordnance Survey maps he suggested that in the Western Lowlands there had been considerable stability in settlement location from the seventeenth to the nineteenth centuries, the earlier ferm touns merely being converted into single farmsteads which retained, in most cases, the same names and locations. Gailey (1962) suggested similar evolutionary processes in the south west Highlands. Insufficient detailed research using estate plans has yet been undertaken to show the extent to which enclosure combined with holding consolidation and amalgamation led to changes in farmstead siting at

a local scale (see Caird 1980). It is uncertain as yet how widespread this kind of continuity was in Scotland. In this context the recent debate on the existence or otherwise of an agricultural revolution in Scotland has important implications for settlement studies (Whittington 1975, Parry 1976, Mills 1976, Adams 1978, Whyte 1978). These themes have been developed in greater depth in a recent book (Parry and Slater 1980).

It is, moreover, clear that traditional settlement forms like the kirk town and ferm town have survived in some areas to form important elements in the present rural landscape. In parts of the North East lowlands, in areas where planned villages are relatively uncommon, kirk towns still form the lowest level of rural service centre (Turnock 1977). Their survival, distribution and the evolution of their form and function from the eighteenth century to the twentieth would make an interesting study. Likewise, Turnock (1977, 1979) has stressed that in the Grampian region areas which were peripheral to the development around estate centres and planned villages often retained their pattern of ferm towns in a form which was only partially modified.

The contrast between settlement before and after the eighteenth century has also been reduced by research which has shown that settlement patterns were far from static in medieval and early modern times. Dodgshon (1977, 1980) has identified a widespread and long-continued process of township splitting whereby hamlet clusters were divided to create new units which were often linked by common place name elements. Such groups of farms had previously been considered to have been due to consolidation from runrig during the period of 'improvement'. Dodgshon has shown that township division,

due to population pressure or changing patterns of land occupation, was proceeding throughout the sixteenth and seventeenth centuries and perhaps earlier. The extent to which the rural settlement pattern grew from the twelfth to the seventeenth centuries has also been emphasised in other recent studies (Dodgshon 1980, Whyte 1979c, 1980). More research is, however, needed on the evolution of the medieval settlement pattern, and on changes from the seventeenth to the nineteenth centuries to establish exactly how settlement evolved and what processes were influential.

Settlement Change: the Lowlands.

The settlement changes which occurred in the eighteenth and nineteenth centuries have been less carefully chronicled for the Lowlands than for the Highlands. This has perhaps been because developments in the Lowlands, and the population displacements which they occasioned, though far reaching, took place in a more diversified economy, over a longer time period and with greater emphasis on individual as opposed to group movements (Gray 1973). As a result they did not give rise to such a compelling folk history as that of settlement changes in the Highlands; nor did they create the same lasting economic problems.

Early work by Geddes (1938) and Third (1955) established the value of estate plans for studying the processes which altered the settlement pattern by replacing farm towns by consolidated, enlarged single farmsteads. There is, however, a need to follow up the work of Lebon (1946a,b) to examine both the processes involved and their effects on rural society.

The social structure which adapted to and was shaped by the new settlement patterns has received some attention recently particularly for North East Scotland (Carter 1977a,b, 1979, Gray 1977, Cameron 1978). Carter (1977a, b) has indicated that the simple model of social change

proposed by Kay (1962) and Smout (1965) in which a fairly homogeneous society of peasant smallholders was replaced by a small group of capitalist farmers and a large class of labourers is oversimplified, at least for the North East. In this area the social differentiation of the peasantry proceeded slowly during the eighteenth and nineteenth centuries with important implications for the evolution of rural settlement. As late as the 1840's in Aberdeenshire much potentially good land had not been reclaimed due to the high cost of hired labour. Reclamation was achieved by crofters with improving leases who created new smallholdings on the margins of cultivation which were integrated economically with the large farmsteads and which continued to be an important element in the settlement pattern into the present century (Turnock 1975, Carter 1977a,b, Gray 1977). The amount of land available for reclamation in this way was probably more limited in other districts and further research would be useful in order to establish trends elsewhere in Lowland Scotland. Gray's (1973) study of the social impact of agrarian change in the Lowlands between 1775 and 1875 brings out regional contrasts in the form and size of settlements in general terms but requires amplification.

Settlement Change - The Highlands.

The history of settlement in the Highlands during the eighteenth and nineteenth centuries has often been presented in simplistic terms with emotive expressions like 'the Clearances' and 'the coming of the sheep' implying uniform and radical change. This obscures the fact that planned and unplanned settlement changes occurred from at least the mid-eighteenth century to the twentieth. Within this time span there was ample scope for evolution as well as revolution and the creation of regional variations. An important preliminary step in making sense of the diversity was to

classify the settlement forms which existed in the Highlands and Islands in terms of their morphology and the processes which created them.

A preliminary settlement classification for the West Highlands and Outer Isles was made by Uhlig (1959), but his precise categories conceal a wide range of differences in detail and give an air of uniformity to forms and processes which probably differed from estate to estate. His wide-ranging parallels between the morphology of Hebridean crofting townships and late medieval settlements in Central Europe or later colonization in French Canada are not particularly helpful. Storrie (1965) produced a more detailed classification which stressed the importance of the processes which produced changes in the settlement pattern rather than merely the resulting morphology. This is a more flexible approach than Uhlig's. Storrie demonstrated that considerable regional variation existed in the evolution of Highland settlement patterns and also that considerable complexity occurred within particular regions. On the north-west mainland large grazing farms alternated with crofting townships while in the Inner Hebrides and south west Highlands individual smallholdings and single farms were more usual. In the Outer Hebrides crofting townships predominated. Such differences reflected not only the policies of individual landowners but also the timing and pace of innovation which affected the far north and west belatedly and more radically. Where change was slow a more varied settlement pattern developed; where it was sudden a more rigid pattern resulted. Both evolutionary and revolutionary processes were involved. The former included direct change from eighteenth century tackmen's holdings to large single farms, the creation of smallholdings by subdivision due to population increase, and the gradual reduction of tenants and amalgamation of holdings. Revolutionary processes included the clearance of tenants and the reorganization of land by lotting to create planned townships.

Dynamic studies of the processes of settlement change have benefitted from the wealth of documentation available for the Highlands from the later eighteenth century. Storrie (1962) found census enumerators' books particularly informative. In Islay during the early nineteenth centuries there was an increase in the size of settlement clusters until some contained 20 or more households (Storrie 1962), paralleling the changes which were occurring in Ireland (Johnson 1961). A major phase of reorganization occurred in the 1830's during which the old hamlet clusters were replaced by single farmhouses and a small number of planned industrial villages, the margins of settlement contracting in the process. Robertson's (1967) study of the evolution of settlement in south west Argyll from 1841 onwards confirms this pattern. In 1841 dispersed settlement accounted for only 4% of the total population, the bulk of the inhabitants being grouped into hamlet clusters.

In the popular imagination modern rural settlement in the Highlands is so closely identified with crofting that it is not always easy to appreciate how complex has been the genesis of the crofting landscape (Moisley 1962). On one hand in the north west Highlands and Islands the landscape of crofting townships is a comparatively recent one contemporary, as Hunter (1976) has put it, with the steam engine and the cotton mill. On the other hand, crofts, in the more general sense of smallholdings, have been an element in the Scottish landscape for centuries.

The rigid legal definition of a croft as a rented smallholding with particular size and rent qualifications with common pasture arrangements, enshrined in various crofting acts from 1886 onwards, and its application to the 'crofting counties', has tended to focus attention on this area alone. The crofting townships of the north west Highlands and Islands are so distinctive that it is inevitable that much attention should have been

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devoted to their creation (Caird 1964). The social history of the crofting community has been explored in depth in a recent survey (Hunter 1976) but geographers have also contributed to the study of the form and function of crofting settlement (e.g. Caird 1951, Coull 1963, 1964, Molesley 1961, 1962).

While the regular linear morphology of many crofting townships appears to set them apart from other settlement forms Caird (1951) viewed the township as a modern expression of the desire to live together and the need to work in co-operation which in earlier times was exemplified by the hamlet cluster. In many parts of the Highlands the recent pattern of crofts has indeed been seen as the direct descendant, through consolidation from fragmented occupation in runrig, of the pre-improvement township (Molesley 1962, Coull 1964). Some regular townships such as Northton and Borve Berneray in western Harris were laid out as recently as the early twentieth century but Caird (1951) points out that their regularity contrasts with the unplanned clusters of crofts in the Bays area of eastern Harris, a pattern which evolved more gradually.

Molesley (1961) has stressed the significant contrasts in settlement patterns which occur within the crofting counties and this has been underlined by Turnock in evolutionary studies of areas in the West Highlands (1967a,b, 1969). These emphasise that some choice was available to proprietors regarding the development of their estates despite the economic and physical constraints of the Highland environment, though attempts to create holdings intermediate in size between crofts and large sheep farms were generally unsuccessful (Turnock 1969). Molesley (1962) has indicated that the present crofting areas are only a shrunken remnant of a formerly more extensive system. Small farms occurred in considerable numbers throughout Scotland and are still numerous in many areas outside the West Highlands (Turnock 1975). There were nevertheless important contrasts

in the ways in which crofts were integrated into the economy between, for example, the West Highlands and the Grampian Uplands (Turnock 1977). Turnock (1975) stresses that the distinctiveness of crofting settlement in the West Highlands is one of degree rather than kind, smallholdings having existed in the traditional landscape, and also in the eastern Highlands during the eighteenth and nineteenth centuries (1975, 1977, 1979). In the latter area the rearing of store cattle allowed crofts to fit into a graded system of holdings and to occupy an important place in the regional agricultural system. When the industrial function of planned villages declined in the mid-nineteenth century crofts were often a more effective way of maintaining a reserve of labour on the land and in Aberdeenshire the creation of crofts on unimproved land absorbed much of the areas' population increase until the 1880's. The West Highlands, however, lacked the variety of replacement economies which were available in the Grampians. Physical constraints limited the scope for the reclamation of large areas of new land. This produced a more stratified agricultural system whose expression in terms of settlement was the contrast between the densely-packed crofting township and the large sheep farm.

Planned Villages

Planned villages, whether laid out by private landowners or bodies such as the British Fisheries Society and the Commissioners for the Annexed Forfeited Estates, were not a purely Scottish phenomenon. Many were established in England during the eighteenth and nineteenth centuries and they are also known from Ireland. Nevertheless in Scotland, a country in which large nucleated rural settlements were uncommon outside the south east, their impact on the landscape and their role in the economic and social transformation of the countryside was particularly significant especially as, with the amalgamation and consolidation of holdings, many of

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the larger hamlet clusters were broken up in the course of improvement. Turnock (1977), in a study of agricultural improvement in north east Scotland, has emphasised that the establishment of a planned village could also have a marked effect on the surrounding countryside in actively encouraging farm amalgamation by offering possibilities for re-settling the displaced population.

The existence of planned villages as a widespread and characteristic settlement form in Scotland was first discussed in general by Houston (1948) though Geddes (1945) had already examined the context of one such village, Grantown on Spey. Matthews and Nuttgens (1959) studied the planning of one of the earliest of such communities, Ormiston in East Lothian. Their number and overall distribution was discussed by Smout (1970) who produced an interim list. Lockhart (1974) undertook a more detailed study of planned villages in the North East of Scotland, emphasising their characteristic morphology and examining the processes by which landowners encouraged people to settle in them. The detailed documentation which is available for these communities has enabled Lockhart (1980b) to study patterns of migration into selected villages while Darley (1975) has set them within the wider context of planned communities throughout Britain.

An examination of primary sources including newspaper advertisements (Lockhart 1978a) and the Old and New Statistical Accounts has enabled Lockhart to expand the list of planned villages to over 300. Relatively few of these are located in south east Scotland although some communities of ancient origin in this region, including Ormiston itself, were replanned. Entirely new planned settlements were most numerous in south west Scotland, the North East and the Highlands. It should be noted though that the communities involved enjoyed differing degrees of success. They also varied substantially in size both at the time of their original foundation

and subsequently. The term 'planned settlement' may thus be preferable to 'planned village' which carries certain connotations of size and function. It is also worth stressing that their purpose varies from acting purely as agrarian service centres to having a highly specialised concentration on one particular industry such as quarrying or fishing.

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HUMAN RESPONSE TO SHORT- AND LONG-TERM CLIMATIC FLUCTUATIONS:
THE EXAMPLE OF EARLY SCOTLAND.

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Previous research on the relationships between climate and human societies has concentrated on the effects of secular climatic changes on communities and not the responses of these communities to such effects. This paper analyses the responses of rural societies in early-modern Scotland to short-term weather events and argues that these hold the key to the understanding of responses to long-term climatic changes.

Previous research on the relationships between climatic change and man has been concerned with two main themes. Firstly, climatic historians have investigated historical sources for evidence of human activities and observations of natural phenomena in order to demonstrate that climatic fluctuations occurred in the past. Secondly, workers from a variety of disciplines have attempted to assess the effects of climatic episodes on human societies. Both these lines of research have often gone hand in hand using the same source material. As Parry (1975) has stressed, it is in marginal environments and their communities that the effects of secular climatic deterioration were most pronounced. In Britain such areas include clay lowlands where increases in precipitation may have made drainage and cultivation more difficult (Beresford, 1975) and coastal areas where more frequent storms may have threatened sea defences (Brandon, 1971). The uplands of northern and western Britain, however, contain the greatest area of marginal land vulnerable to detrimental changes in temperature, precipitation and other climatic parameters.

While a number of studies have been made of the effects of short-term climatic variations on past communities and some efforts have been made to assess the impact of long-term changes, there is a need for more detailed research in this field. A recent review has pointed to the general failure of such studies to develop sophisticated models of causation in investigating the impact of climate upon man in the past (de Vries, 1980, p.602). It is important at this point to distinguish between the effects of short and long-term climatic episodes on human societies and the responses of societies to these effects. Behavioural geographers have studied present-day human responses to natural hazards including floods, storms and droughts in developed and underdeveloped societies (Kates, 1976). This research has been exclusively concerned with reactions to short-term weather conditions. The interpretation of human responses to long-term climatic changes has not been widely

attempted. Indeed, there have been comparatively few studies of the reactions of past communities to short-term weather events in order to determine the ways in which they might have differed from those of modern societies due to contrasting social, cultural and economic backgrounds (e.g. Hoskins, 1964, 1968; Walton, 1952; Wood 1965).

There are difficulties in applying to past situations the methods which have been employed in a modern context by behavioural geographers. The time element rules out the use of psychological interview techniques which test individual responses to situations and phenomena. The use of methods such as content analysis are only appropriate to certain categories of documentary source. Nevertheless, some attempt may be made. This paper examines some aspects of the responses to both short and long-term climatic fluctuations of a particular early-modern rural society.

RESPONSES TO SHORT-TERM WEATHER CONDITIONS

In attempting to analyse the reactions of rural communities in early-modern Scotland to climatic influences it is appropriate to begin by examining responses to short-term weather fluctuations, or "adjustments" as they have been termed in studies of modern situations, as these are likely to be comparatively easy to identify. Attention will then be turned to long-term climatic changes. In both cases the nature of the farming enterprise and the character of the local and regional economy should be carefully considered when analysing the options which were available to individual farmers.

The impact of adverse weather conditions on rural communities at this time has usually been studied in terms of their effects on cereal production, which have normally been summarised in the quality of the harvest (Hoskins, 1964, 1968; Parry, 1975). This emphasis is understandable given that the diet of most European peasant societies in medieval and early-modern times was grain-based. In addition, as Parry (1975, 1976) has shown, traces of former cultivation in marginal areas can be readily identified from aerial photographs and ground survey. Nevertheless, as de Vries (1980, p.602) has suggested, in the context of post-medieval economies with well-developed trade and marketing systems and complex social structures, it is simplistic to think in terms of a straightforward model of causation in which severe weather conditions produced harvest failure which automatically led to widespread famine. A by-product of this preoccupation with harvest conditions has been the implicit tendency to consider the fortunes of agriculture in upland areas in terms of subsistence cereal production and to ignore the effects of climatic deterioration on livestock husbandry.

Livestock provided the main source of income for the bulk of upland farmers in Britain from medieval times onwards. The problems of grain supply to interior areas with pre-industrial marketing structures and transport technology frequently resulted in the addition of a subsistence arable element to predominantly pastoral enterprises but

commercialization had proceeded sufficiently far to allow considerable regional specialization with interchanges via market centres located along the upland/lowland fringe. In Southern Scotland the Cistercians had developed commercial sheep rearing in the thirteenth century (Franklin, 1952). Large scale sheep farming was encroaching on royal hunting forests like Ettrick during the fifteenth century (Gilbert, 1979, 259-61). The pacification of the Borders after the Union of the Crowns in 1603 led to an expansion of sheep production in the eastern and central Southern Uplands (Register of the Privy Council of Scotland, (R.P.C.), 1623 iv 416). Raw wool was one of Scotland's major exports in the seventeenth century while woollen cloth from the Borders also figures prominently in customs records (Smout, 1963). Increasing contact with England, particularly the growing demands of the London market, encouraged the rearing of store cattle in Galloway and parts of the Highlands in the later seventeenth century. Within an economy which was gradually becoming more commercialized upland farmers would have felt the effects of adverse short-term weather conditions more severely in terms of livestock mortality than in ruined crops as it was livestock which provided the money which paid their rents and ultimately provided them with a livelihood.

To highlight the impact of short-term climatic conditions on pastoral farmers it is useful to focus upon one severe weather episode, the crisis of the 1690s, and to analyse its effects upon a particular upland community in contrast to those experienced by lowland arable farmers. The discussion assumes that in dealing with upland settlement in early-modern Scotland we are considering farms which were leased by tenants from landed proprietors and which were integrated to varying extents into a wider regional and national economy. This is the kind of enterprise for which documentary material in the form of reports, accounts, leases and rentals is most abundant. On the other hand, where settlement margins were characterised by unauthorised squatter colonization different responses might have occurred from cultivators who were weakly integrated into the market system, more oriented towards subsistence cereal production, and possibly more vulnerable to severe weather conditions. The existence of squatter encroachments at the fringes of cultivation is sometimes suggested in the boundary perambulations of commonties or common pastures in joint ownership (Parry, 1973, p.218) and this topic requires further investigation.

The later 1690s were years of severe weather and famine throughout Europe and Lamb (1977, p.471) has viewed it as the nadir of the Little Ice Age. In Scotland the period went down in folk history as the Seven Ill Years. The work of Flinn (1976), Mitchison (1965) and Smout (1963) has suggested that population loss by mortality, emigration and a fall in the birth rate over Scotland as a whole was less drastic than tradition asserts - perhaps in the region of 15 per cent (Flinn 1976) - and that the years of high rain prices were restricted to four or five years in most areas (Smout, 1963). An early study by Walton (1952) indicated that the severity of the famine in the North East of Scotland

was much greater in interior pastoral areas than in the coastal lowlands. Nevertheless, the nature of the weather conditions involved, their effects on farming enterprises, and the responses of tenant farmers and their landlords have not been studied in detail.

