THE GEOGRAPHY OF THE LITHSDALE-ANNANALLE REGION

1613 to 1616

by

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Thesis submitted to the University of Edinburgh
for the degree of Doctor of Philosophy

1962
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ACKNOWLEDGEMENTS

A Doctoral thesis is the work of many people. Unfortunately they cannot all be mentioned; but the writer would like to record his gratitude to those listed below, at the same time emphasizing that any shortcomings in the work are his own.

Professor J. W. Watson has been attentive to the problems and the progress of the thesis through the years of its preparation. Dr Arthur Geddes has also given valuable advice from his wide knowledge of Scottish geography and history. Dr Jindrich Veveka, of the Department of Political Economy, Edinburgh University, has read and commented on the chapters which touch on economic phenomena. The members of the Department's graduate students group discussed parts of the thesis which were presented to them as papers. Miss Fiona Fletcher gave generously of her time in helping to type the final manuscript, and Miss Dorothy Nicolson sacrificed many hours to reading and correcting.

A number of Scottish libraries assisted in the research. The staff at the National Library of Scotland were very patient and thorough in helping to trace some of the rarer references; and acknowledgement must also be made to this library for permission to reproduce the maps from Crawford's, Telford's, and Wood's surveys. The County Librarian (Mrs M. D. McLean) and the staff of the Ewart Public Library, Dumfries, were at all times ready to give assistance and advice. The Scottish Records Office was another cooperative source of material, and acknowledgement must be made for permission to reproduce the farm plans of Carthath & Rockhallhead and Kirkland of Kirkmichael from the manuscript collection in that office. Other libraries which kindly gave assistance were The Edinburgh University Library, The Library of the Royal Society of Edinburgh, The Mitchell Library in Glasgow, The Castle Douglas Public Library; and suggestions were received from an expert on Dumfriesshire, Mr A. E. Truckell of the Burgh Museum, Dumfries.

To all these, and more, the writer acknowledges his indebtedness.
I. INTRODUCTION

A. THE CONDITIONS AND THE PROBLEM

1) 1813, 1814, 1816: in Britain; in Dumfriesshire

The Napoleonic Wars proved to be increasingly beneficial to the domestic economy of Britain the longer the country was engaged in full-scale hostilities. During the period 1806 to 1812 the 'Home Front' was experiencing economic well-being which appears to have been unsurpassed in the country's history up to that date. Thus in 1813, at the opening of our study, there was an optimism abroad in the country. Apart from the war in Europe, which had become almost a matter of course, it was marred only slightly by the recent altercations with the United States; these proved detrimental to the sale of wool in particular. The rumours that the end of the war with France was near had not yet gained much support, and a continuance of prosperity was almost taken for granted.

In 1814 peace came, and uncertainty replaced the optimism. The winter of 1814 was the hiatus between the rise and the fall. By 1816 it was clear what had happened; even in December 1815 a correspondent to a Dumfries newspaper claimed, 'it was always dreaded that the restoration of peace would bring things to their former level' [Dumfries Weekly Journal, 26/12/1815: 1], but it is obvious that, until this time, the 'dread' had been without any sting. Within a year distress spread throughout the kingdom; the economy - and the geography - degenerated into stagnation. Dumfriesshire partook of this march from optimism to stagnation. It differed from most of England in that it did not respond quite as quickly to the changes. This delay in response
is attributable to two characteristics of the region: it was predominantly an agricultural district, and sometimes as much as a month elapsed between the produce leaving the farm and arriving in the market place; secondly, in an agricultural district like Nithsdale-Annandale there were ways of coping with an emergency (for example, through the 'personal' poor relief based on voluntary contributions, the produce of cottage gardens, etc) which were not duplicated in manufacturing towns. But by 1816 our region was without doubt an area of distress.

2) The Region Involved

Nithsdale-Annandale is considered to have been a geographical region, or, in more meticulous terminology, a 'functional region'. It is argued that it was a unique entity drawn together by a 'dynamic element' - the important burgh of Dumfries. And what is more, Nithsdale-Annandale was a real framework within which the people of the region lived and thought. It is not pretended that the region had always occupied the same extent; historically Nithsdale and Annandale had been clearly separate concepts. And it is unlikely that the identical region has maintained itself to the present day. But from the last half of the eighteenth century through the subsequent hundred years at least, Nithsdale-Annandale as it is described herein was an essential geographical region. The elucidation of the region occupies the opening part of Section II.

The region was located at the southern extremity of Scotland, immediately adjacent to England; Dumfriesshire has often been referred to as 'The Western Marches of Scotland'. It lay on the southern slope of the Southern Uplands, reached down to the Solway Firth, and all its streams emptied into this arm of the sea. As well as being focussed on Dumfries, the region was bounded on most sides by clear-cut physical barriers: on the west and north sides by the heights of the
Uplands, on the east by high muirland, and on the south by the Solway. The total area of the region was 659 square miles.

Eskdale was a part of Dumfriesshire, yet it is excluded from our region. There are two major reasons for this. First, Eskdale was almost totally a pastoral district, whereas Nithsdale-Annandale separated itself from the rest of the southern fringe of Scotland by being an important arable district. Second, Eskdale was far enough distant from Dumfries, and communications with the dales of the Annan and the Nith were difficult enough, that its orientation was not towards our region, but rather to north and south.

3) **The Argument of the Thesis**

The thesis argues, first of all, that Nithsdale-Annandale existed as a region. Then, within this framework, it reconstructs the conditions which are considered to have been geographical - i.e. the aspects of the region in which man and his environment interacted. This is the central part of Section II, and it is concerned basically with the visual landscape; for this reason it is entitled 'The Geographical Picture'. In addition to the actual aspects of interaction, there is a discussion of various indispensable background topics. Although these are not participating parts of the geography, yet they provide necessary explanatory material for some of the phenomena. These topics are of two types: half are non-human in subject matter, and the other half are human or social. The reconstruction continues, in Section III, by describing the vital changes which descended on the region as a result of the ending of the Napoleonic Wars in 1814; and the geographical picture is endowed with a suitable dynamic character in the tracing out of the changes as they affected it. In pursuit of this, each subject in Section II which underwent significant modifications during our period has an homologous chapter devoted to it.
in Section III. The influence of climate on the severity of the depression, particularly in 1816, as presented in Section III, is an original contribution to the understanding of this decade of contrasts. Finally, the emphasis throughout the thesis is on change and the responsiveness of the geography. And, although it is not claimed that this is a prerequisite for a geographical study, it has the advantage - one which is salutary in the handling of historical material - of breathing life into the geographical picture.
B. A TECHNICAL PREFACE

It is necessary to clarify the methods that have been employed in the handling and presentation of vital technical information. This is done under the three subsequent headings.

1) The Treatment of References and Bibliography

References are included in the text, being placed in square brackets at the end of the relevant passage. The average entry contains, first of all, the author's surname, then the year of publication followed by the page or pages of immediate interest. If the reference is not to a particular author but to a magazine or newspaper the form is slightly different: the name of the publication occurs first, followed by the date, and finally the page number. The date of publication is included in order to give an idea of the closeness of the statement to the events it describes. And if in any instance the date of publication is significantly separated from the events, it is shown in brackets (of The Edinburgh Encyclopaedia, the Dumfries section is applicable to 1815, but published in 1830). Short forms are used in referring to periodicals which arise in a number of places; they are as follows.


2nd 3 A: The New [Second] Statistical Account of Scotland, Blackwood & Sons, Edinburgh & London; all references are to the Dumfriesshire volume (IV), 1845

Courier: The Dumfries and Galloway Courier, published in Dumfries

Edin Enc: The Edinburgh Encyclopaedia, Blackwood, Edinburgh, 1830 (volume VIII unless otherwise indicated)

Fri Mag: The Farmer's Magazine, Constable, Edinburgh

Journal: The Dumfries Weekly Journal, published in Dumfries
The references are shown in the body of the text, as described above, in preference to listing them as footnotes. This method is considered to be generally more convenient, and it leaves the bottoms of the pages uncluttered, except for an occasional explanatory and proper footnote. The full entry for each reference is easily found in the Specific Bibliography at the end of the volume.

A variety of sources was used in compiling the maps, tables, and appendices which accompany the text. In each case the sources are listed with the item concerned, according to the method applied to the text, and full entry is also to be found in the bibliography. Notes on the maps, and comments on the tables and appendices, are found in the text immediately adjacent; and as far as possible the maps are placed so as to face the page to which they especially refer.

The bibliography itself is arranged alphabetically by authors' names. Each work of an author is listed according to the date of publication.

2) Place-names

There has been a revision of the spelling of many place-names since our period. But most of the difference lies simply in a new rendering of the same sounds, and as a result the majority of the names can be quickly interpreted. For the sake of convenience and clarity the text of the thesis employs the spelling of names that is to be found on the latest One-inch Ordnance Survey map. Names occurring in quotations, however, are presented as they were written. Most of the place-names found in the thesis can be located on the map of place-names (II). The remainder can be found on the maps to which they are specifically related, such as the map of Percentage of Urban Population, or the plotting of Moffat's Umland. For a rendering of
the names as they were in the early nineteenth century, the best general source is Crawford's map at the back of the volume. See Note, page 8.

3) **Boundaries**

The boundaries that are shown on our maps are essentially those of the present time, except for a correction around Dumfries to exclude the Maxwelltown part of the burgh on the west side of the river. There have been no major changes in the boundaries since 1813. But a few comments must be made on the discrepancies between our base map and Crawford's generally creditable map of 1804. Firstly, he made a mistake in drawing the northern border of Halfmorton parish, and the proper line, as shown in our maps, runs straight east-west.* This parish, by the way, has been separated for our purposes from a rather unnatural administrative union with Langholm parish in Eskdale. Secondly, a minor aberration occurs on the northern corner of Wamphray parish. This, however, was not Crawford's fault. The approximately two hundred acres lying in the nodule formed by this corner had somehow been lost from the records, and were thought to belong to Moffat parish. It was not until a few years before the Second Statistical Account that the mistake was discovered. The third discrepancy involves close to one thousand acres, and it is located in the western extremity of Kirkpatrick-Juxta parish, i.e. where it abuts onto

* The proof of this statement is to be found in a note among the appendices in Singer's *General View of the Agriculture...in the County of Dumfries* [1812: 518]. The Statistical Accounts state that Pulteney owned only two farms in Halfmorton; but in Singer we read that (in 1790) he limed many acres upon four of his farms - Hightonbridge (now Hightonridge), Solwaybank, Woodside, and Pingle. These farms lay adjacent to one another, and, since two of them were outside the parish, the two southern ones must have been inside, and their marches have formed the parish boundary. This means that the northern edge of the parish, consisting of the farms of Hightonridge and Solwaybank, was at that time in the same position as has been shown on recent maps, and the other two farms constituted the eastern 'panhandle' of Middlebie parish.
the head of Clydesdale. Crawford evidently believed that the boundary followed the watershed, and as a result his line kept to the east of Crook Burn. But as our maps show, the boundary ran further to the west, cutting across Crook Burn more than two miles below its source. In a number of other places Crawford indicates a general rather than an accurate boundary; but none of these is of notable importance. One final comment is required to complete this topic. The whole north-west corner of Moffat parish, embracing the farms of Howecleuch and Raecleuch, while being under the kirk jurisdiction of Moffat, were under the civil jurisdiction of Lanarkshire. But the life of this area was one with that of upper Annandale, and for that reason it is included in our study.

Note: The name 'Wigton', as it was spelled in the early part of the nineteenth century, has been used inadvertently throughout the thesis, rather than the 'Wigtown' of the recent Ordnance Survey maps.
II. THE GEOGRAPHY OF NITHSDALE-ANNANDALE, 1813 to 1814

A. THE 'DYNAMIC ELEMENT'

1) The Modality of Dumfries

The central importance of the burgh of Dumfries was the 'dynamic element' drawing together the Nithsdale-Annandale region. The modality of this town, which was even then virtually the capital of south-western Scotland*, was to a varying degree influential in every aspect of the geography of the region. Agriculture was focussed on Dumfries, both in the weekly market, and more spectacularly in the annual horse fair, and in the cattle fairs when animals were shown from all parts of the south of Scotland, and from Ireland, to buyers from all parts of Britain. The two dales were enough alike that the many market and service functions which Dumfries had developed for its own dale could serve also for Annandale. For the untied population in the county Dumfries was a magnet, so that most eyes in Nithsdale and Annandale looked to it for news from either a relative or an acquaintance. The attraction of Dumfries extended throughout the social scale, it being 'as it were, the capital of the whole district of Galloway - possessing the advantage of an easy and frequent intercourse with the metropolis, and all the chief towns of Scotland, it becomes a place of re-

* And so it had been for many centuries, as R. C. Reid suggests in his 'Feudalisation of Lower Nithsdale': '...the sheriffdom of Dumfries has always stretched to the Urr' [1955: 109].
sort for the nobility and gentry of the adjoining counties' as well as its own [WOOD, 1828: 93-4]. And, in addition, the town had the two most influential newspapers in the county, The Dumfries and Galloway Courier and The Dumfries Weekly Journal. The transportation facilities, too, were in a way forcing importance upon the town: stagecoaches for London, Glasgow, and Edinburgh left Dumfries daily, or at least at fairly short intervals, and there were also connections across the county. Dumfries was the post-town for all of lower Nithsdale and much of western Annandale. A map of the public road network epitomizes this argument of the nodality (see Crawford's 1804 map at the back of the volume), and the quality of Dumfries' influence was such (as indicated above) that it reached into the farthest corners of the two dales. One important landowner in mid-Nithsdale pointed out that if a proposed rail-road from Sanquhar to Dumfries were built it would simply emphasize the existing movement of goods: 'Our heavy articles would almost all go down the county' [reported in SINGER, 1812: 547]. Dumfries was the county town and as such was the site of the courts, county meetings, and the jail; the only infirmary on the south side of the Uplands was there, also a hospital for the poor; and, as an example of the centrality of Dumfries expressed in the every-day life of the district, the Dumfriesshire and Galloway Horticultural Society, inaugurated in 1812, made this its headquarters.

Although Dumfries was a town of only
seven thousand inhabitants, on its own regional scale it tasted some of the unpredictable advantages which the agricultural and industrial revolutions brought to one town but not to another. These service, administrative, and general 'central place' functions were of the same types, though of a relatively microscopic scale, as those which lead to Chabot's métropole and Jefferson's primate city. With the development of transportation, the wider movement of farm and village produce, and the general broadening of mental horizons, Dumfries had became, by 1813, what we may call the primate burgh of its region.

The influence of Dumfries as a central place was not restricted to Dumfriesshire, and it could be argued that the Nithsdale-Annandale region should include a segment of Kirkcudbrightshire.
stretching about five miles west of Dumfries. But the considerable difficulties of securing and sifting the requisite information have led to the exclusion of this area from the present study.
2) The Regional Peripheries

As might be expected, the influence exerted by Dumfries as distance increased towards the regional peripheries varied somewhat in quality. The road map indicates this variation; the main trend of the roads is in the direction of Dumfries, but there are also many which have an orientation unrelated to Dumfries. This applied particularly to Annandale, where there were one or two roads to Lochmaben, others to Annan, and the main Glasgow-Carlisle road which bisected the valley. The roads in turn were indicative of the competition afforded Dumfries by other places. For example, there was notable competition from Carlisle in the south-eastern corner of the region. And, each of the small towns - Moffat, Lochmaben, Lockerbie, Ecclefechan, Gretna, Annan, Thornhill, and Sanquhar - had its upland, and one effective enough to command an economic suzerainty (cf the map showing Moffat's upland, with the chapter on urban settlement, below). The main lamb sale in the region was held at Lockerbie in August, and the principal hiring fair for lowland agricultural labourers at the end of the autumn. Moffat also had a share of the limelight in having the county's largest tup fair, at the end of June, and important hiring fairs in March and October. Lockerbie was also the centre of much business as the market for the extensive Annandale pork trade. The other large villages and burghs held weekly markets which, although they perhaps were economically dispensable, re-asserted each village's sphere of influence.

There were also various relevant points of contrast within the region which were inheritances from history. And, although the centrality of Dumfries had managed to break through most of these traditional parochial ties by 1813, there were some more lasting than others. For instance, the concept of Annandale was still in people's minds, although there was no longer an impassable Locher Moss, nor a thickly wooded ridge (The Wald). The minister of Mouswald, trying to elucidate the march between the two dales, pointed out in the First Statistical Account that his parish had been part of the Stewartry of Annandale, the division having been the burn forming the northern edge of the parish (called by the later Ordnance Survey maps 'Wath Burn'). The continuation northward of the div-
ision had been along the watershed, The Wald. But, the crumbling of this boundary is exemplified by the loss, at least to the written language, of the name of this separating ridge, which through most of its length rose to 700 and in places to over 800 feet [OF YOUNG, 1927: 90]. It is worth mentioning that as late as 1930 (and probably even to the present day) Mousewald Place, which is on the northwestern side of the parish, was considered to be in Annandale [MILLER, (1932): 11].