Good indications of the impact of the severe weather conditions of the later 1690s on pastoral farming come from the chamberlain's reports on the Buccleuch estates which covered a wide area of the Central Borders (Scottish Record Office (S.R.O.), G.D. 224 935 2,3). The reports provide sufficient detail to allow a broad chronology of weather conditions and their effects to be established. In this part of Scotland at least farmers were experiencing difficulties a decade or so before the traditional onset of hard weather in the later 1690s. The Duke of Buccleuch petitioned the Scottish Privy Council in 1675 referring to a "great and extraordinary storm" the previous year "whereby the greatest part of the...cattle belonging to their tenants were destroyed" and claiming that as a result "a very considerable part of (the) estate remains ... waste and unpossessed" (R.P.C., iv 1675 426). There are indications that the decade from 1684 to 1694 was unusually wet throughout the Borders. In 1684 and 1685 rent arrears were running at high levels in Ettrick Forest and Teviotdale with some tenants owing two entire years' rent. Some farms such as Altrieve near St. Mary's Loch were untenanted due to flood damage which in this case had destroyed five bolls sowing of arable land - about five acres.

The years 1686 and 1687 appear to have been less eventful as regards weather conditions but in 1688 the harvest was late and much of the crop was lost by shaking and rotting due to heavy rain. The winter of 1688-9 was hard with heavy losses of sheep. Whether this was due to a lack of fodder after the previous poor summer or the result of a delayed start to spring growth is not clear. The harvest of 1689 was again a bad one and conditions for cereal cultivation in the lower parts of the Border dales had become so precarious that much land in Teviotdale went out of cultivation. Heavy rain caused flood damage to hayfields and arable land in Ettrick Forest, Eskdale, Liddesdale and Teviotdale. The unfortunate tenant of Altrieve had land worth ten bolls sowing of oats - about ten acres - and two days' mowing of hay destroyed. Loss of winter fodder by the effects of rain on the hay crop may have contributed to the continuing heavy livestock mortality but in 1690, another bad year for storm and rain, for flooding and crop damage, tenants were complaining of heavy losses of sheep due to "traik". This disease may be identified as the effects of sheep maggot fly, a pest which lays eggs in the fleeces of sheep especially when they are constantly kept moist through prolonged rain and contact with wet vegetation (Robinson, 1977, p.454). The summer of 1691 brought a drought which prevented water mills from operating but the respite from wet conditions was brief. Between 1692 and 1693 several tenants petitioned for abatements of rent due to high mortality of sheep through "rot" or sheep liver fluke, a parasite which is particularly favoured by wet summer conditions (Robinson 1977, p.548).

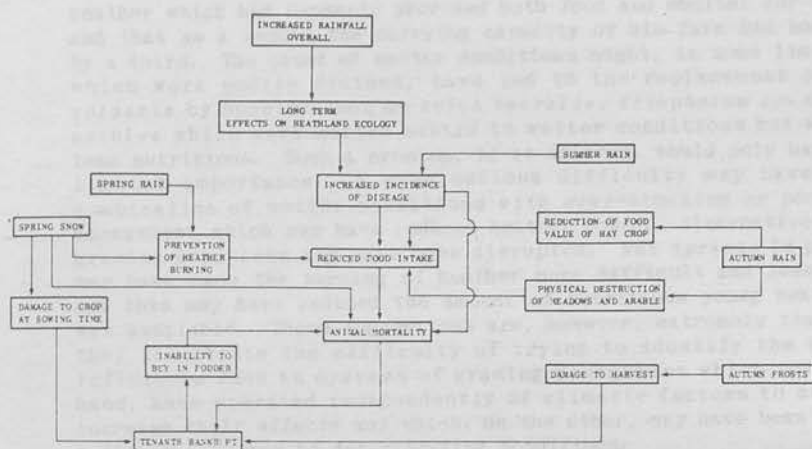


Figure 1 - Detrimental effects of a run of wet years on sheep farming in the Borders in the late seventeenth century.

In order to illustrate some of the influences which led to livestock mortality it is appropriate to summarize the known and probable detrimental effects of a run of wet years on sheep farming in this area during the late seventeenth century (Fig. 1). Livestock production and farmers' profits would have been reduced by a combination of influences. Continuous heavy rain would have reduced the time that sheep spent grazing and if this was prolonged their food intake and weight gain could have been reduced, weakening their resistance to disease and severe weather conditions (Spalding, 1965, p.203). Wet summer conditions favour many sheep diseases, especially liver fluke and sheep maggot fly but also sheep ticks and foot rot (Robinson, 1977, p.418, 641). Wet autumn conditions would have made haymaking more difficult and would have reduced the food value of the hay through loss of digestible carbohydrates due to increasing respiration, by the leaching of soluble constituents, and by moulding (Robinson, 1977, p.548). Flooding due to heavy rain physically destroyed valley-bottom hayfields. The resulting lack of winter fodder would have been especially critical if late, cold springs had delayed the onset of the new growth of grass in April or May, while reduced cereal crops would have meant that tenant farmers were forced to buy in grain for bread which they would normally have produced themselves, thus reducing their capital reserves.

Another possible effect, though one which is much harder to evaluate, was an adverse long-term change in the ecology of the upland pastures on which the sheep were dependent. In the late 1680s many tenants in Teviotdale were complaining about a lack of heather. The tenant of Dowislee's stated in a petition that his ground was bare of

heather which had formerly provided both food and shelter for his flocks and that as a result the carrying capacity of his farm had been reduced by a third. The onset of wetter conditions might, in some limited areas which were poorly drained, have led to the replacement of *Calluna vulgaris* by species such as *Erica tetralix*, *Eriophorum sp.* or *Molinia cerulea* which were better suited to wetter conditions but which were less nutritious. Such a problem, if it existed, would only have been of limited importance. A more serious difficulty may have been the combination of wetter conditions with over-stocking or poor grazing management which may have reduced heather cover. Alternatively, normal grazing practices may have been disrupted. Wet springs in particular may have made the burning of heather more difficult and less effective and this may have reduced the amount of nutritious young heather which was available. These suggestions are, however, extremely tentative and they illustrate the difficulty of trying to identify the effects of influences such as systems of grazing management which could, on one hand, have operated independently of climatic factors to modulate or increase their effects and which, on the other, may have been altered as a direct response to deteriorating conditions.

The picture then, is of a run up of at least a decade of difficulty to the grim years of the later 1690s. The winter of 1694-5 was severe, as was the winter of 1695-6. A combination of shortage of fodder and heavy snow in the spring of 1696 led to further heavy animal mortality and the annual meeting of tenants at Hawick in April to renew their leases was abandoned as many of their horses were too weak to undertake the journey. Early frosts in September 1696 resulted in the almost total destruction of the grain crop while late frosts in the spring of 1697 delayed sowing dangerously late. Summer floods in 1697 washed away crops on many farms or buried them under sediments while early frosts blackened any crops which had survived. The continuation of cold, wet conditions in 1698 and 1699 again resulted in the abandonment of cultivation on many farms.

There was undoubtedly great hardship among the tenantry although the level of mortality is not known. Particularly after the crop failures of 1696 and 1697 tenants in the lower parts of Teviotdale who were more dependent upon arable farming and who paid their rents substantially in grain were unable to pay anything and were selling their effects to buy seed corn and to keep their families from starving. Where crops could be harvested at all four, five, or six bolls of oats only produced one boll of meal which was of such poor quality that "none but in gret necessity can make use of". Where the chamberlains were able to gather in grain rents at all they found their quality so poor that the grain could not be marketed for either bread or seed. Likewise tenants on pastoral farms had no money with which to pay their cash rents because of the severe reduction of their flocks. The chamberlains petitioned the estate commissioners in Edinburgh that despite the rapidly mounting arrears tenants should not be evicted, particularly those who had paid their rents regularly in previous years.

Recovery from such a run of harsh seasons would have taken longer for farmers in upland pastoral areas than for the tenants of lowland arable holdings. The latter could have obtained seed corn with which to recommence cultivation comparatively easily as long as their landlords were prepared to grant them credit as international trade was geared to the transport of grain. It would have taken far longer to build up flocks and herds to their old levels and pastoral estates must have experienced a shortfall of rents for several years after the disaster. The picture for the Scottish Borders then is not the one of a short run of exceptionally severe weather conditions between 1695 and 1699 as has been suggested for Scotland as a whole, but one of long-term difficulty extending over at least 15 years during which conditions were consistently unfavourable to sheep and cattle rearing.

By contrast the lowland arable areas of eastern Scotland do not seem to have suffered such severe dislocation for as long a period. Such areas were less vulnerable to the effects of orographic precipitation, flooding, lower temperatures and reduced sunshine. At Dirleton in East Lothian, while the quantity of grain exported from the estate fell by a third between the harvests of 1697 and 1699, the sale of grain to Edinburgh merchants was able to continue (S.R.O., G.D. 6 1542, 1544). The lists of arrears show that some tenants were unable to pay their grain in full but at their peak the arrears amounted to only a fifth of the annual rental of the estate with only half the tenants being in debt for substantial amounts. Similar patterns can be discerned on other estates around the Firth of Forth (Whyte, 1979, p.248). Records of parish poor law administration indicate that within the region there were marked differences in mortality between parishes which were relatively generous in the disbursement of funds to the poor and those which were more tight-fisted, (Mitchison, 1974) but despite high grain prices the indications are that the upper levels of peasant society, the tenant farmers, suffered comparatively little.

Arable areas north of the Tay appear to have been affected more strongly but again not on the same scale as in the Borders. On the Panmure estates in Angus the sale of grain to merchants in Dundee, Edinburgh and Glasgow continued at a reduced rate. Nevertheless, rent arrears among tenants in the barony of Panmure, which had remained at under £2,500 for most of the previous three decades, suddenly rocketed after the harvest 1696 and reached over £20,000 Scots after the crop of 1699 (S.R.O., G.D. 45 18). The condition of the tenantry may not have been as grim as these figures might superficially suggest. The arrears are inflated by the system of accounting in which tenants who could not pay their grain rents in a year of shortage were debited at the high market price for that year. Thus, after a poor harvest a modest shortfall of grain could have produced large money arrears which would have taken several seasons at low prices to write off.

ADJUSTMENT AND ADAPTATION:**Coping strategies in the short and long-term**

Having considered the effects of a period of severe weather conditions on farmers in arable and pastoral areas it is possible to move towards a more general model of human responses to such conditions. Figure 2 shows various consequences and the strategies which could be adopted to cope with them as well as the eventual outcome of the actions taken. The outcome for any holding or farm can be summarized in the short term as whether or not its tenants continued farming and in the long term as whether or not the farm itself remained viable. Short-term responses will be examined first as these hold the key to the understanding of long-term changes.

In the context of seventeenth-century Scotland it is inappropriate to apply the sophisticated models of decision theory which have been used to explain strategies adopted by modern farmers. The options of a Scottish tenant farmer at this time in terms of modifying his enterprise in both the short and the long term were limited by several constraints. The weight of custom and tradition, restrictions imposed by systems of co-tenancy, lack of knowledge of alternative systems of husbandry, under-capitalization, and limitations imposed by rent and marketing structures all reduced the scope for adjustment or adaptation. It may have been possible to vary the balance of an enterprise slightly between arable and pastoral farming or between sheep and cattle production within the livestock sector but the scope for manoeuvre was restricted. Essentially the outcome depended upon the interaction of the responses of two people; that of the tenant based on his farming skills and capital reserves, and that of the proprietor influenced by his appreciation both of the wider economic situation and his understanding of conditions on his own estate.

The question of whether Scottish tenant farmers at this period had sufficient capital reserves to tide them over one or two bad seasons without requiring aid from their landlords has yet to be answered. A study of the testaments and inventories of people who can be identified from estate records as tenant farmers would shed some light on this problem. For the moment it will be assumed that their reserves were generally limited. In a crisis brought about by severe weather conditions their problems would have revolved around balancing the conflicting demands of paying their rents, maintaining their families and allocating sufficient resources to replace losses and continue farming. Inevitably the logical choice was to leave rents unpaid. A proprietor's reaction to a situation in which most, if not all, of his tenants were in arrears would have differed from his attitude towards individuals who could not pay due to bad management under reasonable conditions. Wholesale eviction would have achieved nothing. It was in a landlord's interest to keep his tenants on the land. On the other hand evidence from the Buccleuch estates shows that the consideration which tenants received in a crisis could depend upon their past records

of payment or non-payment. Where information is available on the performance of tenants in the years preceding a crisis it should be possible to predict those who were more likely to be at risk of eviction as a result of bad management and/or bad relations with their landlord, and to compare the predictions with reality in the light of the policies adopted by the estate.

More research is needed to determine the stability or rate of turnover of tenants after short-term crises but if we move to a study of reactions to long-term climatic changes we are on even less sure ground due to the difficulty of separating responses which were related to climate from the multiplicity of other shifting parameters. Changes in weather patterns over periods spanning several decades might have left an imprint on the folk memory of farming communities but this is rarely likely to be recorded. The decision-making processes of both tenant and proprietors with regard to the viability of marginal farms which were at risk during a period of long-term climatic deterioration are hard to detect. Indeed, it is unlikely that there was a real long-term perspective on either part. A tenant's experience of success or failure on any farm is likely to have extended back no further than two generations at best - his own and his father's. While a proprietor or his factor might have had past rentals and leases to guide them it is unlikely that decisions relating to rent and tenancy conditions were made using long time series of data. In practice the reaction of proprietor and tenant to long-term climatic deterioration was probably the net result of a series of decisions taken in response to individual bad years so that the model proposed in Figure 2 can be extended from adjustments to short-term conditions to adaptations to long-term ones.

Climatic deterioration in marginal areas is more likely to have manifested itself to farmers and their landlords in terms of increasing frequencies of short-term difficulties rather than in declining average productivity over extended periods. Thus, the higher incidence of harvest failure as discussed by Parry (1975) was probably of greater significance than a gradual drop in mean yields. After each bad season and resulting short-term crisis the responses of tenant and proprietor would have been as shown in Figure 2. In the longer term a tenant might have tried to modify his enterprise. This would normally have required the landlord's approval and where documentation is adequate changes in the balance of cropping to livestock rearing should be detectable from rentals and leases as in Lowland Scotland at this time rents for arable land were normally paid in grain and rents for pasture in money. Changes in farming patterns within the pastoral sector would be harder to detect but for the earlier seventeenth century teind (tithe) returns may provide data. A proprietor's reaction to a situation where the tenant or tenants of a particular farm were frequently in arrears could have been either negative or positive. A negative response would have been to blame poor husbandry and to hold rents steady. The result of this might have been a rapid turnover of tenants who were unable to make the farm pay. Potentially this might have led to the eventual

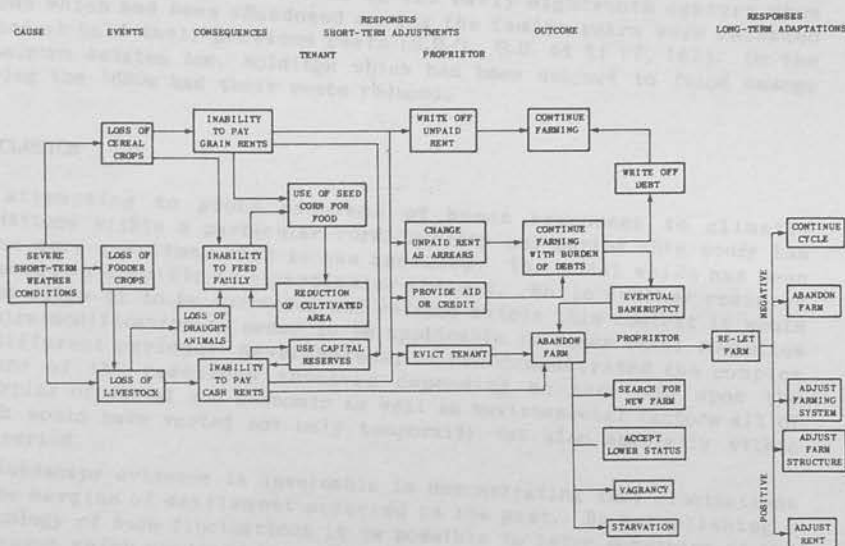


Figure 2 - Adjustments and adaptations of tenant farmers and proprietors to short- and long-term climatic changes.

abandonment of the farm. This would have been an extreme solution which may not have been widespread even at the margins of cultivation and it is worth looking at this concept more closely. The abandonment of a farmstead is not necessarily the same thing as the abandonment of a farm. In practice it is unlikely that farms were ever totally abandoned in the sense that the settlement, its cultivated lands and its grazings were no longer used at all. In most cases amalgamation with another farm is more probable, possibly combined with a change to a less intensive pattern of land use. Abandonment is thus a relative rather than an absolute concept. Landscape evidence of deserted settlement sites and cultivation ridges, while dramatic and evocative, does not allow us to identify which of a range of organizational options and decision making processes were adopted to create them.

A more positive response by a proprietor would have been to adjust the rent of farms which were in difficulty, to make allowances for declining productivity or changes in the nature of the enterprise. In either case the adjustment, in the face of climatic deterioration, would be a downward one either absolutely or relatively.

There is plenty of evidence that while rack renting occurred in seventeenth-century Scotland with holdings sometimes being leased to the highest bidder the rents of farms were often subject to prior negotiation before entry between a prospective tenant and a landlord

(Whyte, 1976, p.8). Reductions of rent occurred widely on the Gordon estates in North East Scotland in the early eighteenth century when farms which had been abandoned during the famine years were released often at half their previous rents (S.R.O., G.D. 44 51 77, 167). On the Buccleuch estates too, holdings which had been subject to flood damage during the 1690s had their rents reduced.

CONCLUSION

In attempting to probe problems of human responses to climatic conditions within a particular rural society and period this study has posed more questions than it has answered. The model which has been proposed is specific to a particular context. While further research might allow it to be corrected and refined within this context it would require modification in order to be applicable to other rural societies at different periods. Nevertheless, it has demonstrated the complex nature of the reactions involved depending as they did upon the interplay of social and economic as well as environmental factors all of which would have varied not only temporally but also spatially within any period.

Landscape evidence is invaluable in demonstrating that fluctuations of the margins of settlement occurred in the past. By establishing a chronology of such fluctuations it is possible to infer something of the processes which produced them. As this study has suggested, however, even the concept of abandonment is not a straightforward one. More information is needed about the structure and operation of rural communities to gain insights into the processes which created the features which can be identified in the present landscape. There is plenty of scope for further research on the behavioural responses of individuals and communities in the past in the face of natural conditions. Three lines of enquiry would be worthy of investigation. Firstly, direct indications of the decision-making processes which operated can sometimes be gained though this is more likely to be forthcoming for proprietors than for the farmers themselves. Secondly, the results of the decisions which were taken can be used as a means of working back towards the decisions themselves. For example, changing spatial patterns of tenancy, farm structures and levels of arrears, especially between lowland core areas and the upland fringes of large well-documented estates, could shed light on the responses of both landlords and tenants though it must be admitted that it would be difficult to separate the effects of climatic changes from those of other variables. Thirdly, information could be sought on conditions which influenced decision-making such as the extent of farmers' capital reserves and the degree of freedom available to them for modifying their farming systems. Documentary sources capable of providing material of this kind are not likely to exist for England much before the sixteenth century and certainly not for Scotland before the later seventeenth century. This time limit nevertheless allows some notable short-term

crises such as that of 1623 in Northern England or the later 1690s in Scotland to be considered. Ideally, in the case of well-documented examples, it should be possible to link landscape features with cartographic and other evidence to provide a chronology of change and then to use documentary material to examine the processes which created the observed patterns.