Another aspect of difference between Nithsdale and Annandale was that of dialects. The linguistic studies that have been done, it must be noted, have discovered details specifically valid only for the few years contemporary to the period of their research. In 1933, Horne found the dialect division between the two dales to be along the eastern side of Ruthwell parish, and claimed it to be, in effect, the division between the modern descendants of the Celtic (Annandale) and the Erse of Nithsdale and Galloway. It seems feasible, however, for us to suggest that in the 120 years that had elapsed since our period the dialect boundary has been pushed a few miles eastward, and in 1613 it probably concurred with the division of jurisdiction presented in the preceding paragraph. The separation of Annandale from Eskdale is something which appears not to have come under discussion, which thus supports our decision to exclude Eskdale on the basis that it was different enough in most characteristics to have been an obviously separate entity.

The foregoing paragraphs in this introduction to the geography of Nithsdale-Annandale have presented the proposition that these two dales formed a region having as its heart - or 'dynamic element' - the burgh of Dumfries with its numerous central place functions. At the same time, however, parts of the region peripheral to Dumfries and its influence experienced certain competing attractions, some of which were of long history, others of which were mainly a result of contemporary economics and the changes in way of life occurring in the period. The geographical picture of the region, which follows, presupposes a recognition of variations within the region based on the competing attractions. But, no
attempt has been made herein to divide the region into sub-regions, because there were no areas that had the necessary degree of autonomy. It will be found that the nature of the variations is clarified in the building up of the geographical picture.
1) Parish Categories

The parishes of Dumfriesshire could be categorized, even more effectively in the early nineteenth century than at a later date, into three tiers: the maritime parishes, the midland parishes, and the mountain - or, perhaps, better, the upland - parishes. Such a classification was used by Singer in his General View of the Agriculture... (1812):

A farmer, on taking a survey of this county, would arrange the divisions of which it consists in the following manner, viz. . . . 1st, Maritime Parishes, mostly arable and low, diversified, however, in the surface by gentle swells and intervening vales and hollows, and containing some waste lands, especially peat bogs; . . . 2d, Midland Parishes, consisting of low hills and ridges with vales, chiefly adapted for corn and cattle, but having a portion of waste land and sheep walk intermixed; . . . and 3d, Mountainous Parishes, mostly in sheep walk, with cattle and corn lands intermixed [SINGER, 1812: 8-11, slightly modified].

After a careful assessment of relevant information we have accepted the same categories with only two modifications (consult Map III on next page).

The first modification is necessitated by an unsatisfactory administrative arrangement, and involves the partial parish called Halfmorton, on the south-east corner of the region. Halfmorton was the remnant of an ancient parish that had been divided up amongst its neighbouring parishes, and in the early decades of the nineteenth century Halfmorton was in yoke with Langhola parish (as it had been from 1703). For this reason Singer included it with Langhola in the upland parishes. But Halfmorton was, for one thing, a district of cattle rather than sheep; for another thing the land along two of its three streams was rich and the rural population was relatively numerous, whereas in hilly Langhola it was sparse. A perusal of the road map shows that Halfmorton's connections were west and south; and it
was, in all aspects except hydrographic, over the watershed into Annandale. Hydrographically it was virtually independent. In the 1821 and subsequent censi the government listed its population separately. It is considered by us as a midland parish. The second modification involves Glencairn parish, on the opposite side of the region. Singer classified it as a midland parish. Our researches have shown, however, that, unlike the majority of midland
parishes, it was unequivocally a sheep district; apart from its central glen it was composed of high land one hundred to five hundred feet above the upper crop-growing altitude; and finally, its density of population was only thirty-nine per square mile, while the average for the midland parishes was seventy-five, but for the upland, thirty-three. Because of these findings it is herein considered as an upland parish.

Thus the parish categories of the region are as follows:

<table>
<thead>
<tr>
<th>Maritime Parishes</th>
<th>Midland Parishes</th>
<th>Upland Parishes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Caerlaverock</td>
<td>2. Dunscore</td>
<td>2. Tynron</td>
</tr>
<tr>
<td>5. Annan</td>
<td>5. Tinwald</td>
<td>5. Kirkconnel</td>
</tr>
<tr>
<td></td>
<td>8. Dalton</td>
<td>8. Closeburn</td>
</tr>
<tr>
<td></td>
<td>15. Middlebie</td>
<td></td>
</tr>
<tr>
<td></td>
<td>16. Kirkpatrick-Fleming</td>
<td></td>
</tr>
<tr>
<td></td>
<td>17. Halfmorton</td>
<td></td>
</tr>
</tbody>
</table>

To add a shade of meaning of our own to the categories, we would describe the upland parishes as the hill and mountain rim of the region - its Othrys, Pindus, and Ehasia - which was broken by only eight important passes between Glencairn on the west and Tundergarth on the east. The midland parishes, confined to their dales by arms of subdued but
unmistakable hills, were in almost every way transitional; they were at the one time both 'upland' and 'maritime', and yet the combination resulted in a type that had characteristics of its own. It was also partly applicable to the midland parishes that 'as the main rivers approach the Solway, their separating ridges vanish, and their course for some miles is through an open country ... exhibiting a surface not level, but in that waving form which commonly indicates a light soil, improvable rather than rich ...' [Edin. Enc. (1830): 193]. Where the separating ridges slipped below the ruffled surface of drift, there the maritime parishes began. Reaching across the gradually smoother landscape, ending in the salty flats of the Merse, they formed the county's 'Solway fringe' which was cut off on the east by the political rather than a physical boundary. In the maritime parishes, because of their relative flatness, there was a dominating interconnection between parishes - a tendency to unification, and multiplication of ties - which balanced the connections with the respective dales.

The ease of arranging the parishes into the three tiers described above, which in turn coincide fairly closely with the lines of zonation clarified under subsequent headings, emphasizes one basic characteristic of the region involved: it was what we may call a fundamental region, because it was founded upon and gained most of its traits from the physiographic setting in which it lay.

Actual statistics for the region were as follows; its total area was 859 square miles, of which the maritime parishes comprised ninety-three, the midland 262, and the upland 504 square miles. In dividing the area between the two dales, Nithsdale contained 423 square miles, and Annandale (including Mouswald and Ruthwell) 436. Of these figures, 330 square miles of Nithsdale was in upland parishes, whereas 233 square miles of Annandale was in midland and maritime. The average parish size in the former was 26 square miles (from 64 sq. mi. to 11), in the latter 20 (from 67 sq. mi. to 7.5)*.

* It should be recorded that in the 1951 Census, from which the parish acreages are taken, the total for the County of Dumfries (excluding some additions which have been made since 1931) is listed as 686,978 ac., whereas the sum of the individual parish figures yields 686,305 ac.
In general terms, Nithsdale was the dale of the uplands and the large parishes, while Annandale was the lower, more open one, with smaller parishes.
2) **Agriculture**

Dumfriesshire in 1813 was as unmistakably tied to its land as was any county south of the Highland line, except for the qualification afforded by its coal and lead mines; and even the fortune of the coal mines rose and fell with those of agriculture because the market was restricted to the county. Agriculture was the life of the region. But in the first part of the nineteenth century it was a rapidly-changing agriculture, and we cannot accept for our period Sinclair's unqualified classification of the area, based largely on the First Statistical Account, as 'Pastoral' **(Sinclair, 1814, Appendix I: 19)**. In his generalized division of Scotland into districts Sinclair ranks Dumfriesshire with Peebles, Selkirk, Kirkcudbright, and Wigton shires in 'The Southern or Pastoral Division'. Eakdale, in eastern Dumfriesshire, fitted ideally into this description, but the region delineated by this thesis was notably an exception. In 1813 it had over forty percent of its land used for cultivation (i.e. Annandale forty-six percent, Nithsdale thirty-six percent), which compared favourably with Roxboroughshire (in Sinclair's 'Arable District') having about forty-five percent. Of the approximately 1140 farmers in this region, no more than 150 could have been holding sheep farms, which means that about 1100 were on mainly cultivated farms, or mixed cultivated and cattle farms. Although an actual acreage cannot properly be deduced from this, it is obvious that the largest part of the population was involved in arable farming.