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3

*Some Aspects of the Structure of Rural Society
in Seventeenth-Century Lowland Scotland*

I. D. Whyte and K. A. Whyte

A GOOD deal is known about the rural society which emerged in Scotland during the later eighteenth and nineteenth centuries, although even here there is still ample scope for debate on fundamental issues.¹ The variety and abundance of sources for the nineteenth century have allowed detailed studies to be made of the complex social hierarchies and interactions which existed even within single farmsteads.² But comparatively little is known about the structure of rural society in early-modern Scotland before the onset of more rapid social and economic changes in the later eighteenth century. Likewise it is not clear to what extent pre-Improvement Scottish rural society varied spatially due to influences such as landownership patterns, the nature of the agricultural economy, patterns of rural industry and proximity to urban markets, or whether cultural differences between the Highlands and the Lowlands also involved contrasts in rural social structure.

Past interpretations of pre-Improvement Scottish rural society have been based on two closely linked models of rural settlement and farm structure, the hamlet cluster and the ferm town.³ These have often been viewed as having been relatively uniform in character throughout the country. Recent research has, however, suggested that reality was more complex. Even at a local level settlements could differ considerably in size and function, while there are indications of regional contrasts in farm structure.⁴ The nature and evolution of rural settlement in medieval and early-modern Scotland has yet to be explored in depth, but there are obvious implications for the study of rural society in the variations which have so far been identified.

In addition, the extent to which Scottish rural society corresponded with or differed from that in other parts of Britain at this period has not been considered in detail. Some obvious contrasts with England have been noted in passing, such as the dominance in Scotland of large estates and the comparative unimportance of small owner-occupiers.⁵ Equally, comparisons have been drawn between rural settlement patterns in Scotland, particularly the West Highlands, and Ireland, suggesting that there might have been parallels between the social structure of these areas.⁶ The tenant status of husbandmen under absentee landowners in many parts of Ireland at this time may echo conditions on some Scottish estates.⁷

Demographic crises caused by famines persisted into the late seventeenth century

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in Lowland Scotland and into the nineteenth century in the West Highlands, long after they had vanished from England.⁸ The extent to which this produced contrasts in population characteristics with England and similarities with Ireland has not yet been fully explored. It is unclear whether or not there were differences in demographic measures such as age at marriage, family and household size and population mobility between early-modern Scotland and the more thoroughly researched conditions in England, though there are some indications of contrasts such as the suggestion that rural households were larger in Scotland than in England.⁹

The greatest proportion of husbandmen in early-modern Scotland were tenant farmers, yet we know little about them. Some old assumptions regarding tenancy, such as the supposed lack of written leases and the prevalence of tenancy at will during the seventeenth century, have been modified by recent research,¹⁰ but this still leaves unanswered many questions regarding tenancy and tenant farming. To what extent was there continuity of tenure under the systems of short leases, whether written or verbal, which were common in the seventeenth century? How geographically and socially mobile were the tenantry? How frequently did holdings pass from father to son, and what became of tenants' sons who were unable to obtain a holding? Under what circumstances did tenants face eviction? To what extent were farmers able to accumulate capital reserves to tide them over bad years? The answers to such questions also have implications for other strata of rural society about which we know even less: the cottars, farm servants and labourers who were dependent upon the tenantry.

In the past it has been customary to dismiss as inadequate the source material available for the detailed study of the rural economy and society of early-modern Scotland. Certainly the documentary record is poorer than that of England in many respects: for example, few well-kept Scottish parish registers exist before the late seventeenth century. Nevertheless, Scottish archives have strengths as well as weaknesses. The dominance of large estates has resulted in the survival of many voluminous collections of estate papers. These are a major source of information on rural conditions, and though they have received increasing attention in recent years, their full potential has yet to be exploited.¹¹ In addition, other sources which are capable of shedding light on rural society, such as the Register of Sasines, the testaments and inventories lodged with Commissary Courts, and Kirk Session records, have still to be studied in detail.

The first part of this paper considers some general questions regarding the structure of rural society in seventeenth-century Scotland. The second part reports some preliminary findings of a research project which is investigating in detail the structure of a single rural community. An attempt is made to show the kind of information which can be obtained by using estate papers in conjunction with other sources, and some possible frameworks for further research on Scottish rural society at this period are suggested.

An obvious source of information on rural society in late seventeenth-century Scotland is the poll tax records of the 1690s. These have been frequently referred to

in general terms,¹² but have not been analysed exhaustively from the standpoint of social structure. There are good reasons for this: apart from being fragmentary, the returns are not the mirror of rural society which they have sometimes been assumed to be. They have limitations which reduce their usefulness for studying social structure. First, people who were too poor to pay the poll — an unknown but possibly significant proportion of the population — were omitted. Second, children under the age of 16 were exempted and were only listed for the wealthiest families. Third, the recording of children over 16 who lived with their parents appears to be deficient.¹³ Nevertheless, the returns have the advantages of a fairly standard format and reasonable spatial coverage while listing people, albeit sometimes ambiguously, at levels of society about which other sources say little. Interpreted with care, they provide a general indication of variations in the make-up of rural society between different areas and of contrasts within social groups.

However, another problem with the poll lists is that the designations which they use for different social groups vary from one district to another and do not necessarily match those of other sources. It is thus necessary to try and rationalise such designations before attempting further analysis. It must also be appreciated that the socio-economic classification used by the tax commissioners oversimplified a society whose gradations were complex and often overlapping. Table 1 tries to standardise the terms used in the poll lists and other sources such as the 1656 list of the Justices of the Peace for Midlothian.¹⁴

The socio-economic position of tenants is easiest to establish, as their poll was directly proportional to their rents. The poll lists show that in many lowland parishes tenants and their families formed a fairly small proportion of the recorded population. If only male heads of household and unmarried men (excluding children over 16 living at home) are considered, in lowland Aberdeenshire tenants formed only 20-25% of recorded adult males in many parishes.¹⁵ The real figures are likely to have been lower, as any omissions would probably have been below the level of tenant. In some Berwickshire parishes the figure was as low as 15%, as was also the case in many West Lothian and Midlothian parishes.¹⁶

In remote parishes in upland Aberdeenshire the situation was different. In Glenbucket tenants made up 81% of recorded adult males and in Cabrach 48%. In the poor Cabrach especially the use of the term 'small tenant' for most people who rented land expresses fundamental differences in the make-up of the community from eastern lowland areas. It typifies a rural society which was probably widespread in the eastern Highlands where townships containing many small tenants holding direct from a proprietor or from intermediate tacksmen were normal.¹⁷ Such small tenants were probably more comparable to substantial lowland cottars than to larger lowland tenants. The figures for Renfrewshire indicate a pattern intermediate between the eastern Highlands and Lowlands, with tenants making up 30-40% of the recorded active males in many parishes.¹⁸ Smaller family holdings were more frequent here than in lowland Aberdeenshire or the Lothians.

The blurring of distinctions between different social groups was probably increased by lack of homogeneity within the tenantry. An examination of holding valuations from the poll tax returns illustrates the variations which occurred and the

resulting differences in the tenantry. Most parishes contained a wide range of holding valuations but the balance varied. Renfrewshire was characterised by a predominance of smaller holdings with rents ranging from £20 to £40 Scots. In some parishes fragmentation had gone further and a significant proportion of tenants occupied holdings rented at £10 Scots or less, probably equivalent to many cottar holdings elsewhere. Renfrewshire, as in later times, had a greater proportion of small lairds and owner-occupiers than many parts of eastern Scotland.¹⁹ The existence of such proprietors, who sometimes had additional occupations as tradesmen, must have further blurred social distinctions. In Lochwinnoch parish, for example, the mean rental value of lands held by small feuars was only £33 Scots against £26 Scots for tenant farmers.

In many Aberdeenshire parishes the majority of holdings were valued at between £50 and £75 Scots. Although full data are not available for the Lothians and Berwickshire, indications are that in many parishes both in the pastoral uplands and the arable lowlands average valuations were higher, some individual holdings being three times the highest valuation recorded in many Aberdeen and Renfrewshire parishes. The influence of landownership patterns and the policies of individual proprietors in shaping farm structure and hence rural social structure may be discerned, sharp variations in mean rents sometimes occurring between neighbouring estates. Broader regional variations may be related to various influences including land capability, population density and access to urban and overseas markets for agricultural produce.

Clearly a high proportion of the rural population over much of Lowland Scotland was below the tenant class. The terminology used for such people in the poll tax lists varies and it is difficult to decide to what extent this reflects real social differences or merely inconsistencies between different tax commissioners. For example, the Aberdeenshire lists record substantial numbers of 'cottars' and 'subtenants', differentiating them from farm servants who received wages. The latter group were almost never recorded as married, and it is reasonable to assume that they lived in the tenants' households while the cottars and subtenants did not. The Midlothian lists record cottars, ordinary farm servants and also married farm servants, sometimes referred to as hinds.²⁰ In the Renfrewshire lists relatively few cottars and subtenants appear. Instead, two categories of male farm servants occur, those who received annual wages and those who were only paid for work in harvest. It is difficult to judge whether people in the latter group lived in or not.

The records of the Justices of the Peace for Midlothian in 1656 contain a more complex hierarchy than the Midlothian poll tax lists (Table 1), showing that the latter simplify and perhaps distort social structure. In this list 'servants' include hinds, half hinds, herds, shepherds, taskers and domestic or in-servants. Men in all but the last group were normally married with their own house, kail yard and grazing rights. The hind and half hind, shepherd and herd also received some arable land. All these classes of servant were paid additional wages in kind or money. Clearly all of them, apart from domestic servants, were really cottars as they lived outside the tenants' households, subletting small portions of land in return for providing labour. It is uncertain what distinction the Midlothian poll tax lists made

TABLE 1. *Socio-economic designations used in the poll tax returns and other sources*

<i>Designation</i>	<i>Definition</i>	<i>Variants</i>
Landowner	Holding land by charter. May also lease land.	Owner Occupier: 'Bonnet Laird', Feuar, Portioner.
Customary tenant	Renting holding direct from proprietor but with prescriptive right to pass holding to heir.	Kindly Tenant, Rentaller.
Tenant	Renting holding direct from proprietor. Recorded in rentals.	General: Husbandman, Gudeman Small tenants: crofter, Penciler Estate Officers: the barony officer sometimes had a specificcroft. The baillie, chamberlain, factor were often tenant farmers as well. Gentlemen, 'Mr': some larger tenants styled themselves thus in the poll lists and paid a heavier poll. Millers: Mills and the lands attached to them were generally rented. Smiths: a rented smallholding often went with a smithy. Tradesmen: with smallholdings were sometimes listed primarily as tradesmen in the poll lists.
Cottar, subtenant	Living separately from tenants' households. Holding some land and/or grazings in return for labour. Sometimes receiving wages in addition.	Aberdeenshire poll tax, Cottar, Grassman, Grasswoman, subtenant Midlothian J.P.'s list 1656: Whole Hind, Half hind, tasker, herd, shepherd General: most tradesmen
Farm servant	Living in tenants' households. Landless. Paid in money, kind and board. Work primarily agricultural.	Midlothian J.P.'s list 1656: Domestic or in-servant. Renfrewshire poll tax lists: servant, harvest servant. General: hireman, hirewoman.
Domestic servant male or female	Living in household of landed proprietor. Work not primarily agricultural.	
Specialist servant	Attached to household of landed proprietor but living separately.	E.g. Gardener
Tradesman	May be: 1. small tenant 2. cottar 3. landless 4. son living in household of above.	
Labourer	Living separately. May or may not have some land/grazing rights. Primarily dependent on wage labour but not sufficiently specialist or skilled to be classed as tradesman in poll lists.	Midlothian J.P.'s list 1656: Barrowman, Cowan, Mason, Slater, Common workman or labourer. Renfrewshire poll tax lists: Workman

between hinds and cottars but perhaps the latter, while subletting land, were less closely tied to a tenant in terms of the labour which they provided and did not receive additional wages. If so, such distinction was of degree rather than kind and should not be over-stressed.

It is not clear to what extent the Midlothian servant hierarchy applied elsewhere. Thus, although it may be tempting to equate Renfrewshire harvest servants with Midlothian taskers, the temptation should be resisted. The Renfrewshire male harvest servants are virtually never recorded as having been married. If such people had not been living-in servants, one would have expected a substantial proportion of them to have been married, and even if the poll tax lists had been severely deficient in their listing of the wives of such men, it is unlikely that they would have failed to register them so consistently. The fact that harvest servants were recorded under the names of particular tenants rather than separately, as were cottars, also supports the suggestion that they lived in. It is more likely that in Renfrewshire cottars and subtenants formed a smaller proportion of the rural population than in Midlothian or lowland Aberdeenshire due to the frequency of smaller holdings making entry into the lower ranks of the tenantry easier and the need for extra labour less acute.

The backbone of rural society in most areas, often forming between 40% and 60% of male heads of household and single men in the poll tax lists, were cottars and tradesmen. A high proportion of rural craftsmen were probably cottars. This is sometimes explicit in designations such as 'cottar and tradesman'. Some craftsmen were small tenants paying rents direct to a proprietor but they seem to have been comparatively few in number.

It is evident, though, that below the level of tenant social distinctions were blurred. Living-in servants should not necessarily be viewed as a separate group inferior in status to cottars and subtenants. Carter has stressed when considering farm servants in Aberdeenshire in later times that servants and crofters formed a cycle within the peasantry.²¹ It is likely that at this period too living-in servants were generally young. This can often be demonstrated from the Aberdeenshire poll tax lists where many servants are referred to as boys or girls. A considerable proportion of these servants, once they were married, probably became cottars.

The element of the rural population which was landless is difficult to determine as landlessness was not necessarily an absolute concept. Some distinction may have existed between cottars who held some arable land and those who had only grazing rights and a kail yard, but it is not likely to have been a sharp one. At the bottom of the cottar class many of the Aberdeenshire grassmen and grasswomen may have been truly landless. While male living-in servants were also landless, this may often have been only a temporary state. Such men formed 15-20% of male heads of household and unmarried males in many lowland Aberdeenshire parishes, though the figures fell to 8 or 9% in upland parishes like Glenbucket and Cabrach. Most Renfrewshire parishes, with their many small family holdings, came in between. In parts of the Lothians and Berwickshire, where large holdings were frequent, unmarried living-in male servants, along with male domestic servants in the households of landed proprietors, formed up to 40% of heads of household and single adult males. Tenants of large farms like Bonitoun in Ratho parish, West

Lothian, extending to 14 oxgates, could employ six unmarried male servants in addition to married servants and cottars, though three or four was more common.²² In such areas the transition from living-in servant to cottar may have been harder due to the smaller proportion of cottarages, and this may have further limited upward movement from the cottar to the tenant group, suggesting that social differentiation had proceeded further than in other parts of Scotland. The relationships between types of rural economy, landownership patterns, holding size and rural social structure were complex and are still far from clear, so conclusions such as these must be tentative.

A notable feature of the poll tax lists is the rarity with which people who could be termed landless labourers are mentioned. The 'workmen' of the Renfrewshire returns and some of the Aberdeenshire grassmen may fit into this category, but overall they formed a small proportion of the recorded population. Many unlisted poor people may have provided casual labour, but much skilled and semi-skilled work was probably done by people listed as cottars. The impression is that relatively few people supported themselves by piece work or day labour without the adjunct of at least a nominal foothold on the land. Some tradesmen, especially near large burghs, may have been full-time workers whose connection with the land was confined to helping with the harvest, but the frequent designation 'cottar and tradesman' in the poll tax lists suggests that industrial workers often had some land.

It is harder to establish the exact position of women in rural society from the poll tax lists and other sources, but it is clear that married women were often regarded as adjuncts to their husbands. Single women fall into two categories, domestic and farm servants who were probably mostly single and young, and female cottars and grasswomen, often widows, whose sources of livelihood are rarely indicated. Female tenants of smallholdings did occur, but it was uncommon to find women leasing a substantial farm. When this occurred, one suspects that the arrangement was merely temporary following the death of a husband and awaiting the transfer of the holding to another male tenant.

The poll tax returns are tantalisingly incomplete in coverage and variable in content. Nevertheless they provide a general perspective of Scottish rural society, prompting a number of questions and providing a starting point for more detailed investigations. They show a society with numerous gradations but where the distinctions between strata were not clear-cut. People in different groups most often have overlapped in terms of wealth, though how far status, occupation and wealth were linked is uncertain. Rural society appears to have been relatively undifferentiated compared with that of seventeenth-century England, though there are signs that polarisation was developing in some areas, notably the south-eastern lowlands. A high proportion of the rural population still had a foothold on the land. This must have provided a degree of cohesion, for example in subsistence crises like those which followed the harvest failures of the later 1690s, though inevitably perspectives must have varied depending on the position of individuals within the social hierarchy.

Spatial differences in social structure are, however, evident. In areas like Orkney, upland Aberdeenshire and, to a lesser extent, Renfrewshire, the peasantry appear to

have been relatively homogeneous. In parts of the Lothians, Berwickshire and lowland Aberdeenshire, where commercial elements in agriculture were linked with cereal production for urban markets and for export, farm structures with fewer tenants and larger holdings were linked with a society in which social differentiation was more marked and in which the 'landless' element may have been larger. To some extent such contrasts may merely reflect different organisational responses to the economic potential of the land, but in another sense they can be viewed as a progression in an evolutionary sequence.

It is hard to decide how homogeneous this social structure was in practice. The statutes relating to the safeguarding of tenants, which attempted to set controls on the mobility of farm servants, suggest that there were clashes of interest between these groups.²³ Cottars appear to have been more dependent on the tenantry and may, of necessity, have identified more closely with their interests. While the social gulf between tenant and landowner was often wide, particularly where estates were large, there are indications that in some areas at least the upper ranks of the tenantry were identifying themselves more closely with the interests of the landowners than with the lower ranks of the peasantry by the end of the seventeenth century. This is suggested by the fact that some tenants styled themselves 'gentlemen' in the poll tax returns. While such elements were probably only weakly developed at this time, they were a foretaste of the re-orientation of rural society which was to occur during the later eighteenth and nineteenth centuries.

Nevertheless, the poll tax records present only a single cross-section in time. While they may indicate the existence of spatial patterns in the composition of rural society, they do not show what processes were active in producing such variations. A fuller understanding of the workings of Scottish rural society at this time can only be obtained by more detailed local studies using data which cover time as well as space.

No intensive studies of rural communities in early-modern Scotland have so far been undertaken, although in England such research has provided valuable insights into the nature of rural society in the sixteenth, seventeenth and eighteenth centuries.²⁴ This may be partly due to the belief that data are inadequate in coverage and quality to permit such research. Collections of estate papers, however, contain information on many aspects of the lives of tenant farmers, a group which, as has been shown, occupied an important position in rural society. Where particularly good sets of estate documents can be linked with other sources such as parish registers, wills and court records, light can be shed on many aspects of rural society which are not illuminated by general surveys like the one above. In order to develop further the theme of geographical and social mobility in Scottish rural society, some preliminary results will be presented of a project which focuses on an estate possessing an unusually complete run of accounts and rentals extending from the early seventeenth to the early eighteenth centuries.²⁵

The major part of the estates of the Earls of Panmure, including the baronies of Ballumbie, Carmyllie, Downie, Innerpeffer, Kellie and Panmure, were located in Angus along the coastal plain between Dundee and Arbroath, extending inland on

to the lower eastern slopes of the Sidlaw Hills. During the seventeenth century most tenants on the estate paid their principal rents in grain, and the estate exported considerable quantities of oats and bere with some wheat to Edinburgh and other east-coast burghs. Tenants in the higher-lying barony of Carmyllie paid rents in money and were probably more oriented towards pastoral farming.

The continuous series of rentals allows the length of tenancy for every husbandman on the estate to be calculated. Data have so far been extracted for the four contiguous baronies of Carmyllie, Downie, Innerpeffer and Panmure between 1650 and 1714. The mean length of tenancy in these baronies during this period was 9.3 years. This figure, though, conceals considerable variability: 11.8% of completed tenancies were for a single year and 33.4% were of two to five years' duration. On the other hand, 18.7% were of 11 to 20 years' duration and 11.8% of over 20 years. This suggests that elements of both stability and mobility existed within the tenantry, some farmers occupying the same holding for a substantial part of their working lives while others held land on the estate for only a brief period. The variation is not related to differences in holding size. If tenants in Downie, Innerpeffer and Panmure baronies are ranked according to how much grain they paid in their principal rents, then the tenants of smaller holdings paying under 10 bolls had a comparable distribution of length of tenancy with farmers on the largest holdings paying over 40 bolls.

What influences lay behind the high rate of turnover among this cross-section of the tenantry? Does it indicate a high level of mobility within rural society and, if so, to what extent were geographical and social mobility involved? One means of examining geographical mobility is to look at the origins of Panmure tenants recorded in surviving leases:²⁶ 65% of the seventeenth-century leases were renewals to sitting tenants; 18% recorded moves from other farms within the same barony and only 3.5% from other baronies; 13.5% of the tenants had come from outside the estate. The migration distances of this last group were short with a mean of 3.7 miles and a maximum of 8.5 miles. This suggests that geographical mobility operated over limited distances, and the rentals indicate that once a man had been entered as the tenant of a particular holding on the estate, he tended to remain there. Returning to the evidence of the rentals, only 14.7% of the tenants recorded between 1650 and 1714 moved to other farms within the four baronies. Some of the elements involved in the geographical mobility of tenant farmers are suggested in Fig. 1.

Socio-economic mobility among Panmure tenants coincided with geographical mobility when they moved from one holding to another on a different farm. Moves to larger holdings on other farms accounted for 21% of the total changes in holding sizes in the four baronies between 1650 and 1714 and moves to smaller holdings 21.5%. 57.5% of changes in holding size did not involve the re-location of the tenant. Of the available options the most popular was multiple leasing (36% of total changes). This involved a tenant who occupied one holding or farm leasing portions of an adjacent but separate farm. A counterpart of this within the same farm was engrossing, where a tenant originally occupying only a fraction of a farm enlarged his share or took over the entire unit. This accounted for 11.5% of total changes in

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 Some Elements in the Geographical Mobility of Tenants in Early-Modern Scotland

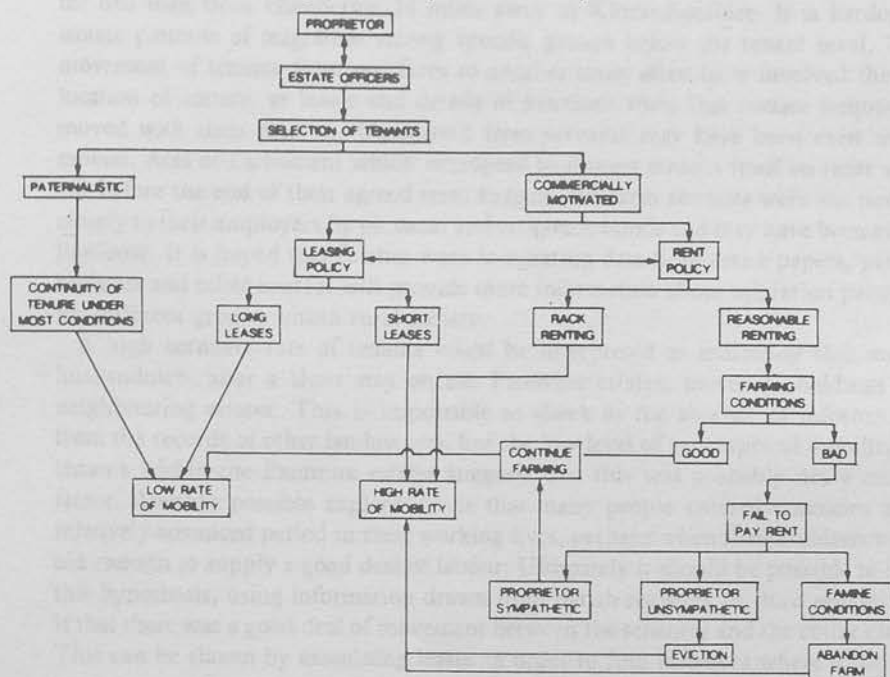


Fig. 1

holding size while the reverse process, whereby a tenant reduced his share of a farm, was equally common (10%).

The importance of changes in holding size without re-location of the farmer may indicate a desire to minimise the risks inherent in a tenant altering his enterprise. Multiple leasing and engrossing involved expanding from a base of land whose qualities were known, and working with familiar neighbours. Presumably this would have been the preferred option, all other things being equal. A move to another holding, even only a mile or two away, involved the greater risk of working land whose soils, drainage and exposure had not been assessed personally, and cooperating with different neighbours. This may have been a major influence behind the low rate of geographical mobility among farmers during their period as Panmure tenants, and may also help to account for the very short distances which were involved when re-location occurred. Tenants, because of their greater commitments to terms of rents and their greater capital inputs, had more to lose from an injudicious move than other social groups.

Elements of geographical mobility among the wider rural community can be demonstrated by marriage patterns. In Carmyllie parish, for example,²⁷ 43% of the marriages between 1684 and 1709 involved bridegrooms who were not resident within the parish. The marriage distances indicate, however, that 85% of the bridegrooms who were not residents within Carmyllie parish came from adjacent parishes. The remaining 15% all originated from within the Angus lowlands save

for one man from Glenbervie 26 miles away in Kincardineshire. It is harder to isolate patterns of migration among specific groups below the tenant level. The movement of tenants from one farm to another must often have involved the relocation of cottars, as leases and details of evictions show that cottars frequently moved with their masters. Unmarried farm servants may have been even more mobile. Acts of Parliament which attempted to protect tenants from servants who left before the end of their agreed term suggest that farm servants were not tied as closely to their employers by personal and economic bonds and may have been more footloose. It is hoped that further work integrating data from estate papers, parish registers and other sources will provide more information about migration patterns for different groups within rural society.

A high turnover rate of tenants could be interpreted as indicating that many husbandmen, after a short stay on the Panmure estates, moved to holdings on neighbouring estates. This is impossible to check in the absence of information from the records of other landowners, but the low level of geographical mobility of tenants within the Panmure estates suggests that this was probably not a major factor. Another possible explanation is that many people entered tenancies at a relatively advanced period in their working lives, perhaps when their children were old enough to supply a good deal of labour. Ultimately it should be possible to test this hypothesis, using information drawn from parish registers. A third possibility is that there was a good deal of movement between the tenantry and the cottar class. This can be shown by examining leases in order to find instances where a person receiving a lease is stated to have been previously resident on a particular farm on the estate yet does not appear there in the rentals. Such people cannot have been tenants and their leases must record their entry into the tenantry. Out of 13 such instances, five of the people concerned were definitely or probably the sons of tenants. This is stated in two leases, and for the others a tenant with the same surname can be identified on the same farm in the years immediately preceding the granting of the lease. For the remaining eight there was no such record, and it is probable that some at least were cottars, though some may have come originally from tenant families.

While the rents of the holdings being taken by people in these two groups varied, the mean rent for sons of tenants was 48 bolls of victual and for the rest 23.5 bolls. Despite the small sample size, this suggests that there may have been a tendency for the sons of tenants entering farming directly to secure larger holdings than people moving up from cottarages. This may have been due to the influence of their fathers with the estate factor, but such newcomers may also have been more experienced in farm management and better capitalised than men who had previously been cottars. It is interesting to note that in the leases two of the sons of tenants were described as third sons, showing that it was possible for younger sons of tenants to acquire holdings. The evidence suggests that people who came into the tenant group from below may have found it harder to obtain a substantial holding. It can also be postulated that such people may not have risen as high and may have been more likely to have reverted to cottar status. The mean length of completed tenancy for the sons of tenants was 30 years against 14 for the other group, but again it must be

emphasised that the sample is small and that further research is needed before these suggestions can be confirmed.

The barony of Panmure and Panbride parish were virtually co-extensive. Thus, if Panmure tenants can be identified in the Panbride parish register either before or after their period of tenancy, it is possible to pick out people who were moving into or out of the tenantry. Unfortunately the Panbride register²⁸ does not commence until 1690 and only records baptisms. The run of years before the series of estate records terminates in 1714 is short and only a proportion of people moving into and out of the tenantry are likely to have appeared in the register as fathers or witnesses. Nevertheless, 20 people can be identified as previous residents who acquired a tenancy during this period. Only six of these took over substantial holdings, the rest leasing pendicles and smallholdings. Ten people are recorded as still living in the parish after relinquishing a tenancy: again six had been pendiclers. To some extent this may mirror farm structures in Panmure barony which had more smallholdings than the other baronies on the estate, but it suggests that in this instance movement into and out of the tenant class was most active at lower levels. Given what has been written about variations in length of tenure in relation to holding size, other mechanisms must be proposed to account for situations where a previous resident of a parish suddenly became tenant of a large holding and worked it for only a limited number of years.

The overall picture presented of this particular rural community is one in which elements of geographical mobility existed at a local scale, varying in importance between different groups. Socio-economic mobility occurred within the tenantry and also between this group and others in rural society. The extent and importance of such movements is not yet clear and it is hoped that further research will provide more information on the processes which affected various forms of mobility such as the influence of family structure and the extent to which capital accumulation was possible at different levels of society. Some of the preliminary results suggest that there may have been more than one socio-economic cycle within rural society at this time (Fig. 2). As well as one where a farm servant became a cottar after marriage and his children in turn started off their working lives as farm servants, a more extended cycle may have existed in which a man started as a farm servant, became a cottar after marriage, and acquired a tenancy after his children were old enough to provide labour. If the children subsequently left home, a tenant could have maintained the labour supply with which to work his holding by employing farm servants or he could have moved to a smaller tenancy and perhaps in old age to a cottage as a 'grassman'. Such a cycle could have been short-circuited at various points: for example by a tenant's son succeeding to his father's holding. If such cycles existed they would have had the effect of binding rural society together more closely. This exploratory paper has, however, only outlined some of the problems and possible approaches to the study of early-modern Scottish rural society and its conclusions have been limited. Nevertheless, it is hoped that it has not only served to show some of the complexities which existed but that it has also indicated some potential directions for future research.

Some Elements of Social Mobility in Rural Society in Early Modern Scotland

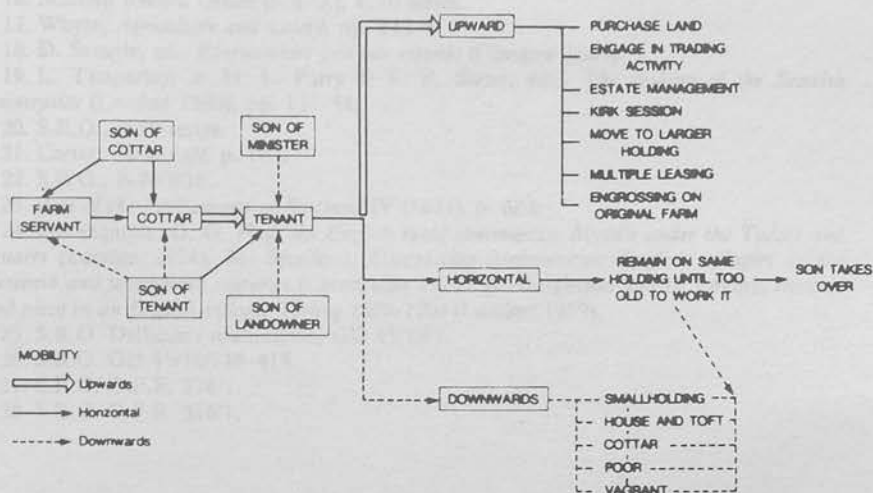


Fig. 2

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Regional and local variations in seventeenth-century Scottish farming : A preliminary survey of the evidence of Commissary Court testaments

I. D. and K. A. Whyte

Within the last two decades there has been a great increase in our knowledge of regional variations in the farming systems of England in early modern times; from the sixteenth to mid eighteenth centuries. The work of J. Thirsk and E. Kerridge¹ has provided a basis which more detailed local studies have added to so that for many areas a detailed picture of spatial variations has emerged to add to broader contrasts such as the one between lowland wood-pasture and champion districts.²

For early-modern Scotland, however, knowledge of the regional and local diversity of farming systems is still limited. Indeed, regional differentiation of farming systems for the better documented, and more intensively studied, later eighteenth and nineteenth centuries has only recently been attempted.³ Recent research has shed a good deal of light on the nature and evolution of infield-outfield farming in Scotland⁴ but much less is known about spatial variations in crop and livestock production at any period. Assumptions regarding the crops which were grown, the rotations which were practised and the role of livestock within the farming system have been based on highly simplified models of infield-outfield farming drawn from the works of late 18th and early 19th-century writers on agricultural improvement.⁵ While it has been suggested that infield-outfield farming was an adjunct to a basically pastoral economy,⁶ and that the general emphasis of agriculture was pastoral,⁷ it would be surprising if, in a country with as much physical diversity as Scotland, spatial variations had not existed.

Previous attempts to assess the pattern of variation of farming systems in sixteenth-century Scotland have largely been based on the interpretation of rent structures. It has been suggested that farms in areas which concentrated on arable farming were distinguishable by having their principal rents paid mainly in grain. Pastoral areas, outside the highlands at least, are considered to have paid principal rents in money by the 17th century while intermediate areas with a more mixed economy paid a combination of grain and money rents.⁸

This model is, however, a crude 'either/or' one which does not identify variations within the arable and pastoral sectors; for example specialization in different livestock enterprises or variations in the intensity of crop production. It also makes assumptions about the relationship between rents and agricultural production in early-modern Scotland which may not be justified. The supposition underlying the distinction

between cash rents in pastoral areas and grain rents in arable districts is that in pastoral areas rents in kind had been commuted to money payments at an early date because the products of such areas; wool, hides, dairy produce, were comparatively easy to market, being of high value in relation to their bulk, or in the case of livestock could travel on the hoof. By contrast, grain was bulky in relation to its value. Because of this it was more difficult to transport and market on a large scale by tenants with limited time and small numbers of carriage animals so that they paid their rents in grain and let their landlords handle its marketing.

As R. A. Dodgshon has pointed out, however, the structure of agricultural rents in early-modern Scotland may not have been merely a simple function of long-term perceptions of land capability allied to differential problems of marketing various commodities.⁹ Instead it may have reflected changing legal and tenurial influences. If this was the case then rent structures may not have been closely related to spatial variations in farming systems.

General indications suggest that considerable regional and local differences in patterns of agricultural production did occur in seventeenth-century Scotland.¹⁰ One particularly well-documented case study has shown that infield-outfield farming was capable, under the stimulus of nearby urban markets, of evolving into intensive systems geared to commercial grain production.¹¹ It would, however, be of value to identify a source which could provide information on farming systems on a more systematic basis and at a wider scale. Such data could then be compared with the evidence of rent structures in order to evaluate which source was more reliable for this purpose.

One source which may allow such an attempt to be made, but which has been neglected in the recent upsurge of interest in social and economic conditions in early-modern Scotland, is the testaments which were lodged with local Commissary Courts. These recorded the moveable possessions of deceased persons and their household at the time of death. For farmers they included inventories of livestock and crops, whether sown or in storage after harvest. Testaments are thus similar to English probate inventories which have frequently been used in studies of geographical variations in farming patterns during the 16th and 17th centuries.¹²

The only recent study to make extensive use of the evidence of Scottish testaments¹³ concluded that while small errors undoubtedly occurred, the list of possessions and their valuations were broadly accurate. Scottish testaments are less detailed than English probate inventories in some respects, for example, household and personal possessions are rarely itemised and were usually valued in a single lump sum. Farming equipment such as ploughs, harrows and carts was not always listed separately. Ploughs were often valued along with the oxen, carts and harrows with the horses, and in many testaments where oxen and horses are enumerated without any equipment one assumes that the value of such items was included with that of the livestock. Testaments rarely list poultry and pigs, presumably including them with the household possessions. Young oxen, cattle and horses are usually differentiated from adults but lambs are not always distinguished from sheep. Nevertheless these are minor problems which,

provided we are aware of them, do not prevent the study of variations in crops and livestock.

In order to assess the potential of this source in recording differences in farming systems care was required in the choice of a suitable area from which to draw a sample of testaments. To minimise variations caused by different landlord policies and farm structures testaments were selected for tenant farmers on a single large estate, that of the Earls of Panmure, whose lands covered a variety of terrain in the sheriffdom of Forfar, an area which might be expected by reason of its physical diversity to have shown contrasts in farming systems (Figure 1.). 150 testaments were studied covering the period 1610-70.¹⁴ During this period rents on the estate remained stable with only a few minor changes.¹⁵ This suggests that significant differences in the nature and intensity of farming systems during the period under consideration are unlikely.