The three tiers of parishes serve as a useful framework on which to pin the introductory details of agriculture in the region. There were three different agricultural emphases: one on sheep, another on sheep and cattle, a third on cattle and crops. Using information from the First Statistical Account (1790s), and comparable information from the Second Statistical Account (1830s), it is possible to interpolate approximately certain conditions existing in 1813. The recognition of a marked quiescent period in Scottish agriculture, from

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*Average size of a sheep farm was 1500 acres; of an arable farm, 150 acres.*
NITHSDALE - ANNANDALE
LIVESTOCK RATIOS
1792: 1833

KEY

Sheep dominance, 1792 and 1833
Cattle dominance, 1792 and 1833
Transitional (no marked dominance)
Heavy lines delineate parish boundaries

Scale in Miles
500-foot Contour
Principal Urban Centre
1816 to 1822, allows an adjustment towards more accuracy. From these sources it transpires that the upland parishes were, almost without exception, heavily devoted to sheep; the maritime parishes, on the other hand, were relatively little concerned with animal husbandry but specialized in field crops, large proportions of which were exported; the midland parishes, exhibiting their transitional nature, were characterized by roughly equal numbers of beef cattle and sheep, with an admixture of crops (see map of Livestock ratios, IV).

Let us look at the exceptions, which are the most significant items in such a pattern as this. The only exception among the upland parishes was Tundergarth. This long finger-like parish reached from the high maurlands on the eastern boundary of the region down to the central vale of the Annan, and it formed the southern side of the valley of the Water of Milk. Most of it was elevated heathery sheepwalk, but it had the advantage of dipping down to the stream so that there were considerable patches of more verdant pasture overlooking the water. The chief determinant was the opening of the valley onto the major drove road to the south, and for this reason the numbers of cattle tended on the lower slopes were roughly equal to the numbers of sheep above.

The drove roads also appear to have been influential in tipping the scale in some of the midland parishes, whereas in following the categories we should expect these parishes to display an approximate balance of sheep and cattle, we discover that there was a fringe around the maritime parishes, and transgressing into central Annandale, in which cattle had a decided superiority. The passing of drove roads through or nearby these parishes is obviously relevant. Differences in the parish rates of improvement, and the causes behind them, may have had a

Notes on the map facing
The numbers 1. and 2. opposite which the parish statistics are listed, refer respectively to 1792 and 1833. It should be pointed out that the map deals with livestock emphases, and this is not necessarily the same as agricultural emphases.
hand in any changes of emphasis from one kind of livestock husbandry to another between 1792 and 1833. But examples of such a change are few, and we can confidently predict that where it occurred the two totals were roughly equal in 1813.

There is one partial misfit in the maritime parishes; this is Cummertrees. It should be pointed out, how-

Notes on the cartogram (Map V)

The dark shading represents a dominance of cattle over sheep (although in many parts of this area animal husbandry was overshadowed by crops); the scattered dots represent an approximate balance of sheep and cattle (i.e. fewer than four sheep to one of cattle); the blank area was dominated by sheep.
ever, that the situation in the parish in question is difficult to assess, because in neither Statistical Account was an actual figure for livestock mentioned. As an alternative a carefully-weighed estimate has been made.

The final form for a cartogram of the livestock emphasis, it will be seen, must be a modification of the actual parish categories. The general concentric form of these categories is still much in evidence, however, re-asserting the physiographic stamp which dominates the region (consult the cartogram on the previous page).

But there were more agricultural details to be seen by a traveller in Dumfriesshire in 1813 than have been suggested by the simple categorizing of parishes. There was a marked focussing of agricultural activity on the larger villages, and on Dumfries in particular - not only seen in the busier landscape, but also in the smaller size of farms, the more intensive use of the land, and the preoccupation with vegetable crops to be sold in the town market: '...indeed scarcely any of the more considerable villages are destitute of a public garden...' [SINCLAIR, 1814, II: 79]; 'In the immediate neighbourhood of Dumfries, not less than one hundred acres are occupied by gardens and nurseries' [Edin Enc. (1830): 200]. The vegetables in these gardens would have been well-known varieties, such as cabbages, potatoes, brussels sprouts, peas, beans, turnips, onions, and perhaps carrots, cauliflowers, broccoli, curled greens, and leeks. And there may have been others in limited quantities, similar to those listed for the Edinburgh market, such as asparagus, celery, artichokes, parsnips, rhubarb, red beet root, lettuce, cucumbers, spinach, radishes, nasturtiums, horse-radishes, garlic, mushrooms, and various sweet herbs. In the nurseries there were red, white, and black currants, gooseberries, raspberries, cherries, black geans (wild cherries), plums, pears, apples, and even some peaches, apricots, and grapes [SINCLAIR, 1814, II: 84-6]. There was a gradation from the Dumfries garden belt in all directions, except for the interruption of Locher Moss on the east, into the rich lands of green and white crops with some cattle, watched over by large mansion houses that occurred every few miles.

In Nithsdale-Annandale in 1813 im-
provement was the order of the day, and especially in the crop and cattle lands. But it was possible for one shrewd observer to be unsatisfied with the state of the region. 'A territory more adapted for improvement can scarcely be mentioned. Yet it may be truely said, that, with respect to most part of it [Dumfriesshire], this work is hardly commenced' [Edin Enc. (1830): 194]. It should be said that when this was written, early in 1815, there existed an over-optimistic opinion of how much uncultivated land could be broken up for crops. The practice was criticized by more than one later writer: 'About 20 years ago [i.e. 1813], an injurious system prevailed of breaking up the natural coarse pastures on cold soils. The crops of corn were at first great; but the land is much depreciated in value. For some time past this error has been seen, and none of this sort of soil is now cultivated; ...the attention of farmers has been directed to the dry upland ridges, which have been of old under the plough' [2nd S A, Mutton & Corrie: 542]. In addition, in an assessment of the whole of Dumfriesshire, Eskdale would have accounted for a considerable area of apparently unimproved land; in Sinclair's General Report it is listed as being only twelve percent cultivated [1814, III: 21].

Although there is no direct evidence concerning the proportion of each parish which was cultivated*, yet it is possible for us to interpolate this information from the First and Second Statistical Accounts. This is done by transferring the available statistics to a graph. But a few aspects of the accompanying graphs must be clarified: 1) it is not pretended that they are minutely accurate; as listed in the notes to the graphs, in some cases the figures for the First Statistical Account are missing, and there is the invidious problem of different writers meaning different things by terms like 'cultivated' and 'arable' even between two reports on the same parish. 2) During the early 1800s

* This thesis employs the term 'cultivated' to mean ploughed for sowing at least once every five years.

** All in all, the graphs and the information gained from them, though of definite value, must be considered with great caution.
there was a relative fever of improvement which is shown in the sharp rise in the loci, although the time and rate of the rise are based on extensive background evidence rather than actual statistics; whereas 3) during the severe post-war depression, i.e. 1815 to ca 1822, improvement was almost halted and did not resume momentum until the middle 1820s.* Concerning the second point we might cite the remark of the minister for Dalton parish who, writing in the Second Statistical Account, drew attention to the increase 'in the extent of cultivation, which the late war [Napoleonic] prices produced' [2nd S A: 376]. Certain empirical decisions are also taken for granted in the drawing of the loci; these are 1) that the maritime parishes reached a relatively high level of cultivation early in the century; 2) on the other hand, the upland parishes were responding approximately a decade later than the maritime parishes to the spirit of improvement; 3) fluctuations, as a result of the depression and similar phenomena, were more severe in the marginal arable parts of the region.