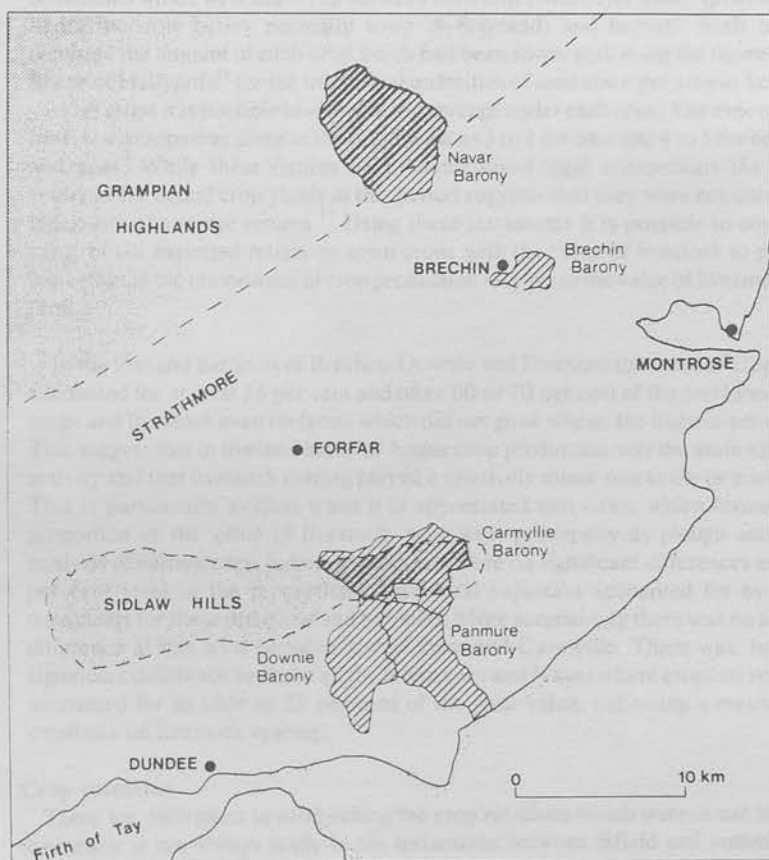


Fig. 1: Five baronies of the Earls of Panmure, Forfar

It was essential to study testaments drawn from areas with different rent structures in order to determine whether or not these corresponded to spatial variations in agricultural activity indicated by the testaments. The data related to five baronies of the estate. Three, Brechin, Downie and Panmure, had 'lowland' rent structures in which most farms paid principal rents in grain. The fourth barony, Carmyllie, lay among the low hills forming the eastern end of the Sidlaws. All farms in this barony paid money rents and on this basis might be expected to have been pastoral in character. Navar, whose farms also paid money rents, lay on the margins of the Highlands with grazings extending into the eastern Grampians and seemed likely to have been even more strongly oriented towards livestock production.

The Role of Arable Farming

The importance of crop production within the five baronies was assessed using testaments which were drawn up between seed time (March for oats, April for *bere*, the hardy four-row barley normally sown in Scotland) and harvest. Such testaments recorded the amount of each crop which had been sown, and, using the figures given by Skene of Hallyards¹⁶ for the traditional quantities of seed sown per acre in Scotland for various crops it is possible to estimate the acreage under each crop. The expected return from sown crops was given in the testaments as 3 to 1 for oats and 4 to 1 for *bere*, wheat and peas. While these figures were standardised legal conventions the available evidence for actual crop yields at this period suggests that they were not unrealistic as indicators of average returns.¹⁷ Using these testaments it is possible to compare the value of the expected return on sown crops with the value of livestock to provide an indication of the importance of crop production relative to the value of livestock on each farm.

In the lowland baronies of Brechin, Downie and Panmure the value of crops usually accounted for at least 55 per cent and often 60 or 70 per cent of the combined value of crops and livestock even on farms which did not grow wheat, the highest-priced cereal. This suggests that in lowland areas of Angus crop production was the main agricultural activity and that livestock rearing played a relatively minor role in the farming system. This is particularly evident when it is appreciated that oxen, which formed a large proportion of the value of livestock, were kept principally as plough animals. An analysis of variance test indicated that there were no significant differences at the 0.01 per cent level in the proportion of the total valuation accounted for by crops in testaments for these three lowland baronies. More surprisingly there was no significant difference at this level between any of them and Carmyllie. There was, however, a significant difference between all these baronies and Navar where crops on some farms accounted for as little as 25 per cent of the total value, indicating a much stronger emphasis on livestock rearing.

Crop rotations

There are difficulties in establishing the crop rotations which were in use because a distinction is not always made in the testaments between infield and outfield crops. Traditionally oats were the sole outfield grain and some testaments do distinguish between infield and outfield oats, or between higher-yielding white oats and the hardier

black oats which were normally restricted to outfields.¹⁸ Where infield and outfields oats can be differentiated an attempt can be made to reconstruct the infield rotation. In several instances on farms scattered through the estate the rotation appears to have been the traditional one of a crop of bere followed by two crops of oats without fallow. This rotation was not, however, standard on all farms on the estate where other infield crops like wheat and peas were not grown. There are three instances from Navar of small infields devoted entirely to the cultivation of bere, all the oats coming from the outfield, while on one farm in Carmyllie the area of infield oats suggests that bere was followed by three rather than two crops of oats.

On some farms where wheat was cultivated, rotations of wheat/bere/oats seem to have operated on infields but on others the amount of wheat sown was much smaller than that of bere and it is more likely that the wheat occupied a small portion of bere land within a general rotation of bere and oats. Peas, and in one instance beans, were grown by some farmers in the lowland baronies although they were not required to pay any of their grain rents with this crop. Peas never occupied more than about two acres even on the largest farms. Their cultivation was invariably associated with that of wheat. Elsewhere it is known that full infield courses of peas sometimes preceded wheat to allow this demanding cereal to have the benefit of additional nitrogen,¹⁹ but in this region it appears that peas were sown with the wheat, in several instances the combined acreage of peas and wheat being sufficient to form a separate course within the infield rotation.

Another measure of the variations in the intensity of arable farming is the proportion of infield to outfield. In traditional models infield made up a third, a quarter or even less of the total arable area,²⁰ but it has been shown that in some areas, adjacent to large urban markets, the area of infield could expand at the expense of outfield to cover some 70 per cent of the total cultivated land.²¹ The proportion of infield to outfield cannot be ascertained directly as no information is available on outfield rotations to show how much of the outfield was left in fallow each year. However, early 17th-century leases from the Panmure estates indicate that three consecutive crops of oats were all that most outfields could reasonably produce before fallowing.²² A cropping pattern for outfields which is known to have occurred fairly widely in Lowland Scotland at this time was three crops of oats followed by six years of fallow, one third of the outfield being under crop at any time.²³ If such an outfield rotation is assumed for the examples under study then infields may have accounted for as little as 10-12 per cent of the total arable area in Navar, about a third in Carmyllie and as high as 50 per cent for some farms in the lowland baronies, a proportion which is not comparable with field systems around Edinburgh, where liming was practiced,²⁴ but which nevertheless indicates a level of intensity consistent with specialization in crop production.

The cultivation of wheat, the highest priced but most risky cereal under 17th-century Scottish farming conditions, is another possible indication of differences in the importances of arable farming. It rarely accounted for more than 18 per cent of the total value of all crops in summer testaments, however, and there was no statistically significant difference in the proportion of the total valuation accounted for by crops

between farms in the lowland baronies which paid rents in wheat and those which did not. This suggests that for the fairly small quantities which were grown the price margin of wheat over bere was insufficiently great to make it really profitable. This is also indicated by the reluctance of tenants to grow wheat unless they had to. In only one testament had a tenant sown wheat when he was not required to pay it as rent. Tenants who grew wheat had often sown only enough to meet the quantities demanded for rent, allowing a reasonable margin for error. Overall the lack of interest in wheat by tenants may reflect its marginality within the limitations of contemporary farming technology but may also reflect the low level of commercial motivation which was inherent in systems where rent was paid in kind.²⁵

Livestock farming

It has already been demonstrated that the intensity of arable farming varied substantially between the five baronies, implying corresponding contrasts in the importance of livestock farming. As the role of animals within Scottish infield-outfield systems has been neglected, however, it may be of value to examine features of livestock farming in more detail.

The total value of livestock in each inventory was calculated and the proportions accounted for by oxen, horses, cattle and sheep were compared. Oxen normally made up at least 50 per cent and sometimes as much as 60 or 70 per cent of the total value of livestock in the lowland baronies. The numbers of mature oxen in summer testaments were highly correlated (+0.85) with the area under cultivation, emphasising their importance as plough animals. A team of oxen, or two teams on some farms, must have represented the largest single capital investment which a lowland tenant farmer had to make. An analysis of variance showed that there was no significant difference between the proportion of the total value of livestock accounted for by oxen in Brechin, Carmyllie, Downie and Panmure baronies but that all these baronies were significantly different at the 0.01 per cent level from Navar where oxen contributed as little as 20-30 per cent of the value of livestock on some farms.

Horses were used for transport and for harrowing. They may also have been employed as plough animals but this cannot be established from the testaments.²⁶ The numbers of adult horses correlated less strongly (+0.53 though still significant at the 0.01 per cent level) with the amount of arable land in summer inventories. Some upland farmers with smaller acreages under crop still owned several horses reflecting their role in transportation as well as farm work. In the lowland baronies millers owned more horses than ordinary tenants, presumably for carrying grain and oatmeal. There was no significant difference between the proportion of the value of livestock accounted for by horses in Brechin, Carmyllie, Downie and Panmure but again Navar was significantly lower.

In the lowland baronies and Carmyllie cattle appear to have been kept mainly for providing dairy produce for household use and they made only a modest contribution to the total value of livestock. *Cottars*, who sublet land from tenant farmers in return for providing labour, commonly possessed a single cow and tenants of large farms up to 4

or 5. There was a statistically significant difference between Navar, where some tenants owned up to 20 cattle, and the remaining baronies but no differences within the others. The pattern for sheep was identical. Thus Navar stands out as having had a marked concentration on cattle and sheep rearing compared to the other baronies while in Carmyllie, despite the fact that its rents were paid in money, livestock rearing took second place to arable farming as in the lowland baronies.

On two farms, one in Navar, one in Carmyllie, the numbers of oxen kept were far greater than the amount of arable land warranted suggesting that specialist breeding for lowland markets was being undertaken. Thus Nichol Crichton in Newton of Carmyllie had 24 old oxen and 13 young ones in his inventory. There are no such instances in the lowland baronies.²⁷ In Navar the rearing of beef cattle is also suggested by some testaments in which large numbers of stirks, young cows kept for slaughter rather than breeding, are recorded.

Variations in livestock numbers

The number of animals kept by tenants obviously varied with the sizes of their holdings and their share of permanent pasture. In order to compare levels of stocking between the different baronies it was necessary to convert livestock numbers to some standard measure. A ratio of livestock numbers to rents would have been complicated by differences in the rent structures of the baronies, while a direct ratio of animal numbers to the arable area would only have allowed summer inventories to be used. Given the close relationship which has been demonstrated between the extent of arable land and the number of mature oxen in summer inventories it was felt that relating the number of horses, cattle and sheep to the number of plough oxen would provide a reasonable measure of variations in stocking capacity which would be independent of farm size and would allow the entire sample of inventories to be used. In doing this, however, account must be taken of seasonal variations. The most significant contrast is likely to have been between winter when numbers of animals were reduced by sale and slaughter due to limitations in the supply of winter fodder and summer when livestock numbers are likely to have been at their highest. Accordingly, testaments were divided into summer (April to September) and winter (October to March) groups. The ratios of horses, cattle and sheep to mature oxen were then compared for each group.

The number of horses in relation to plough oxen showed least variation. There were no discernible seasonal differences between any of the baronies indicating that number of horses remained fairly constant, reflecting the all-year-round nature of their work. The mean ratio for sheep in summer inventories was well above that for winter ones in all baronies. The summer levels were 1.4-1.5 times the winter ones in the lowland baronies and Carmyllie but 2.2 times in Navar. This suggests that in this upland area, despite the abundance of summer hill pasture, shortage of winter fodder was still a problem.

The picture for cattle is less clear-cut. In Navar, Carmyllie, Brechin and Panmure summer levels of stocking exceeded winter ones by about the same proportion as those

of sheep. In Downie there was no marked difference between summer and winter levels.

This may reflect a shortage of pasture which kept livestock numbers comparatively low even in summer. In addition the ratio of cattle to plough oxen for Downie was half that of the other lowland baronies suggesting that cattle were less important in the economy of this barony. Figures for Brechin, Carmyllie and Panmure were comparable for both summer and winter suggesting that there was little difference between them in the importance of cattle. Navar stood out as having mean ratios of sheep and cattle to oxen three times as high as other baronies.

Within the livestock sector there was no discernible pattern of specialization in sheep or cattle production. Variations in the orientation of livestock farming towards sheep or cattle were examined by calculating the ratio of sheep to cattle for summer and winter groups of testaments. An analysis of variance showed that there was no significant difference between the summer inventories for any of the baronies. The winter testaments for Downie indicated, however, a significantly higher overall proportion of cattle to sheep than elsewhere. This was due to the low average size of the sheep flock and not to higher numbers of cattle, and confirms that livestock farming was comparatively unimportant in this barony. It is also noteworthy that while Navar clearly concentrated on livestock there was no difference in the importance of cattle against sheep between it and other baronies: the basic character of livestock production in Navar seems to have been similar to that of the lowlands.

In the past it has often been assumed that livestock farming in pre-improvement Scotland was based on cattle-raising. The specialization of areas like the Borders in sheep rearing, going back to medieval times, has been appreciated and it has also been realised that sheep were kept in the Highlands before the 'clearances' for commercial sheep farming in the later 18th and early 19th centuries.²⁸ The data from this study suggest, however, that sheep played a more important role in the agriculture of lowland Angus than might have been expected. For Brechin, Carmyllie, Downie and Panmure 65 per cent of the testaments recorded a higher valuation for sheep than cattle (excluding oxen); in Navar the figure was 78 per cent. Sheep dung must have formed an important source of manure for infields and the animals must also have provided a good deal of wool for local textile manufacture.

Conclusion

This article has made only a preliminary evaluation of Commissary Court testaments but has nevertheless demonstrated their potential. Testaments clearly provide much information on crop rotations and the pattern of infield-outfield husbandry in early-modern Scotland. In the area studied they confirm the expected broad regional contrasts between upland/pastoral and lowland/arable areas. They have, however, shown that contrasts in rent structures within the lowlands did not necessarily mirror real agricultural differences. The barony of Carmyllie, paying rent in money, was as strongly oriented towards arable farming as baronies which paid their rents in grain. This suggests that such differences in rent structures may reflect the evolution of settlement and tenurial structures rather than economic contrasts.

Analysis of this group of testaments has also demonstrated some smaller scale variations. Farms which paid part of their grain rents in wheat were not necessarily more oriented towards arable farming than other grain-paying farms. Nevertheless, within the lowland baronies there were discernible differences in the intensity of arable and pastoral farming. In Downie, for instance, livestock rearing was probably less important than in Brechin or Panmure. Another feature is that, apart from the more limited importance of oxen as draught animals in upland Navar, there was no difference in the balance of livestock farming between this barony and the lowland ones. It is also noteworthy that within this comparatively unspecialised framework of livestock farming sheep played a more important role than has previously been proposed.

The aims and scope of this survey have been limited but it has served to show that testaments may be used for more intensive, large scale studies of farming activity in early-modern Scotland. It is to be hoped that wider surveys, using all available testaments for larger areas, may allow regional and local variations in aspects of agriculture such as rotations, the balance of infield to outfield, and patterns of livestock production to be established with greater clarity.

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Early-Modern Scotland: Continuity and Change

I. D. Whyte

Late sixteenth-century Scotland was a backward and undeveloped country compared with many of her European neighbours. A core area in the Central Lowlands was relatively agriculturally advanced, but it was flanked by a geographically unproductive periphery (Fig. 6.1a). To visitors Scotland appeared poor and backward, but society dominated by feudal relationships and kinship bonds. Commercial elements in her economy were weakly developed, with limited links and contacts beyond the old political divide into heron and tenant, master and man. By the mid-eighteenth century Scotland had made considerable progress towards a more modern society and was poised to undergo the transformations which have been conventionally labelled the Agricultural and Industrial Revolutions. This chapter examines the evolution of Scotland's economic and social geography during this key period of transition between the medieval and modern periods, highlighting changing spatial patterns and the processes that shaped them. After an outline of the frameworks of land ownership and rural society in the late fifteenth century, changes in land, tenancy and rent structures will be examined. Developments in agriculture and their effects on the rural landscape will then be considered. An analysis of continuity and change in Scotland's industrial and urban geography will be followed by an assessment of the strengths and weaknesses of Scotland's economy during the late seventeenth and early eighteenth centuries.

6

Early-Modern Scotland: Continuity and Change

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Late sixteenth-century Scotland was a backward and undeveloped country compared with many of her European neighbours. A core area in the Central Lowlands was relatively amenable to control, but it was fringed by a periodically ungovernable periphery (Fig. 6.1a). To visitors Scotland appeared poor and backward, her society dominated by feudal relationships and kinship bonds. Commercial elements in her economy were weakly developed, and capitalist links had scarcely begun to replace the old paternalistic ties between proprietor and tenant, master and man. By the mid-eighteenth century Scotland had made considerable progress towards a more modern society and was poised to undergo the transformations which have been conventionally labelled the Agricultural and Industrial Revolutions. This chapter examines the evolution of Scotland's economic and social geography during this key period of transition between the medieval and modern periods, highlighting changing spatial patterns and the processes that shaped them. After an outline of the frameworks of landownership and rural society in the late sixteenth century, changes in farm, tenurial and rent structures will be examined. Developments in agriculture and their effects on the rural landscape will then be considered. An analysis of continuity and change in Scotland's industrial and urban geography will be followed by an assessment of the strengths and weaknesses of Scotland's economy during the late seventeenth and early eighteenth centuries.

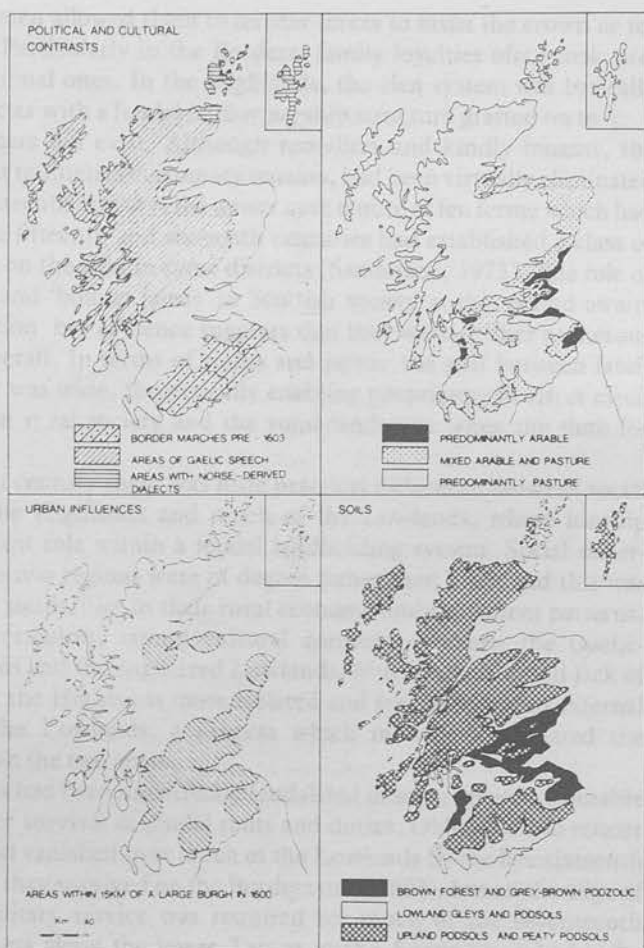


Fig. 6.1 Some core-periphery relationships in early-modern Scotland

THE FEUDAL BACKGROUND

Scotland was dominated politically, socially and economically by the great landowners in the late sixteenth century. The weakness of central authority from the fourteenth century had reinforced their power locally and nationally. They held their lands from the crown by feudal tenures under which military service was often the only burden. In the Lowlands their dominance over

tenants and kinsmen allowed them to muster forces to assist the crown or for private warfare. Particularly in the Borders, family loyalties often took precedence over national ones. In the Highlands, the clan system was basically military in character with a feudal landownership structure grafted on to it.

Small landowners did exist. Although rentallers and kindly tenants, the nearest equivalent to English customary tenants, had been virtually eliminated by the early seventeenth century, the newer cash tenure of *feu ferme* which had spread during the fifteenth and sixteenth centuries had established a class of small proprietors on the land in some districts (Sanderson, 1973). The role of owner occupiers and 'bonnet lairds' in Scottish society at this period awaits detailed examination but evidence suggests that they were neither numerous nor influential overall. In terms of status and power the gulf between landowner and tenant was wide, theoretically enabling proprietors to effect rapid transformations in rural society and the rural landscape when the time for change was ripe.

In the sixteenth century there was little practical difference between social organization in the Highlands and much of the Lowlands, where kinship played an important role within a feudal landholding system. Social differences between the two regions were of degree rather than kind, and this was reflected in broad similarities in their rural economy and settlement patterns. There were, nevertheless, strong cultural contrasts between the Gaelic-speaking Highlands and the anglicized Lowlands. Mutual distrust and lack of contact had made the Highlands more isolated and less receptive to external influences than the Lowlands, a process which in turn accentuated the differences between the two areas.

In a country that had been imperfectly feudalized in some respects a notable feature was the late survival of feudal rents and duties. Obligations to render military service had vanished over much of the Lowlands by the late sixteenth century (although they survived on the Borders until 1603), but on the edge of the Highlands military service was required for much of the seventeenth century, and tenants along the lower Tay or in the Angus glens had to be prepared to turn out, suitably armed, to repel incursions of Highland raiders. Within the Highlands and even in the north-eastern Lowlands landowners retained the power to call tenantry and followers to arm into the eighteenth century.

Labour services were required on many Lowland estates as late as the mid-eighteenth century. These usually involved providing labour and sometimes draught animals and equipment for cultivating the mains or home farm during the busiest periods of the agricultural year. Carriage services for bringing fuel to the proprietor's house or marketing his grain were general, as was thirlage to the estate's grain mill. Rents in kind were also widespread. In the arable areas of Lowland Scotland rents were paid largely in grain. Over

most of the Highlands rents in livestock and their produce were normal. Only in the Southern Uplands and other pastoral areas of Lowland Scotland had cash rents become normal for tenant farmers by the early seventeenth century. The payment of rents in kind isolated tenants from full participation in a market economy, reducing their commercial expertise and incentives to improve their husbandry.

MOVES TOWARDS CAPITALISM

The spread of changes in agriculture and rural society in Scotland during the seventeenth and eighteenth centuries can be viewed in terms of a core/periphery model in which several related influences are apparent (Fig. 6.1). One of these was the extension of central authority. This brought more peaceful conditions which helped re-orient rural society towards more commercial structures. From the core area of the eastern and central lowlands royal authority, from the late sixteenth century, exerted increasing control over the upland periphery. The Borders were rapidly pacified after the Union of the Crowns in 1603, an international problem being transformed into a purely internal one. The Highlands were more intractable, but here, too, growing control was evident by the end of the seventeenth century. Much of the northern and western Highlands remained beyond effective control until the eighteenth century. The measures taken to remove the Jacobite threat after 1745 hastened the penetration of commercial influences into the more remote parts of the Highlands and precipitated social and economic change.

Another influence on the core/periphery pattern was the larger burghs, particularly those around the Forth and Tay estuaries, but also by the end of the seventeenth century the rapidly growing city of Glasgow (Smout, 1968). The burghs were foci of contact with England and the continent and were centres from which innovations spread. Their demands for food and their role as outlets for exporting the products of agriculture and rural industry encouraged production for the market in their hinterlands. Estates around the largest towns were increasingly being bought by men who had accumulated wealth in trade or the professions and whose attitude to agriculture was often more profit-oriented than those of families which had been entrenched on the land for generations (Smout, 1964).

Core/periphery patterns were, however, modified by influences at various scales. Access to coastal transport was as important as physical resources in determining which areas concentrated on cereal production. By the end of the seventeenth century, closer contact with the English market was bringing innovation to parts of southern Scotland. The development of the cattle trade turned Galloway, formerly a relatively remote and undeveloped area, into a

leading producer of store cattle with the advent of selective breeding and large-scale enclosure by proprietors.

Farm structure, and with it rural social structure, also exhibited regional variations. The traditional model of the pre-improvement farm town, housing from four to eight joint tenants and a few cottars (Caird, 1964), was far from universal by the late seventeenth century. The poll tax returns of the 1690s show that in the Lothians, Berwickshire and lowland Aberdeenshire, predominantly arable areas, such farms were uncommon. In these regions large farms leased by single tenants, on which most of the work was done by hired servants, were more frequent. Rural society in such areas was polarizing into a small group of wealthier tenants and a rural proletariat which was gradually losing control over the land on which it worked. In the more commercially oriented pastoral areas of southern Scotland, large sheep and cattle farms were also frequently worked by single tenants.

Elsewhere farm structure differed. In Renfrewshire multiple-tenant farms and small family holdings were more frequent. In the interior of Aberdeenshire farms with many small tenants were common. In Orkney townships were sometimes divided between as many as 20 smallholders with few cottars and servants, a pattern which rentals suggest was also common over much of the Highlands.

These regional contrasts were dynamic and not static: a comparison of successive rentals on many estates shows that a gradual reduction in tenant numbers was occurring, particularly in the arable-oriented areas of eastern Scotland. Dodgshon (1972) has shown that in Berwickshire and Roxburghshire this was accompanied by the progressive removal of tenant runrig.

That proprietor/tenant relationships were becoming more commercial is suggested by the spread of written leases (Whyte, 1979b). In the late sixteenth century most cultivators were tenants-at-will, holding their lands by verbal agreements. In practice, paternalistic landlords often allowed continuity of tenure from one generation to another without necessarily selecting tenants for their competence. The granting of written leases for fixed terms spread during the seventeenth century until they had become commonplace on many estates, especially in arable areas where they often specified the use of particular rotations and the application of fertilizers such as lime. There is evidence that by the end of the century some proprietors were selecting tenants for their skill in husbandry and their ability to pay higher rents and were offering long leases as incentives. By the early eighteenth century the first improving leases under which tenants agreed to enclose and improve parts of their holdings with 19 years' security of occupation had begun to appear, and this kind of contract was to be vigorously promoted later in the century by improving landowners.

Another sign of increasing commercial influences was the gradual commutation of rents and services into money payments. As the retainues of Lowland

landowners were reduced during the more peaceful conditions of the early seventeenth century the first payments to be commuted were often *kain rents*, or small payments in poultry, livestock and dairy produce which were no longer required in such large quantities. Conversion of labour services to money may have arisen from baron courts fining tenants who failed to perform their work; by the end of the seventeenth century examples of such commutation occurred throughout Lowland Scotland.

The commutation of principal rents proceeded furthest in the pastoral districts of southern Scotland. Tenants in these areas had probably never been as heavily burdened with classic feudal obligations as their counterparts in arable areas, where estates were often smaller and the proprietor's residence and home farm with its associated labour services were more accessible and more important in the estate's economy. The Borders had inherited a tradition of commercial sheep farming from the medieval monastic houses, and there was a market for livestock across the Border before 1603, as well as a thriving export trade in wool and hides. The ease with which livestock and their products could be transported, compared with a bulky commodity like grain, helped to switch the onus of marketing from proprietor to tenant by converting rents in kind to money payments. By contrast, commutation of grain rents in arable areas made slow progress. Around Edinburgh the first impetus came from mercantile families like the Clerks of Penicuik whose tenants had ready access to the guaranteed market of a large city (Whyte, 1979a). Outside the orbit of the largest burghs, however, commutation of grain rents had made limited progress by the eighteenth century.

RURAL SETTLEMENT PATTERNS

The traditional model of Scottish rural settlement before the changes of the later eighteenth century has been the *ferm toun* or hamlet cluster spread fairly uniformly over the landscape (Caird, 1964). Although H. L. Gray's assertion (1915) that Scottish settlement units tended to be smaller than those which existed over much of England is essentially true, contemporary sources suggest that the *ferm toun* model is too simplistic. The character of agricultural units varied temporally or spatially within Scotland, so farms of similar size could have different social structures. In addition, the settlement patterns of some areas contained larger nucleations. In the south east, from Berwickshire to the Forth and possibly beyond, villages existed with origins going back to Anglian times (Barrow, 1973). Such settlements, containing from 40 to 60 households, were minor manufacturing centres with a distributive role which was often confirmed after 1660 by grants of market and fair rights. Other nucleations existed: on some former monastic estates where land had been feued in small

units *feuar touns* had developed. Those in the Regality of Melrose were village-sized with a wider range of functions than the purely agricultural role which has been assigned to the *ferm toun* (Whyte, 1981). Elsewhere the smaller burghs of barony performed a similar role. Outside the most fertile areas, lower population densities precluded such large settlement units, although the poll tax returns of the 1690s show that within the umbrella term 'ferm toun' considerable variation could exist. A central location around a parish church or adjacent to a landowner's residence could increase the importance and enhance the functions of such a community.

At the other extreme, isolated homesteads existed between the hamlet clusters. The evolution of settlement from medieval times onwards has yet to be studied in detail, but place names suggest that as well as the growth and splitting of larger townships, a process which can often be identified in early charters (Chapter 3), infilling by small-scale intakes from the moorland edge or from more poorly drained land was also occurring, producing a settlement pattern which was complex in detail and whose regional variations are as yet unclear.

THE RURAL ECONOMY

Contrasting settlement patterns should make us wary of expecting too much uniformity in the rural economy. Over the country as a whole the emphasis was on pastoral farming, particularly in the Highlands where environmental constraints, combined with primitive technology, often made arable farming precarious. A pastoral economy also predominated over most of southern Scotland, specialization in cattle-rearing in the moister western dales and lowlands, and sheep-raising in the east having intensified after 1603 with the pacification of the Border. By contrast, the most fertile and best-drained soils from the Berwickshire Merse to the Moray Firth and even Orkney supported an economy which emphasized cereal production to a greater extent and in which, in some areas, livestock rearing had little importance. The limitations of communications meant, however, that most communities grew some grain, although much of the uplands was not self sufficient.

From East Lothian to the Outer Hebrides arable farming was conducted on a system which varied in degree rather than kind. Apart from the experimental enclosures constructed by some landowners on their home farms in the later seventeenth century, infield-outfield farming was virtually universal. Variations in arable farming were largely expressed by the extent of infield in relation to outfield and by the proportion of cultivated land to unimproved pasture. In the most fertile areas, probably influenced by the demands of the larger burghs, more intensive arable systems developed with the use of lime, urban

refuse, and seaweed. These raised yields and allowed infields to expand to cover high proportions of the arable area (Whyte, 1979c). In the best-favoured districts around the Forth and Tay estuaries and in a few other parts of the lowlands, farmers grew higher-priced wheat, as well as bere (a hardy four-row variety of barley) and oats, and had integrated nitrogen-fixing legumes into their rotations with occasional fallow courses. Elsewhere infields occupied smaller areas in relation to outfields, and more punishing rotations were used based on continuous crops of bere and oats with animal manure as the principal means of maintaining soil fertility.

The yields provided by infield-outfield farming were relatively low. Even in the best-favoured areas average returns on infields probably did not often exceed six to one; over the rest of Scotland three or four to one was more usual. Arable farming was not, however, completely static during the seventeenth century. The margins of cultivation expanded in some regions, while the intensification of cultivation in certain districts increased the contrast between areas that concentrated on crop production and areas that did not. The adoption of liming early in the century caused dramatic changes in parts of the Central Lowlands (Smout and Fenton, 1965). Where limestone and coal for burning it were available, liming allowed the reclamation of large areas of moorland with acid soils which had previously been permanent pasture. It also raised yields on existing arable land, allowing more frequent cropping of outfields, and encouraged the conversion of outfields to infields further intensifying the cropping system (Whyte, 1979a). Other land was made available for more intensive use by proprietors agreeing to divide their commonies, rough grazings in joint ownership (Adams, 1971), a process encouraged by legislation passed by the Scottish Parliament in 1647 and 1695 (Whyte, 1979a).

Change also occurred in pastoral farming. The pacification of the Borders after 1603 allowed more attention to be paid to livestock rearing rather than raiding, and there is evidence of an expansion of both sheep- and cattle-raising in this area following the Union. In the later seventeenth century, cattle droving to England provided growing profits for many landowners, especially in Galloway. Landowners bought lean cattle from their tenants and improved them by fattening and sometimes cross-breeding with better English and Irish stock. The parks in which these beasts were kept represented the first large-scale enclosure movement in Scotland.

The transformation of the rural landscape proceeded slowly during the seventeenth and early eighteenth centuries. With peace and growing, if modest, prosperity, particularly after the Restoration, many landowners converted and extended their old fortified houses and by the end of the century the first neo-classical country mansions were being built (Slater, 1980). Following English and continental traditions these new houses were sur-

rounded by landscaped parklands or 'policies'. Enclosure around country houses fulfilled an economic as well as an aesthetic role though. On some estates the ornamental planting of trees took on a commercial aspect, encouraged from 1661 by legislation to facilitate afforestation and enclosure (Whyte, 1979a). The enclosure of the home farms which adjoined many country houses led to experiments in crop and animal production. Trials of systems of convertible husbandry, the first real break with infield-outfield farming, led in the early eighteenth century to experiments with root crops and sown grasses. English cattle and sheep were introduced on several home farms to improve the quality of landowners' herds, which were effectively segregated from their tenants' livestock for the first time.

These trends were gradual, spanning the later seventeenth century and first half of the eighteenth. The progress of enclosure beyond the mains and the adoption of new techniques by tenants were slow. Several proprietors blamed this on the conservative outlook of their tenants, but the investment of capital and labour by even the most progressive proprietors was limited. They were only prepared to sink small proportions of their incomes into estate improvements, and much of this went into ornamenting their policies, attention only subsequently being turned to the lands of their tenants. Many proprietors were prevented from incurring long-term debts in the course of estate improvement by strict entail settlements. Equally, they were not encouraged by inelastic levels of demand with sluggish population growth and limited rises in living standards. The Military Survey of 1747-55 demonstrates this visually (O'Dell, 1953). In the Lothians and Fife, where there were many small but prosperous estates, policies and mains frequently gave rise to islands of enclosure accompanied in many instances by enclosed tenant farms. In the western and north-eastern Lowlands, however, and even more in the Highlands, the rural landscape had changed little from that of a century before. Nevertheless, the importance of these slow changes should not be underestimated. In the economic climate of their time they represented a notable break with the past in terms of an increased willingness by proprietors to apply long-term investment, on however small a scale, and long-term planning to the development of their estates. It also showed their desire to experiment with new ideas, which in more favourable conditions later in the eighteenth century were to be disseminated more widely.

INDUSTRY IN THE COUNTRYSIDE

Given the unsophisticated nature of Scotland's economy at this time marked regional specialization in rural industry should not be expected though spatial variations did exist. An important source of information on this topic is the

fragmentary poll tax records of the 1690s, but there are difficulties in interpreting the occupational categories which they use. There must have been a gradation between, at one extreme, a cottar who occasionally made a pair of shoes or a garment for someone outside his immediate family and, at the other, a full-time craftsman whose activities were tied to urban markets and who may have worked on the land only at harvest time. The people named as 'tradesmen' in the poll tax records probably lay closer to the second category, but it is impossible to know how many tradesmen evaded registration as such, thereby avoiding an additional payment. As a result, absolute percentages of industrial workers in various areas are probably less significant than relative differences.

Figure 6.2 shows the percentages of recorded industrial workers in Aberdeenshire in 1696. The lower limit of 3–5% of the active male workforce listed as having industrial occupations may represent the basic level of specialist craft production which was required by a dispersed farming community: weavers, tailors, leather workers, smiths, and wrights. Percentages above this threshold may indicate an element of specialization for regional and national rather than local markets.

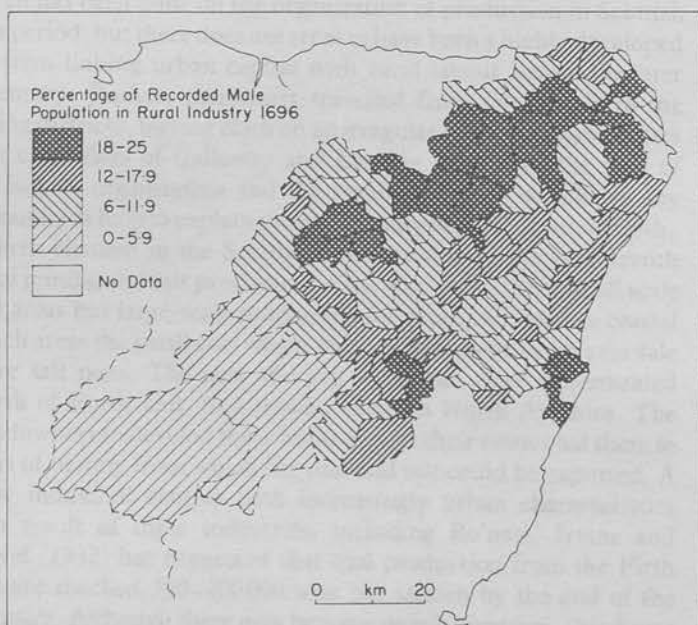


Fig. 6.2 Percentage of recorded male industrial workers, Aberdeenshire, 1696

In Aberdeenshire recorded industrial workers were fewest in the remote upper Dee and Don valleys. Rural industry was concentrated in a belt extending from Buchan, noted for its sheep rearing, through to the pastoral north-eastern interior of the county. Parishes in the predominantly arable Garioch had lower levels of recorded industrial employment. A second concentration occurred around Aberdeen. There were many butchers in the parishes surrounding the burgh, but few elsewhere in the county, and many specialist metal and clothing workers who were not normally found in rural areas. The distribution of textile workers showed a more marked concentration in the pastoral north. In some Buchan parishes one man in five or six was recorded as a weaver.

Elsewhere concentrations of industrial workers existed around large burghs. There were many weavers near the textile centres of Musselburgh and Paisley, and in the Edinburgh region rural industry was located in a zone extending from the capital and Leith eastwards into the Esk basin where coal mining boosted non-agricultural employment and westwards along the coast to Bo'ness and Carriden parishes where salt production and coal mining were prominent.

Little research has been done on the organization of production in Scottish industry at this period, but there does not seem to have been a highly developed putting-out system linking urban capital with rural labour before the later seventeenth century. Rather, merchants travelled from fair to fair in the textile-producing districts, buying cloth on an irregular basis. Glasgow traders frequented the cloth fairs of Galloway and Dundee merchants the fairs of Buchan. This lack of organization and the resulting failure to achieve any uniformity in standards help to explain the poor quality of much Scottish cloth.