The graphs themselves elicit some comment. It will be seen that, without an exception, at the beginning of our period all parishes were experiencing an increase in the amount of land under cultivation, whereas at the end of the period all were at a standstill or decreasing. In some parishes there was virtually no difference in the acreages of 1792 and 1833. In the case of Caerlaverock the reason for this is that it lay near Dumfries and because of this it was extensively cultivated even by 1792, except for its margin on Lochar Moss. By 1833 the Lochar Moss was still not drained, and the acres of rough land that had probably suffered cultivation toward the end of the war had been put back into permanent pasture. But there was one prime difference that applied to this parish as to all others; the same number of acres in 1833 were producing nearly twice as much as they did in 1792. Caerlaverock showed little change in its figures because it was suited to being highly cultivated and had approached this condition at an early date. There was a group of upland parishes, how-

* For a passing explanation compare the parish of Tynron which displayed, in the years immediately before 1821, 'a considerable portion of the land having been thrown out of cultivation in consequence of the reduced price of produce' [2nd S A: 476].
ever, which showed little change in figures for the opposite reason - because it was not suited to cultivation. In Morton, Penpont, and probably Tynron, for example, there was a 1795 cultivated area of approximately 2500 acres in each (almost totally of oats), and, by 1815, 500 to 800 acres more had been created out of muirland and rough pasture. But by 1830 it was seen that the reclamation of most of these new areas was a mistake of over-enthusiasm, and the total had returned to the earlier figure. Wamphray, Botten & Corrie, and Tundergarth were upland parishes that raised their cultivated areas on the strength of revamping pasture. But after a considerable expansion into pasture land, it was found that much of it was cold and uneconomical, and as a result there was a hasty retreat after 1815, and the expansion in the 'twenties was into the naturally drier land on steeper slopes. The midland parishes all registered a healthy increase, because they were neither close enough to the heart of the region to have been fully developed by 1800, nor far enough to the periphery to be without agricultural land susceptible to development in the early years of the century. Consult the adjoining graphs; the notes and actual statistics of area on which they are based are found in Appendix I.

The map of Percentage of Land Under Cultivation, 1813, which arises from the information plotted on the graphs, also requires a few remarks. It brings into clearer focus the status of animal husbandry in the economies of the various parishes. And it becomes evident that, although there may have been more cattle than sheep in the maritime and lower midland parishes, livestock ranked a poor second to field crops. Cummertrees and Torthorwald were the outstanding exceptions. Despite a major lime deposit in the centre of the parish, Cummertrees was remarkably slow in turning to crops, probably because of a late start in the re-organization and enclosure of the land. Even Ruthwell and Dornock must be considered as having low percentages because, in the maritime parishes, with their concentrations of population, the high proportions of cultivated land in Dumfries, Caerlawerock, Annan, and Gretna, were typical. Torthorwald, being largely elevated land, continued to be laid out in 'parks and shaws', like most of the higher parts of Tinwald and Mouswald
NITHSDALE-ANNANDALE
PERCENTAGE OF LAND UNDER CULTIVATION
BY PARISHES, 1813

VI.

KEY

Actual percentage shown in each parish

0 to 20%
20 to 42%
42 to 65%
65 to 100%

0 to 20%
Principal Urban Centre
Contour
Scale in Miles

50-foot Contour
The notable wedge of high cultivation that protrudes into mid-Annandale, partly coinciding with the 'livestock wedge', displays the effects of two influences. Firstly, the main Glasgow-Carlisle road, which traversed this area, opened the door to important markets and new ideas. Secondly, the holms of the Annan, and the crucial sandier and drier kame terraces overlooking the valley proper, provided excellent land for crops. Dumfries, it will be seen, had a percentage lower than some of these mid-Annandale parishes. The reason for this is clear; nearly a quarter of Dumfries parish was occupied by Locher Moss and small lochs associated with it (twenty to sixty acres in size), and there were nearly three hundred acres of woodland. All the other acres in the parish were neatly engaged in a five-year rotation which emphasized wheat and oats; and much of the pasture in the rotations was grazed by milk cows which provided daily warm milk for the burgh.

The upland, pastoral fringe of the region shows up well on the map. This area having less than twenty percent of its land under cultivation is a sheep-farming fringe. It will be seen that Wamphray, and Tundergarth, by virtue of their highly-cultivated valley portions, have managed to slip into the second class (twenty to forty-two percent). Durisdeer, Morton, and Kirkmarnock, which have unusually high percentages in relation to their natural amenities, owed most of their cropland and almost all their production to the terraces of the Nith.

It is interesting to note that, following our original categories, the upland parishes had an average extent of cultivation of twenty percent, the midland parishes fifty percent,

† Most of these lochs were drained between 1800 and 1830. Even on the latest Ordnance Survey One-inch map the farm name 'Lochvale' can be seen on the southeastern edge of the town.

** The rotations are described under Cropping, below.
and the maritime parishes sixty-six percent. In comparing Nithsdale and Annandale, the upland averages were virtually identical, the midland averages were forty-five percent and fifty-three percent respectively, and the maritime averages were seventy-five percent and sixty-three percent. Nithsdale as a whole was thirty-six percent cultivated, Annandale was forty-six percent; the total number of cultivated acres in the region was 170,000*. See map VI.

Enclosures and Fencing.** The traveller in Dumfriesshire in 1813 would have expected to see the process of enclosure and building of fences carried on to a more concentrated degree in the cultivated parishes than in the pastoral ones. This, in general, he did see. But, there were also a few curiosities in the picture.

*Wherever landed property happens to be greatly sub-divided, inclosures appear more numerous. This is the case in the parish of Dunscore [there were approximately forty-five 'heritors', according to the Statistical Accounts]. In some of the maritime parishes also, where the lands are mostly in culture, the greater part are inclosed* [SINGER, 1812: 143]. There was, quite logically, a correlation between the

* Sinclair's approximation to the cultivated land of Dumfriesshire, in volume II of the Appendix to the General Report of Scotland, p. 2, was at least 30,000 imperial acres too high. In addition, the statements made before the 1830's, concerning the areal extents in the county, were high by approximately one-sixth. But the figure of cultivated land in our region (i.e., 170,000 acres) is taken directly from the graphs of cultivated land (above) and it is believed that very little exaggeration would have entered into the recording of the amount of this kind of land, the part of each parish best known and best assessed.

** The term 'enclosure' did not hold the same disturbing connotation in this part of Scotland that it held in other parts of the kingdom; in fact it meant little more than 'fencing'. The reason for a lack of conflict was that the enclosure usually involved arable land, which was, in a way, waiting to have a fence put around it. Discomfit occurred on peripheral land which had come to carry too large a population. On the other hand, the enclosure and improvement of a stretch of neglected damp land could lead to nothing but favourable results for the general rural population.
percentage of a parish in cultivation and the amount of enclosure and fencing within its borders, and because of this the map of land under cultivation also serves as a guide to the amount of enclosure in the different parishes, although this criterion was not well-suited to Dunscore. Where sub-division was common, as in Dunscore, fences were more numerous because of their importance in separating the properties, although this no doubt applied principally to the lower third of the parish. There were a number of other parishes in which excessive sub-division was the case, and some of these had turned to cultivation with greater vigour than Dunscore. Glencairn had about thirty heritors, while Kirkmehoe had forty-three; Holywood, an extensively cultivated parish, had thirty-seven. In Annandale, Anna itself had seven major heritors, and 'a very considerable' number of smaller ones. Adjacent Hoddon had about forty, while Lochmaben, with its 'king's kindly tenure', had nearly 250 small proprietors as well as four larger land-owners. The eastern fringe parish of Tundergarth had twenty-seven heritors.

We must assess Singer's record of one apparent inconsistency: 'what may seem unaccountable, sheep farms are often more attentively inclosed than arable farms', and this was echoed by the Galloway agricultural report [SINGER, 1812: 143; SMITH, 1813: 80ff]. This is partly attributable to the fact that Singer's own parish, Kirkpatrick-Juxta, was an upland parish, and he was well aware of the improvements underway there and in the neighbourhood; while in travelling through the lower parishes it would be very obvious to him that enclosure and fencing were variable where they should have been well-advanced. But perhaps the core of Singer's intention comes in his subsequent sentence; 'Indeed, on many arable farms, it is rather to be regretted that any fences at all exist, they are so injudiciously planned out, and so imperfectly put up'. Thus, a major problem with the enclosing was not that the benefits of this device were unrecognised, but that the quality of the fencing was sometimes very poor. Perhaps this is understandable when it is remembered that tenants, many of whom were under leases of nineteen years or less, often erected the fences at their own expense. Because of this it was desirable for them to
do it as economically as possible, and one apparently economical method was to throw up a wall of dirt and sods, perhaps with a hedge on top; another was to hire some of the unscrupulous stone-masons, about whom there were many complaints, who offered to erect stone dykes for prices lower than the reputable builders ('... there is hardly anything in which there is more fraud committed ...' [SINGER, 1812: 150]). These poor-quality walls would more than last out the tenant's lease, but would provide serious problems for successors.

By 1813, fences in Dumfriesshire appeared in eleven different varieties, and were of three basic materials - stone, earth, or hedge. Rapid progress had been made in the sixty years since General Roy had surveyed in the region, when there were probably fewer than a dozen enclosed fields in the whole of Nithsdale-Annandale [cf. PREVOST, 1955: 88]. Stone dyking had begun in earnest in the 1780's, and the Gallowsay dyke, 5'3" to 6' in height and with its open-work topping, had proved itself superior to all others for sheep enclosures. The Annandale dykes, however, were a modification of this, having a close-knit topping. This was probably true in much of Nithsdale as well. These dykes, when properly built, were meant to last a century. Other stone fences included the dyke coped with sod, the stone-faced earth bank, and the mortared stone wall. In arable land it was not always convenient or necessary to put up a stone fence, and a thorn hedge with a ditch on either side was a favoured alternative. The main difficulty lay in persuading the fickle thorn to grow strongly and uniformly in the chosen location, and much time needed to be spent in manuring and pruning. Another hedge fence was that in which no ditches were dug; these were only possible in rich land. Where thorn plants refused to grow, other plants such as beech, larch, and hazel, were used. The earth fences were out of favour because of their temporary nature.

The feel or turf dyke was one of the oldest kinds of fence used in Scotland. Quite often a ditch was dug on one side of the feel dyke. And a third variety was an antipodal solution, that is a large ditch, at least six feet wide and three feet deep, with no constructed wall. This was a wise measure in wet land, because it served also as a drain. But an even more effective
fence for wet land was the earthen dyke between two ditches.

The building of fences was the trade-mark of improvement, and one of the commonest sights in the Dumfriesshire countryside in the early 1810's was a team of fence-builders gathering the materials, preparing these and the ground on which the fence was to stand, and gradually invading and entwining the open fallows with this lacework of the new kind of husbandry. The burgh common lands throughout our region, except for isolated acres here and there, had been divided and assimilated into the cultivated land.* The straightening of estate marches and the building of a boundary fence was a relatively simple procedure, which could be enforced, with costs equally shared, by the suit of one proprietor in the sheriff-court (by a 1669 act of Parliament). And both proprietors and farmers were taking advantage of the prosperity of the war years in order to push forward enclosure. 'A great proportion of the conterminous estates have also been straightened and fenced; and inclosure and subdivision are going forward in most farms' [Edin. Enc. (1830): 197].

Cropping. There were complaints that, although Dumfriesshire was a county of great potential, proportionately great feats of improvement remained to be done. Farmers of 'the old school' were still plentiful, and it was pointed out that 'The system of over-cropping for corn still prevails, and that of cultivating rich grass in the pastures and meadows is far too little encouraged' [Edin. Enc: 194]. But the farmers of the old school, like the poor, we have with us always, and despite them the general Nithsdale-Annandale standard of farming in 1813 was remarkably progressive. The rotation of crops was well understood, and the length of rotation was adjusted to the type and condition of the land. The spirit of improvement had seeped from

* Common lands existed only in association with royal burghs. In Franklin's words, 'in Scotland there were no common rights except in the royal burghs, and so the landowner could abolish the system of run-rig and intermixed holdings in his own way' [FRANKLIN, 1952: 120].
the maritime parishes, where landlords and farmers had been conducting trials for twenty years and more, up the valleys to the midland parishes and most parts of the upland parishes. The art of manure-making was highly developed (although one expert claims the product was not as rich as at present, because animal food was not as rich [GILLIES, 1930: 153]), the pile being so designed and composed that many formerly deleterious materials could be turned to good advantage through this medium.* Lime as a manure had been known in southern Dumfriesshire as early as 1750, when the Kelhead limestone quarry opened in Cummertrees parish. This aspect of husbandry had extended so much that by 1813 there were thirteen to fourteen thousand acres limed each year, and about 140,000 acres of cultivated land (out of the 170,000 interpolated in graph I) were considered to be 'under lime husbandry' [Edin. Enc. (1830): 196]. The major crop, in terms of acreage, was oats, and it was at this time taking over the land that had been used for barley, because duties on malt were making it futile to grow the grain even though the land and climate were considered particularly suited to it. Wheat had also taken over some of the former barley land; but, it was a crop not well-suited to the region, even though the annual precipitation was not excessive (28 to 40" in the areas of cultivation) and the growing season was long (ca. 200 days considering the climatic variability) in the lower reaches of the dales [cf. FREEMAN, 1959]. Sunshine and high temperatures were lacking and heavy rains commonly came at the wrong time in the season. Potatoes were considered the staple crop in that the labourers relied on them as food more than on any other single commodity, except perhaps oats. There were other field crops, like flax and turnips, but flax was not progressing, whereas turnips occupied a rather conservative acreage (till after the early 1820's). Grasses were sown for pasture or hay; clover and rye-grass were most valued for this purpose, especially on fairly good land. For damper land fiorin, a refined member of the bent family, was being lauded as an eminent meadow grass.

* This development caused British agricultural visitors to North America to be surprised when they discovered, even as late as the 1830's, that many farmers there discarded not only straw and cut weeds, but also stable manure.
The details of agriculture in Dumfriesshire at this time have been thoroughly treated by contemporary spokesmen, notably Singer, but it is proper that some expansion and elucidation be given here. Perhaps the most notable thing about the husbandry was that the crop acreage returns were little short of present-day figures, and the total county production was probably even closer to the present because there was more land being used for cultivation at that time (cf. 1936, 114,706 acres of 'arable' land [McIVER, 1945: 24]). Returns applicable to the region were, wheat on good land thirty-two to forty-two bushels per acre, on poorer land only twenty to thirty-two bushels; oats, for five to six bushels per acre sown, returned forty to fifty and even sixty; barley, thirty to sixty bushels per acre; and some types of potato yielded eight to ten tons per acre, but mostly about seven and a half tons [DOBIE, 1949: 12-15].

Rotations were an established part of the system, except for some of the old school farmers, and the most common version was the five-year rotation, or the 'five-year shift' as it was called. This would probably have been composed of a year of oats, then one of potatoes or turnips, in order to get the land cleaned, then wheat or barley, sown down with pasture seed, and two final years of pasture, or one hay and one pasture. But, the variety of the rotations was legion, and the improving farmers had separate rotations worked out for all the parts of their farms. If the soil was dry and relatively rich, the rotation would have been of four years, consisting of oats, potatoes, barley or wheat with grass seed, hay. If the land was heavy and damp, which was a common condition in the upper parts of the dales on the hill slopes, the rotation would extend to six and as much as ten years, with two or three years of grains, broken by one of potatoes, and followed by four or five of hay and pasture. Singer published in his volume a selection of thirteen rotations, relating to most of the conditions found in Dumfriesshire, which provides a useful adjunct to the information given in the preceding lines.
No. 1. - Suited to the Soils near Murraythwaite.... Soil free.

1st year, oats from lay.
2d - potatoes or turnips, in drills.
3d - grain, with grass seeds.
4th - hay.
5th - pasture.
6th - pasture.
7th - pasture.
The manure all with the drilled green crop.

No. 3. - ... by William Stewart, Esq. in cold and high Lands.

1st year, oats.
2d - turnips, eaten off by sheep.
3d - oats, with grass seeds for pasture.
4th, 5th, 6th, pasture.

No. 4. - By Mr John Church, Hitchill, near Annan; on Dry Soil.

1st year, turnips.
2d - wheat or barley, with seeds.
3d - grass, for sheep-pasture.
4th - grass, for pasture.
5th - oats.
The grass eaten off by sheep.

No. 7. - By [Mr George Syne, Redkirk (Gretna)]; in Clay.

1st year, plain fallow till July; then (if clean,) sown with 71b. rape and 1 lb. turnip; eaten off about the end of August.
2d year, wheat, eaten down with sheep early in March; grass seeds then sown, and the wheat left to grow for a crop.
3d year, grass, or hay.
4th year, oats.

No. 8. - Communicated by the Rev. Dr Macmorine, of Caerlaverock; for Dry Soils.

1st year, oats.
2d - potatoes.
3d - barley, and grass seeds.
4th - grass, to be cut for hay.
No. 11. - By Mrs Shaw, in Lochar Moss .... Soil deep peat-moss, covered with sand.

1st year, potatoes.
2d - wheat or barley, with seeds.
3d - hay.
4th - pasture.
5th - pasture.
6th - oats.