A major growth element in the Scottish economy during the seventeenth century was coal mining and salt production. Coal was worked on a small scale in many inland areas but large-scale production for export was tied to coastal locations. In such areas the small coal which was considered unsuitable for sale was used to fire salt pans. The coal and salt industries were concentrated around the Firth of Forth and, to a lesser extent, in North Ayrshire. The eagerness of landowners to develop these industries on their estates led them to establish burghs of barony from which the coal and salt could be exported. A number of new industrial centres with increasingly urban characteristics developed as a result of these industries, including Bo'ness, Irvine and Prestonpans. Nef (1932) has suggested that coal production from the Firth of Forth may have reached 300-400 000 tons per annum by the end of the seventeenth century. Although there may be some over-estimation, this figure indicates the scale of activity, and it is clear that the capital investment involved in sinking some of the deeper mines was on a scale which had not been seen before in Scotland.

THE URBAN HIERARCHY

It is impossible to be certain of the proportion of the Scottish population which lived in towns at this period; a good deal depends on the definition of 'urban', as many burghs were mere villages in size and function. An attempt may be made using Webster's census of 1755 (see Chapter 5). As the urban hierarchy changed little during the first half of the eighteenth century, urban burghs are here defined as those which contributed more than 0.5% of the burghal tax contribution on the eve of the Union of 1707. The parishes containing these burghs, which also included some rural dwellers, held 14.3% of Scotland's population in 1775. This is well below the figure of 20–25% that has been suggested for England (Clark and Slack, 1970). Edinburgh, the capital, contained only 2.5% of Scotland's population in 1755 against London's 11–12% of England's population, suggesting that Edinburgh's role as a market, a centre of innovation, and an 'engine of growth' was less dynamic. Although Edinburgh drew food supplies from as far as Orkney in the late seventeenth century, her demands did not dominate the Scottish rural economy to the extent that London's dominated England. Conversely, the four largest provincial towns, Glasgow, Aberdeen, Dundee and Perth, held between them twice as many inhabitants as Edinburgh, and by the early eighteenth century Glasgow may have been playing a relatively more dynamic role in the Scottish economy than Bristol or Norwich were in England's.

The hierarchy of royal burghs, comprising nearly all the larger towns, changed little during the seventeenth century. A rank correlation of +0.82, significant at the 0.1% level, exists between the tax contributions of the royal burghs in 1612 and 1697. At the upper levels the main change was the rise of Glasgow from fifth to second place. The royal burghs that slipped furthest in rank were all located in Fife: Anstruther Easter, Dysart, Pittenweem and St Andrews, suggesting that Fife's medieval pattern of a dense scatter of small but prosperous trading centres was changing, with more trade gravitating towards the larger burghs.

A few 'unfree' burghs of barony whose economy was linked to new elements in the Scottish economy had also prospered. Thus Bo'ness, Prestonpans and Greenock had developed rapidly, the first two with the expansion of coal mining and salt production, the last with the growth of west-coast trade (Adams, 1978). The economies of these burghs were, however, dependent upon Edinburgh and Glasgow, whose merchants controlled much of their trade and creamed off most of the profits. These towns were only ranked 16th, 18th and 19th respectively in the tax contributions of 1697, and while their assessment may have lagged behind the growth of population and economic activity, the poll tax records for Greenock and Bo'ness suggest that their wealth and occupational diversity were more limited than those of royal burghs of

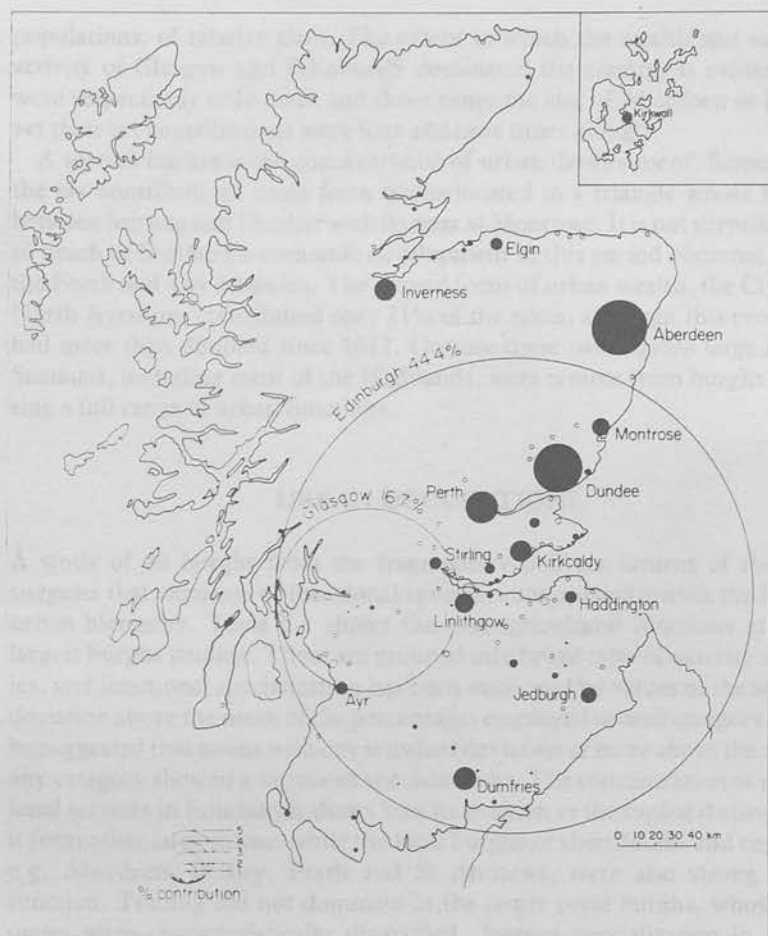


Fig. 6.3 Proportion of tax contribution paid by various burghs, 1697 (● = royal burghs; ○ = burghs of barony and regality)

comparable size. Overall the growth of urban population was modest during much of the seventeenth century, increases in burghs like Glasgow being offset by decline elsewhere.

Figure 6.3 shows the proportion of the total tax contribution paid by royal burghs and burghs of barony in 1697. It is a good indicator first of the distribution of urban wealth and economic activity and secondly, setting aside Edinburgh and Glasgow which were wealthy out of proportion to their

populations, of relative sizes. The extent to which the wealth and economic activity of Glasgow and Edinburgh dominated the country is evident; they were respectively only twice and three times the size of Aberdeen or Dundee yet their tax contributions were four and nine times as high.

A second feature is the concentration of urban development. Some 68% of the tax contributions came from towns located in a triangle whose base lay between Stirling and Dunbar with its apex at Montrose. It is not surprising that so much of Scotland's economic development in this period occurred around the Forth and Tay estuaries. The second focus of urban wealth, the Clyde and North Ayrshire, contributed only 21% of the taxes, although this proportion had more than doubled since 1612. Outside these two regions large areas of Scotland, including most of the Highlands, were remote from burghs possessing a full range of urban functions.

URBAN OCCUPATIONS

A study of 40 burghs from the fragmentary poll tax returns of the 1690s suggests that elements of functional specialization existed within the Scottish urban hierarchy. Table 6.1 shows the non-agricultural functions of the 15 largest burghs studied. These are grouped into broad type-of-activity categories, and functional specialization has been measured by values of the standard deviation above the mean of the percentages employed in each category. It may be suggested that towns with one standard deviation or more above the mean in any category showed a degree of specialization. The concentration of professional services in Edinburgh shows how its position as the capital distinguished it from other large towns, while the head burghs of sheriffdoms and regalities, e.g. Aberdeen, Paisley, Perth and St Andrews, were also strong in this function. Trading did not dominate in the larger royal burghs, whose economies were characteristically diversified. Intense specialization in trading marked rapidly growing burghs of barony, such as Bo'ness, Grangepans and Newark. In Greenock the poverty of other service functions suggests that the expansion of trading activity had outstripped growth in other sectors. Concentration on manufacturing was based on textile production in Musselburgh and Paisley and, to a lesser extent, leather-working in Selkirk.

The occupational structures of individual towns cannot be considered in isolation from those of their hinterlands and neighbouring towns. A striking example of this is the way Edinburgh dominated the occupational structures of surrounding burghs. Bo'ness, Dalkeith, Grangepans, Leith and Musselburgh were deficient in professional and mercantile classes, with high proportions of their recorded workforces in manufacturing or low-level services.

In terms of their occupational structures at least 23 out of the 40 burghs

Table 6.1 Percentage of male workforce in type-of-activity groups with standard deviations above the mean

	Manufacturing (% + SD)	Services (% + SD)		
		Trade	Professional	Other
Edinburgh	33.5	11.0	16.4 (2.4)	39.1 (0.8)
Aberdeen	28.0	27.7 (0.3)	10.5 (1.1)	33.8 (0.7)
Musselburgh	55.2 (1.3)	4.7	2.1	38.0 (0.7)
Leith	38.1	16.5	1.8	43.6 (1.2)
Perth	42.4 (0.2)	13.9	8.1 (0.5)	35.6 (0.5)
Bo'ness	29.8	37.9 (1.0)	2.1	30.2
Dalkeith	49.7 (0.8)	7.3	2.9	40.1 (0.9)
Paisley	58.3 (1.7)	12.0	9.2 (0.9)	20.5
Greenock	33.6	52.1 (2.0)	3.1	11.2
Selkirk	48.0 (0.8)	13.7	4.0 (0.1)	34.3 (0.3)
St Andrews	37.8	5.2	11.4 (1.3)	45.6 (1.4)
Grangepans	42.2 (0.2)	26.4 (0.2)	0.6	30.8
Fraserburgh	27.8	48.5 (1.7)	4.1	19.6
Peterhead	58.1 (1.7)	28.0 (0.3)	6.5 (0.2)	7.4
Newark	34.2	37.3 (1.0)	0	28.4

studied could not be considered as truly urban. Small burghs of barony which had a trading function yet which were not true towns must have filled positions in the hierarchy of service centres analogous to nucleated villages in lowland England. There was a distinct break at *c.* 250–300 pollable persons (corresponding to a population of perhaps 600–700): above this level burghs such as Fraserburgh and Peterhead generally had a full range of professional services and a variety of trades; below it burghs had a more limited range of activities.

THE BURGHS AS TRADING CENTRES

The pattern of urban development in Scotland during the pre-industrial period has been discussed in Chapter 4. All transactions involving middlemen were supposed to take place in an authorized market, so the thin scatter of market centres throughout much of Scotland in the early seventeenth century (Whyte, 1979d) shows the low level of trading activity that existed and emphasizes the importance of regional and local self sufficiency.

As the seventeenth century progressed, the position of the royal burghs was challenged as economic developments placed new demands on the hierarchy of service centres (Whyte, 1979d). This is shown by the foundation of many new burghs of barony between 1600 and 1660 and by the establishment of

non-burghal markets and fairs between 1660 and 1707 (Chapter 4). Many of the latter were established in competition with existing centres, but others were located within the Highlands, suggesting that this region was moving towards a more commercialized economy.

It is difficult to determine to what extent the increase in the number of market centres reflected a growth of trading activity or merely a redistribution of existing commodity flows. Many of the new centres did not attain viability. Some were never properly founded; others, established in good faith, failed to prosper. In some cases one suspects that the legislature was giving official sanction to existing illegal customary assemblies. On the other hand some of the new centres thrived and many royal burghs were losing trade to them by the end of the century. It was becoming apparent to the legislature that the monopolistic position of the royal burghs was imposing undesirable constraints on the economy. This was reflected in 1672 by the granting to burghs of barony of the right to engage in foreign trade in most basic commodities at the expense of the royal burghs. The problem of competition for foreign trade between royal and baronial burghs was finally solved in 1698 (Chapter 4).

THE LATER SEVENTEENTH CENTURY: DEVELOPMENT AND CRISIS

The years from 1660 to the mid 1690s represent the traditional economy of early-modern Scotland at its zenith. It was a period when elements of stability and continuity operated with increased efficiency in an economy freed from war, famine and major epidemics. Yet it was also a period in which incipient changes were apparent. If economic growth was slow, at least low food prices brought better conditions to most of the population. Nevertheless, this well-being was precarious, and there were warnings which emphasized the dangerously narrow confines within which economic development was strait-jacketed.

There were signs of an expansion in agricultural production, especially cereals, but indications are that structural changes and the expansion of the cultivated area were less important in causing this than political stability and a run of favourable seasons. Grain exports grew to such proportions that the Scottish Parliament actually restricted imports, so sure were they that the domestic market could be satisfied internally. There are no indications though that average yields rose significantly: static rents on many estates show that investment in agriculture was still regarded mainly in terms of acquiring more land rather than in raising output per unit area through improvements. With a small home market whose demand for grain was inelastic, abundant harvests with low prices did not necessarily mean great profits for either proprietor or

tenant, and the export drive in this sector may have been as much a desperate attempt to dispose of a commodity which could not be sold profitably at home as a sign of positive enterprise.

The growth of the droving trade in livestock, particularly cattle, to England shows an element of dynamism in pastoral farming. By the early eighteenth century Galloway, the Borders and, increasingly, the Highlands were sending 30000 cattle a year to England (Woodward, 1977). As mentioned above, selective breeding and improved feeding in new enclosures were important advances in livestock husbandry. Such improvements were, however, instituted only by landowners. Where the output of pastoral farming increased among the tenantry it was by raising stocking levels or, as in the eastern Highlands, by extending grazings into previously under-utilized deer forest.

The century closed with a run of bad seasons, and the resulting famine, if not as severe as some of those of the late sixteenth or early seventeenth centuries, was more devastating for occurring after more than thirty years of generally favourable conditions (Flinn, 1977). Crop failure and livestock mortality highlighted the bottlenecks in arable and pastoral farming. In upland areas the crisis was more protracted and more serious. In the Borders hard winters, cold springs and wet summers underlined the weaknesses of livestock husbandry—the lack of winter fodder, overstocking, poor grazing management, and the susceptibility of poorly conditioned animals to disease—and, it is from such areas and from the interior of the North East that the grimmest stories of starving tenants and abandoned farms come (Walton, 1952). Tenant farmers in lowland arable areas were not hit so disastrously, but the system of recording arrears in kind after bad years at a money equivalent based on the high market prices then prevailing could leave tenants a burden of debt that could lead to bankruptcy several years afterwards.

Weaknesses in Scotland's trading position were also apparent (Smout, 1963). Her principal exports were unprocessed primary products such as grain, lean cattle, wool, fish, coal and lead ore. Some of the most dynamic growth sectors during the late seventeenth century—the rise of the coal industry and the expansion of lead production from the mines at Leadhills—were still within the realms of primary production.

The only manufactured products which were prominent exports were coarse woollen and linen cloth. Between the Restoration and the Union of 1707 Scotland's unfavourable trading position was worsened by political difficulties. Wars with the Dutch and, after 1688, with France, disrupted trade with two of Scotland's major markets, and she was denied free access to England, the most obvious and immediate market, as well as with England's colonies (Smout, 1963).

After 1660 the Scottish legislature strove to encourage textile production. The development of a fine woollen cloth industry on an English model was seen

as a way of improving Scotland's economic position, by adding value to wool, one of her most abundant resources, by saving foreign exchange, and by providing employment for the fluctuating but always disturbingly high proportion of the population which was destitute. Legislation on classic mercantilist lines encouraged the formation of joint stock companies to produce woollens and other commodities (Scott, 1910-11). These companies received various privileges, including the protection of their home market by restricting imports of competing foreign goods. Raw materials were allowed in duty free, and the manufactories were given the sole right to market their products, freeing them from the constraints of the burghal system, while encouragement was given to foreign entrepreneurs to invest in Scottish ventures and to foreign labour to bring in new skills.

Several woollen manufactories were established, and although some, like the New Mills company near Haddington, which was directed with vigour and enterprise, enjoyed a degree of success, they faced difficulties which ultimately caused their failure. Their home market was inadequately protected by inefficient customs administration and by legislation which was disregarded with impunity. The lack of skilled native labour and the high cost of foreign workers were a perennial problem. Additional costs were incurred by the fact that Scottish wool was generally unfit for making fine cloth so production depended on imported English and Spanish wool. The end product was uncompetitive in quality or price with the manufactures of other countries. Fine Scottish woollens even failed to capture a substantial share of the home market, owing to consumer prejudice (probably justified) and the ease with which import restrictions on foreign cloth could be evaded. After the opening years of the eighteenth century the 'high tide of protection' (Gulvin, 1971) ebbed, and exposure to unrestricted competition from the English woollen industry after 1707 caused the rapid demise of many manufactories or their reversion to making coarse cloth. The essence of the economic policy contained in the Articles of Union was that Scotland's economy should be developed to complement that of England. Scottish fine woollens were competitive and could not be supported financially.

THE IMPACT OF THE UNION OF 1707

In the long term the Union marked a social and economic as well as a political watershed, but this was not necessarily apparent at the time. Undoubtedly it was not an immediate panacea for Scotland's economic ills, and there were both gains and losses in the short term. The foundering of the woollen industry, which was in difficulties before 1707, was inevitable in the face of English competition. The Barons of the Exchequer and later the Board of

Trustees for Manufactures who were responsible for allotting funds to assist Scottish industrial development were keener to encourage the linen industry as a complementary sector to English textiles (Durie, 1979). The coarse woollen industry, tied more closely to the home market than fine woollens, continued with belated financial aid from the 1720s. With the demise of fine woollens, linen became Scotland's premier manufacture. England provided a major market with protection from Dutch and German cloth and, from the 1730s, the finance provided by the Board of Manufactures aided rapid growth.

The traditional problems of the Scottish economy remained though. One curb on development was sluggish growth in agriculture. The droving trade expanded after 1707 but not dramatically. Grain exports also increased, but it is uncertain how much of this was due merely to better weather conditions after the disastrous 1690s. Agricultural improvement did take place during the first forty years of the century but very slowly. Such developments as occurred were essentially indigenous and owed little to the Union, being continuations of trends which had existed before 1707 (Campbell, 1977). The Military Survey of 1747-55 shows how little enclosure had been accomplished in most areas by the middle of the century. In progressive districts like East Lothian areas of improvement on the policies and home farms of landowners were frequent and a start had been made on many estates on enclosing the lands of the tenants. Elsewhere improvements were more limited. A good deal of enclosure for cattle rearing had occurred in Galloway, but such land was mostly managed directly by proprietors. In a sense it was still a medieval-style demesne economy touching the rest of the rural population only indirectly.

Some landowners, such as John Cockburn of Ormiston and Archibald Grant of Monymusk, have earned fame as early improvers, promoting the new husbandry of sown grasses and root crops and encouraging enclosure. At Ormiston Cockburn pioneered the planned village, providing a focus for rural industry and forming a nucleus around which the rest of the estate could be reorganized. Unfortunately Cockburn overreached himself, facing opposition from neighbouring landowners and most of his own tenants who were too set in their ways to respond positively to sweeping innovation. Bankrupt, he was forced to sell his estate, although his example had attracted much interest. More representative and, within the scope of their more cautious approach, more successful were contemporaries such as Sir John Clerk of Penicuik and George Dundas of Dundas (Whyte, 1981). They started by ornamenting their policies and planting trees partly for decoration, partly for investment, but by the 1730s and 1740s they had extended their work to the lands of some of their tenants, enclosing, planting and consolidating from runrig.