No. 13. - On Muir, the Heath burnt off, and the Surface well manured with Lime, to lie for two Summers, and the Lands to be ploughed in Autumn; then,

1st year, oats.
2d - oats.
3d - potatoes and turnips, with dung.
4th - barley and grass seeds.
5th - hay.
6th - pasture.
7th - pasture.
8th - pasture. [SINGER, 1812: 175-9].

Lime or dung were almost always applied before the sowing of grain, unless the land had just been broken from a long ley or a green fallow. The amount of dung used was forty to sixty single-horse cartloads per acre; lime was, on an average, applied twice during a nineteen-year lease, and was spread at about thirty bushels per acre.

The preparation of the land was meticulous. The major ploughing of a field was done in late autumn, unless the previous crop had been potatoes or turnips, when no ploughing was felt necessary. As soon as spring weather allowed the furrowed land was further broken by cross-harrowing, and this was followed by a second ploughing and another harrowing. Depending on working conditions and the crop to be planted, a third ploughing was sometimes given, or, more commonly, another harrowing shortly before sowing. And, after the proper tilth was achieved, the surface was often rolled. The reclamation of peat land and shallow peat mosses was an important aspect of the improving movement, and paring and burning, paring and spreading heavily with lime, or variations of these processes, were familiar sights in Dumfriesshire in the first fifteen years of the century.
normally began with the sowing of spring wheat from February through to April; the coarse, bearded wheat, on higher or colder soils, was planted as late as April. But it was possible for the so-called 'autumn' wheat to be during the winter months and into the spring if conditions allowed. Oats were broadcast in March and early April, barley at the end of April. Potatoes were also laid in the latter part of April or early May, and turnips were ordinarily planted in the first part of June. In the more inland sections of the region, autumn wheat was sown in late September after a plain fallow, or in October and November if it followed another crop. Drilling of seeds was seldom attempted with grains, probably because of the refinement of the machine needed to handle the small seeds. It was applied, however, to larger seeds, particularly those of the turnip and beans.

Excluding hay, the first crop of which was cut in early July, the harvest season began in the first half of August with barley. It was followed by wheat, and some early potatoes. The grain harvest continued through September and into October, as oats and late wheat became ready. The main crop of potatoes was lifted in October, and turnips were 'drawn' from this time through November and December. Some fields of turnips were left to be eaten off by sheep during winter and early spring.

Grading from the maritime parishes to the peripheries of the region, the operations of sowing and harvesting were anything from one week to a month later than the dates cited above, and the greater the severity of the seasons, the greater the discrepancy; the principle of 'to him that hath it shall be given' was effectual in this regard.

The implements known to Dumfriesshire agriculture had become numerous both in quantity and variety. A marked change had taken place even in the few years since the First Statistical Account in the ploughs used, so that by far the majority of the ploughs were of the streamlined type, having an iron moldboard, as designed by Small. The old stocky wooden Scots plough was restricted to isolated, stony parts of the region. A competent description is given, by Sinclair, of this precursor of the improved ploughs which were doing most of the tillage in the region in 1813.

The only plough made use of in Scotland, till within the last sixty or seventy years, was what is generally termed the 'Old Scotch
Plough'. .... It is a strong heavy machine, about thirteen feet in length, from the farthest end of the stilts or handles, to the extremity of the beam; and about four feet from the back end of the head to the point of the sock. When well made, it is very proper for breaking up or tilling rough uncultivated grounds, especially when incommoded with stones; the sharpened point and long taper of its sock goes easily past any obstacle; the great length of its head takes a firm hold of the ground; its weight prevents it from being easily thrown out by stones, or any other cause; the length of the mould-board lays the furrow-slice regularly over, and its long stilts or handles give the ploughman great command in directing its course in the ground. .... But in tender soils it is not so profitable, for, by its great weight, the friction is increased, on which account more power must be required to draw it, than what is necessary with a lighter and better formed plough. [SINCLAIR, 1814, I: 213].

This plough was made of wood except for the sock, coulter, and two shoes on the sole and side of the wrest, which were made of iron. There were other disadvantages, having to do with the shape and angles of the cutting and turning components in particular, which were scientifically obviated by the improved designs. The new-style plough required only two horses in ordinary circumstances, which was a sharp contrast to the three or four that had been needed to pull the old plough. A further refinement of this implement, known as Wilkie's plough, had also made an appearance in Dumfriesshire. The most desirable harrow was a double one, linked with an iron couplet (as devised in Annandale), and drawn by two horses. Single harrows were also used, and in general the harrows were light in keeping with the nature of most of the arable land. Other implements were the roller, which was used subsequent to the last harrowing of a seedbed; the seed drill, employed for large seeds and either drawn by horse or by hand; the stationary threshing machine had become common even in the upper parishes, driven by water or horses; and the winnowing machine, or fanner - basically a rapidly revolving drum with slats attached which produced a strong wind for separating the grain from the chaff - of which every farmer owned at least one. There was a considerable array of tools, like scythes, spades, hoes, etc. Of transporting vehicles the single-horse cart, which had been common at the First Statistical Account, was even more ubiquitous by 1813, and it virtually excluded other - particularly heavier - types. Singer's description of it says that it was 'fixed
on a pair of wheels and shafts, and capable of turning up on the axle, (without unyoking), and throwing back all the contents at once' [SINGER, 1812: 157]. This coup-cart, as it was called, was used for carrying everything from strawberries for the Dumfries market, to manure and coal for which sides ('shelbands') were added.

In the periods following harvest, and for the length of time the farmers managed to store their crops, there was a brisk traffic to the weekly markets in the nearby villages, like Lockerbie, Annan, Sanquhar, etc., and a more substantial trade with Dumfries, Carlisle, and even Lancashire. At the First Statistical Account Dumfriesshire was standing with its toes in the waters of commercial agriculture; by the beginning of the second decade of the nineteenth century it was quickly wading in to meet the tide. Dumfries was the chief market in south-west Scotland for cattle and horses (mentioned under Livestock farming, below), as well as being the main depot for the excess grain, vegetable, fruit, and dairy products of Nithsdale and adjoining Kirkcudbrightshire and Annandale. Carlisle drew many of these products from the eastern side of the region. The inland transporting facilities were well-developed, Dumfries itself having more than a dozen carrying carts which specialized in moving goods to Edinburgh, Glasgow, Carlisle, and other towns. The region's principal exports were lead, cattle, wool, grains, and potatoes; imports were coal, slates, pine timber, various special groceries, wine, and iron goods.

The agriculture of the Nithsdale-Annandale region in 1813 was extremely buoyant, probably more so than it had ever been before, or has been since. But at the same time there were a few problems in the lives of the farmers. One was the duty on malt, which reduced beer consumption by forcing up its price. This meant that many acres of the two dales which were highly suited to the growing of barley were turned to other uses, usually the growing of wheat or oats. Another source of dissatisfaction was the Corn Law: the law of 1804 was still in force in 1813. Among other things it legislated that, unless the home price exceeded sixty-three shillings per quarter, foreign wheat could be imported only after the paying of a heavy duty (24/3 per Winchester quarter). Since 1804 the price
had risen steadily, and during much of the period had surpassed 63s by a considerable amount, so that the market had become increasingly fickle (see p. 171). The other grains roughly followed this pattern for wheat. The farmers called for a substantial raising of the price barrier, apparently oblivious of the effects this would have on other segments of the population, particularly in industrial areas. Apart from the external problems of political economy, there was at least one problem for the farmers to combat in their own fields. This was the spread of bracken, then called simply 'fern', into the best permanent pasture. It had been a problem in Dumfriesshire since the beginning of the century, and in a retrospective article of 1837, it was said that bracken 'is one of those plants that may be found on every hill, in every wood, and almost in every uncultivated field in Scotland.... There is perhaps no plant so widely distributed in this country of so little real value' [McTurk, 1837: 371]. And, as Fenton has shown on more than one occasion (1936, 1937, 1939), bracken leads to a rapid deterioration in the grass association until only coarse, unpalatable species are left (Fenton's argument is outlined in Vegetation Problems, below). There were one or two inspired approaches toward a solution of this problem (such as McTurk's flooding technique). Among the cultivated crops there was trouble, on a limited scale, from rusts (particularly serious in wheat, 1816) in the grains; and also in 1816 wire worm was specifically mentioned as problematical [Courier, 24/5/1816]. The only other threat faced by the farmers was that of inclement weather, which usually only interfered with the upland farming. But it had struck hard in 1811, and was to do so again in 1816, and in the intervening years its negative presence was hardly absent.