These improvements were undertaken using limited inputs of capital and labour over extended periods. Strict entail settlements and innate caution militated against investing large sums borrowed on credit, and this slowed the

pace of change. Organizational improvements such as removing tenant runrig cost little and may have improved productivity. That output did not rise substantially, however, is suggested by static rents on many estates during the first half of the century. With limited population growth and little improvement in living standards, caution was advisable. The economic climate within which agriculture operated had changed little from before the Union and was not greatly modified until late in the century with sharper increases in population and demand.

CONCLUSION: CONTINUITY AND CHANGE

Between the late sixteenth and mid eighteenth centuries Scotland experienced no revolutionary changes in her economic and social geography or in her cultural landscape. Developments were gradual and occurred against a background of continuity in basic institutions. Where development can be identified, its scale and significance are often difficult to establish and the forces which promoted it are even more obscure. Traditional feudal elements in Scotland's society were not replaced overnight by capitalist ones. The balance between feudalism and capitalism merely altered, and the extent of this alteration is open to debate.

The difficulties of the late seventeenth century demonstrated to contemporaries many of the weaknesses of Scotland's essentially medieval spatial organization and underlined the need for change. For example, the flurry of writing on agricultural improvement in response to the famines of the 1690s indicated both a perception of the need for change and a determination to accomplish it (Whyte, 1979a). We must, however, beware of viewing the Union in purely economic terms as an attempt to reorient Scotland on to a more prosperous course. Ferguson (1977) has demonstrated the importance of the sordid role of political management in bringing about the Union. Even so, the poor state of Scotland's economy was a preoccupation at the time and influenced the Union debate. In the early eighteenth century, Scotland was not yet ready for radical change. However, although she was poor compared with England, the potential for development existed. Defoe, writing in the 1720s, suggested that 'they [the Scots] are where we [the English] were . . . and they may be where we are' (Defoe, 1724-6). To realize this, as he appreciated, determination was not enough; capital, and the time to accumulate it were needed. Understandably it took Scotland's economy a while to adjust to the opportunities presented after 1707, but by the opening of the second quarter of the eighteenth century these adjustments were beginning to bear fruit.

The changes which accelerated during the later eighteenth century were revolutionary in many ways, but the foundations on which they were laid

extended further back than has sometimes been appreciated. The importance of continuity and evolution has been neglected in favour of better-documented revolutionary developments. Geographical changes in early-modern Scotland were slower and less spectacular than in later times, but this does not diminish their importance. It is the difficulty of interpreting such shifts of emphasis which makes this period tantalizing yet at the same time fascinating and challenging for the historical geographer.

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Scottish rural communities in the seventeenth century

Ian D. Whyte and Kathleen A. Whyte

In recent years local historians have produced a wealth of detailed studies of individual communities in England during the sixteenth, seventeenth and eighteenth centuries which has added depth to our understanding of national trends.¹ MacFarlane in particular has highlighted the variety of documentation which is available for many English rural parishes and his work has shown that a good deal of data can be assembled on the lives of individuals within such communities.²

However, no counterpart of such work has appeared in Scotland. It has often been assumed that sources are too poor in quality and too sparse in coverage to allow detailed studies of Scottish rural communities, before the later eighteenth century. Within the last decade, however, research on primary manuscript sources in Scottish archives has revealed large quantities of untapped material relating to social and economic conditions in early-modern times. Yet little detailed work has so far been undertaken, in order to highlight the distinctive features of Scottish rural communities and to show how they evolved into the post-improvement rural society which has been accorded more detailed study.

It is not even clear to what extent Scottish rural society in early-modern times was comparable with or differed from that of neighbouring countries, particularly England. At a general level some important contrasts with England are visible. One of these was the dominance in Scotland of large landowners and the comparative rarity in many districts of small proprietors and owner occupiers comparable to English yeomen. Various groups of customary tenants had existed before the seventeenth century — rentallers and kindly tenants — but they had been largely eliminated by the early seventeenth century. They had converted their tenure to feu-ferme which gave them security of occupation in perpetuity in return for a fixed cash feu duty or they had been forced to become ordinary leasehold tenants. Scottish rural society was thus more markedly polarised into landowners on one hand and the bulk of the peasantry, who had no legal right to continued occupation of the land which they worked, on the other.³

In a society in which internal strife had only belatedly been reduced by the strengthening of royal authority under James VI, landowners held their

estates by classic feudal tenures in which they were obliged to render military service to the crown and still had the power to call their tenantry to arms. Legally proprietors dominated the inhabitants of their estates through local baron courts which retained powers over a range of criminal and civil matters and regulated agrarian affairs. Landowners also controlled the patronage of parish churches whose ministers and kirk sessions exerted an all-pervading spiritual and moral influence.

Historical sources do exist for reconstructing the detailed workings of Scottish rural communities at this time. It is true that, compared to England, records at a local level are often poorer for the sixteenth and seventeenth centuries. For example, well-kept Scottish parish registers are comparatively rare before the late seventeenth century. Flinn and others, in their comprehensive survey of Scottish demography, were unable to find a single example suitable for detailed family reconstitution as widely practised in England.⁴

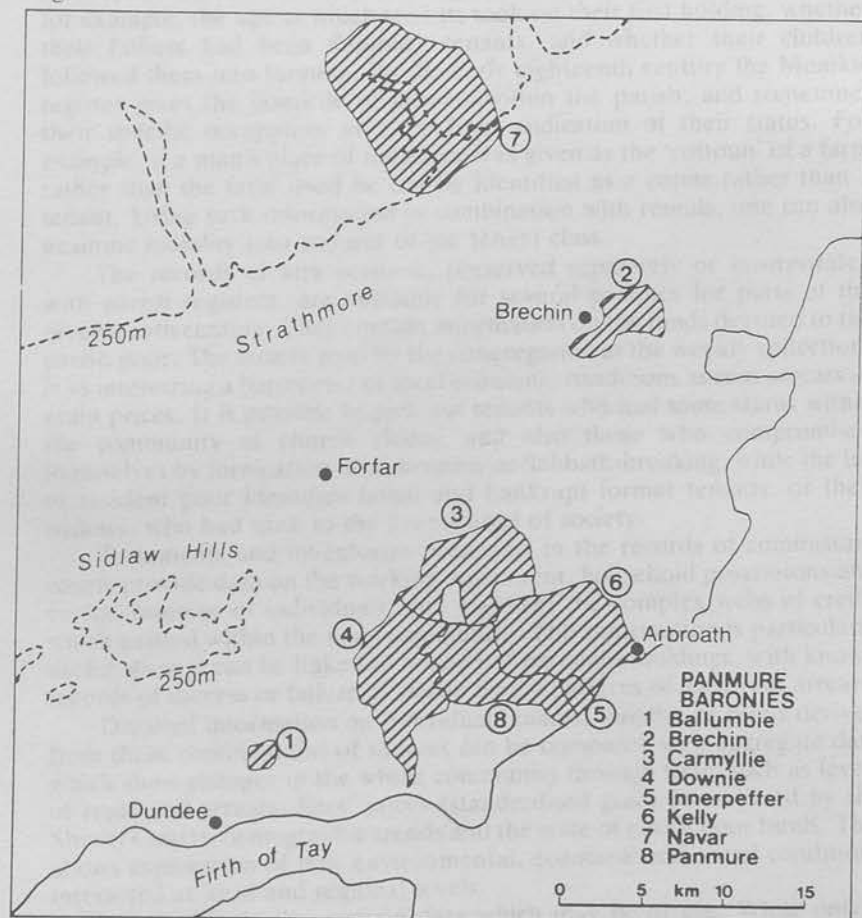
On the other hand Scottish archives have strengths as well as weaknesses. While the Scottish counterparts of some English sources like manorial court rolls and pre-census listings are either rarer or less informative, records like the Register of Sasines or minutes of kirk sessions may highlight themes such as landownership and morals with more clarity than for England. The dominance of large estates has resulted in the survival of many extensive collections of estate papers which are held in the Scottish Record Office, in regional archives, or in private hands. These provide much information relating to tenant farmers, a class which made up from thirty to fifty per cent of adult males in many Lowland parishes during the late seventeenth century. In particular, where estate records are available in a standardised format over long periods they provide a framework into which other sources of more variable coverage and quality can be fitted. The resulting reconstruction is inevitably selective, being biased towards the tenantry at the expense of other social groups, but is nevertheless richer in detail and more comprehensive than might at first be supposed.

The authors are currently undertaking a detailed study of rural conditions in parts of the sheriffdom of Angus during the seventeenth and eighteenth centuries. The basic sources are the records of the estates of the Earls of Panmure. These include, from the early seventeenth century, a near-continuous run of annual rentals and accounts along with more scattered sources like leases, memoranda and court records. The rentals allow the identification of every person who held a tenancy on the estate, from substantial farmers to smallholders. From these data it is possible to assess the geographical mobility of tenants by following their movements from farm to farm. Their social mobility within the tenant group can be studied by examining changes in the sizes of the holdings which they worked. Patterns of rent arrears provide a vivid picture of the success or failure of individual farmers from year to year, which can be set against aggregate trends for the estate as a whole. Changes in rents and farm

structures can be monitored and related to other aspects of agriculture. The accounts provide a detailed breakdown of how the produce of the estate was disposed of and how the income was used; this indicates patterns of internal trading both within the Angus countryside and with neighbouring burghs like Dundee and Montrose.

While this long series of estate records is informative and fascinating in its own right its usefulness is considerably increased when matched with other sources. For example, the four central baronies of the estate (Carmyllie, Downie, Innerpeffer and Panmure) extend over parts of four parishes, while other lands which were acquired by the Earls of Panmure during the seventeenth century (Ballumbie, Brechin, Kelly and Navar) were situated in a further five parishes (see Figure 1). Three of the parishes

Figure 1



have surviving registers which begin before 1640, and all but one contain some seventeenth century material (see Figure 2). None of the seventeenth-century registers contain burials and some, like Panbride, list only baptisms. Nevertheless where baptisms and marriages are given for long periods, as for Brechin and Monikie parishes, it is possible to plot aggregative rates of baptism, illegitimacy and marriage. The hearth tax data for 1691 and Webster's census of 1755 provide valuable baselines from which demographic changes can be assessed. The parishes of residence of men and women before their marriage and the distances between them can be plotted for the whole community and compared with the mobility of tenant farmers. Although registers may not list burials, the age at death of tenants can sometimes be calculated by reference to rentals. By combining data from the estate records and parish registers it is also possible to determine, for example, the age at which tenants took on their first holding, whether their fathers had been Panmure tenants, and whether their children followed them into farming. By the early eighteenth century the Monikie register gives the domicile of parents within the parish, and sometimes their specific occupation or an indirect indication of their status. For example, if a man's place of residence was given as the 'cottoun' of a farm rather than the farm itself he can be identified as a cottar rather than a tenant. Using such information in combination with rentals, one can also examine mobility into and out of the tenant class.

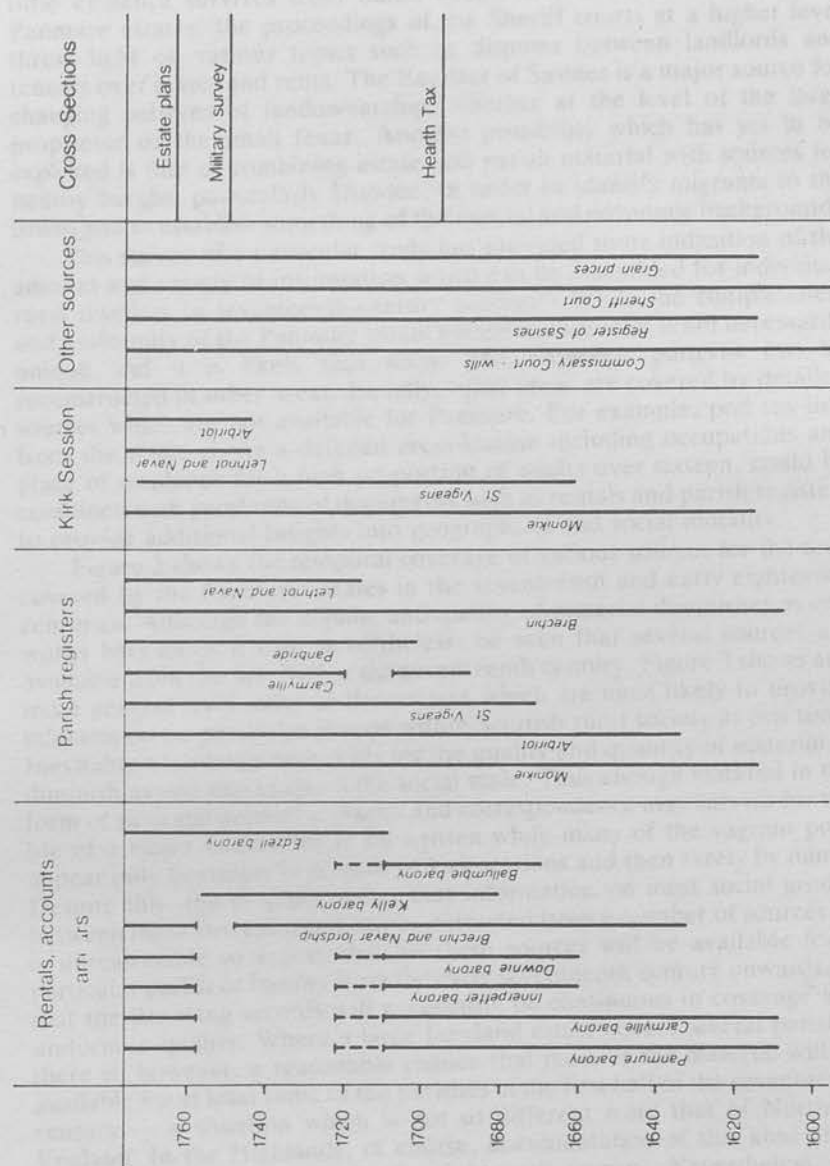
The records of kirk sessions, preserved separately or incorporated with parish registers, are available for several parishes for parts of the seventeenth century. They contain information on the funds devoted to the parish poor. The money paid by the congregation at the weekly collections is as interesting a barometer of local economic conditions as rent arrears or grain prices. It is possible to pick out tenants who had some status within the community as church elders, and also those who compromised themselves by fornication, drunkenness or Sabbath-breaking, while the list of resident poor identifies failed and bankrupt former tenants, or their widows, who had sunk to the lowest level of society.

Testaments and inventories preserved in the records of commissary courts provide data on the working equipment, household possessions and capital reserves of individuals, and highlight the complex webs of credit which existed within the rural community. This information is particularly useful when it can be linked to tenants of particular holdings, with known records of success or failure as shown by the patterns of their rent arrears.

Detailed information on individual tenants, families or farms derived from these combinations of sources can be compared with aggregate data which show changes in the whole community through time, such as levels of rents and arrears, fiars' prices (standardised grain prices fixed by the Sheriff Court), demographic trends and the state of parish poor funds. This allows exploration of how environmental, economic and social conditions interacted at local and regional levels.

Legal records also contain data which may be of use. While only a

Figure 2



little evidence survives from baron courts in the area covered by the Panmure estates, the proceedings of the Sheriff courts at a higher level throw light on various topics such as disputes between landlords and tenants over leases and rents. The Register of Sasines is a major source for changing patterns of landownership, whether at the level of the large proprietor or the small feuar. Another possibility which has yet to be explored is that of combining estate and parish material with sources for nearby burghs, particularly Dundee, in order to identify migrants to the towns and to establish something of their social and economic background.

This survey of a particular study has provided some indication of the amount and variety of information which can be assembled for individual rural dwellers in seventeenth-century Scotland. While the completeness and uniformity of the Panmure estate papers is unusual it is not necessarily unique and it is likely that social and economic patterns can be reconstructed in other areas. Equally, other areas are covered by detailed sources which are not available for Panmure. For example, poll tax lists from the 1690s giving a detailed cross-section including occupations and place of residence for a high proportion of adults over sixteen, could be combined with good runs of documents such as rentals and parish registers to provide additional insights into geographical and social mobility.

Figure 2 shows the temporal coverage of various sources for the area covered by the Panmure estates in the seventeenth and early eighteenth centuries. Although the volume and quality of material diminishes as one works backwards it can, nevertheless, be seen that several sources are available from the first half of the seventeenth century. Figure 3 shows at a more general level some of the sources which are most likely to provide information on particular groups within Scottish rural society at this time. Inevitably a tendency also exists for the quality and quantity of material to diminish as one moves down the social scale. Thus enough material in the form of personal accounts, diaries and correspondence may survive for the life of a major landowner to be written while many of the vagrant poor appear only fleetingly in records of kirk sessions and then rarely by name. Despite this, the diagram shows that information on most social groups between these two extremes can be extracted from a number of sources. It is unreasonable to expect that all these sources will be available for a particular parish or barony from the early seventeenth century onwards, or that the surviving records will necessarily be continuous in coverage and uniform in quality. Where a large Lowland estate covers several parishes there is, however, a reasonable chance that most of the material will be available for at least some of the parishes in the first half of the seventeenth century — a situation which is not so different from that of Northern England. In the Highlands, of course, documentation of this kind often does not exist until well into the eighteenth century. Nevertheless, the potential for detailed studies of Scottish rural communities in early modern times is considerable and it is to be hoped that in the future more research will be undertaken.

Figure 3

TYPE OF RECORD	PERSONAL				ESTATE					PARISH		REGIONAL			NATIONAL					
	DIARIES	CORRESPONDENCE	ACCGNTS	CHARTERS	RENTALS	ESTATE ACCGNTS	LEASES	ARREARS	BARON COURT	PARISH REGISTER	KIRK SESSION	COMMISSARY COURT	SHERIFF COURT	PRESBYTERY RECORDS	REGISTER OF SASINES	HEARTH TAX	POLL TAX	PRIVY COUNCIL RECORDS	COURT OF SESSION	
SOCIAL GROUP																				
MAJOR LANDOWNER	■	■	■	■						■	■	■	■		■	■	■	■	■	■
SMALL LANDOWNER	■	■	■	■						■	■	■	■		■	■	■	■	■	■
MINISTER		■												■						
SCHOOLMASTER														■						
KIRK SESSION ELDERS										■	■	■	■		■	■	■	■	■	■
TENANTS									■	■	■	■	■		■	■	■	■	■	■
COTTARS									■	■	■	■	■		■	■	■	■	■	■
TRADESMEN									■	■	■	■	■		■	■	■	■	■	■
FARM SERVANTS									■	■	■	■	■		■	■	■	■	■	■
RESIDENT POOR										■	■	■	■		■	■	■	■	■	■
VAGRANT POOR										■	■	■	■		■	■	■	■	■	■

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