Livestock farming. Although much of Nithsdale—Annandale was under the plough it was best known outside its own bounds as an area of animal husbandry. Part of its reputation arose from its markets, to which cattle and sheep from all the south-west of Scotland were brought. But it was important livestock country in its own right; the county (including Eskdale) contained over 200,000 sheep, mostly Cheviot, about 30,000 cattle, mostly Galloways, and 8,000 horses; also, 13,000 swine were fed for slaughtering annually, and
Annandale bacon was famous.

The relative locations of cattle and sheep have been shown graphically on Map IV. The upland parishes were ranged by sheep, and the maritime parishes were more concerned with crops than animals, while the heaviest livestock population was found in the midland parishes. Each beef animal should be considered as equivalent to three or four sheep, in terms of food consumed, attention required, and returns provided. The types of animals remain to be clarified.

The beef cattle were almost all of the Galloway breed. In Dumfriesshire they fared as well as in their home counties, and in parts of eastern Annandale they fared much better, growing faster and larger. They were closely similar to the Galloways of the present day, being black, stocky, and polled. Dairy farming, which was gradually being established in the lower dales, relied on the Ayrshire (also called Cunningham) breed. These, too, were obviously the precursors of the present breed of the same name, and the only noticeable refinements that have been bred in since 1813 are a more pronounced triangular shape, giving relatively long back quarters, and a larger udder. The horses were mainly of local breeding, and were suited to the conditions of the region. The generally lighter soils allowed the horses to be smaller and less powerful than the Clydesdales, and the farmers took the opportunity to breed in a portion of the dash of a saddle horse.

The sheep were divided into upland and lowland breeds. Concerning the uplands, 'Cheviot flocks occupy most of the sheep-walks of Annandale; and the forest or black-faced sheep still possess a large proportion of those of Nithsdale. Nothing, however, seems to be wanting excepting shelter for the ewes and lambs, to prepare for the introduction of Cheviot flocks into almost every sheep farm in the county...' [Edin Enc, (1830); 194]. The lowland breeds included Leicester, Southdown, and even a few Spanish (Merino). The Leicester breed had white faces and legs, rather large bones and long carcasses, and were generally a little bigger than the Cheviot. The Southdown were described as having 'grey faces and legs, fine bones, and long small necks; are low before, and light
in the forequarter..." [Edin Enc, I: 333]. The other breeds are well enough known in Scotland to need no description outside of that given in the text. The estimated number of sheep in 1812 was 175,000 upland and 25,000 lowland.

The swine were probably the least improved of any of the livestock. There was a long-eared white breed, such as was indigenous to north-western Europe, and also the Chinese pig, which fattened easily; and there were many crosses of these two breeds. Random patches of dark colours, which have largely been bred out since, were common on the ordinary farm swine. The particular contribution of Annandale was in the curing of bacon, part of which was done over a peat fire.

The chief markets for the bacon were in Newcastle and London, and £50,000 annually was brought into the county by this sale. London was also a lucrative market for thousands of eggs from the county; and eggs were sent to Edinburgh, along with turkeys, geese, chickens, and ducks, for cooking. The poultry, like swine, were kept by many people in small numbers. Thousands of cattle and sheep left the county alive, because, apart from the annual fairs, there was 'no certain and easy market within the county for well fed cattle and sheep in quantities' [Edin Enc, (1830): 194]. In fact the county was an intermediate fattening ground for many animals from further north and west, enroute to English markets or pastures. This meant that farmers had to leave their land to drive the animals to market, or they had to hire a drover, both of which courses of action were open to many criticisms. The massive Dumfries cattle fairs, at Whitsuntide and Martinmas, when as many as four thousand cattle crossed the Whitesands sales area in one day, had buyers from all over the country. And each Wednesday from the beginning of April to the end of December there were some cattle up for sale, so that more than twenty thousand were sold each year. There were also horse fairs in Dumfries in October and February. The chief lamb fair was at Lockerbie in mid-August, and this was also the centre of the bacon trade. The principal tup fair was at Moffat, at the end of June. The weekly fairs that were held in the vill-
ages and smaller burghs, in many ways duplicating the Dumfries market, had become more of a nuisance than a convenience, when the amount of sales was considered; they served, it was said, as ‘apologies for idleness, dissipation, and mischief’ [SINGER, 1812: 415].

Of the problems facing the livestock farmer in Dumfriesshire none was outstandingly serious. Even foot-rot in sheep had acquired little notoriety, and only one or two diseases were of any consequence. The upland sheep farmer’s main fear, especially as the less hardy Cheviot became more popular, was that the winter would prove severe enough to weaken the flock, and the spring backward enough to stunt the grasses, allowing the lambs to die at birth of exposure. Among cattle some diseases were known, but, said Singer, ‘few of them are frequent; and the losses in cattle, by distempers, are not great’ [ibid: 357].

Workers. Integral parts of the Nithsdale-Annandale scene were the individuals and groups working in the fields: the solitary ploughman turning a fallow, the sower broadcasting grain seeds, the small group engaged in laying potatoes, and the busy crowd occupied in harvesting. Behind this pictorial farming calendar it was possible to find a fairly regular – even predictable – organization, revolving around what Geddes calls ‘the farm labour-team’ (1949). The team is composed of all the agricultural labourers on a farm, apart from the farmer and his wife. Geddes shows that at the present time the team on hill sheep farms in Dumfriesshire has an average of 3.0 to 3.8 members; while on the mixed farms the figure is surprisingly similar, being 2.1 to 3.9. The size of teams in 1813 is unfortunately an unknown quantity; but it is indisputable that they were larger, in the case of the sheep farms probably one to two members more than the present average, and in the case of the mixed farms two to three members more. This is based on the common knowledge that rural depopulation has taken a heavy toll, and machines are now occupying the places of some of the workers of 150 years ago. The team on a sheep farm could not have varied greatly as long as the boundaries of the farm remained the same, because
sheep farming is still largely a matter of a shepherd covering a fixed range on foot, as it was in the last century.

Labourers were engaged at the hiring fairs which took place a couple of months before the usual times for the ending of leases; in Moffat, a sheep area, they occurred in March and October, while in Lockerbie, an arable area, they came somewhat later to avoid the main seeding and harvesting times. Most of the burghs and villages had fairs, although Moffat and Lockerbie were the best attended. Each of the jostling host of labourers, who probably brought more life to the villages than was desired, indicated his readiness to be employed by wearing a sprig of greenery in his cap. The farmers then engaged these lowly 'plantagenets' for a six-month period. The contract was informal and verbal, but, although the worker was free to choose his master, once chosen there was still a strong master-servant tradition which in a court of law usually went against the labourer. Until 1813 the Justices of the Peace theoretically had the right to fix wages [cf HOUSTON, 1958]. In the terms of contract the married servant was usually given a cottage near the farm offices; he had the privilege of grazing a cow, he was given a stone of meal weekly, some potatoes, and peats or coal, perhaps other supplies, and a money wage; it was all worth about £37 a year. Single labourers were of two kinds: either day-labourers, common in the more populous districts, who lived with their families or relatives in the neighbourhood; or, the labourer who boarded in the farm house. The bothy system appears to have been unknown in Dumfriesshire.* The boarded farm servant received, in addition to food and bed, the high wage of £18 a year, which was approximately twice the wage paid in the 1790s, and was one-third more than that

* Cf the 'Digest of Essays on the Bothy System of Maintaining Single Farm Servants', Transactions of the Highland and Agricultural Society of Scotland, Series 2, VIII (1843), p. 143: '...the present method of lodging the single farm-servants on the Borders of Scotland, where the majority of farm-servants being married men, the single men receive their victuals either in the farmer's house, and are lodged in it or in an apartment connected with the steading; or what is far more common, the single men dwell with their married relations'.
paid in the 1830s. A female servant received only £8 a year. Day-labourers would expect to be paid a slightly larger money wage than the farm servants in lieu of board and lodging. Ploughmen received somewhat more than the ordinary labourers cited above, and part-time workers, who were paid by the day, got higher wages during the height of summer and especially in the harvest season. At the First Statistical Account the day wages varied between 10d and 1s in winter, and between 1s and 1/4 in summer. At the Second Statistical Account the winter wage was 1s to 1/3, the summer 1/3 to 1/6. In 1813 these wages, like those paid annually (and like the general level of the economy), were approximately one-third higher than at the Second Statistical Account (ca 1833).

The short six-month hiring period was looked upon by the labourers not as a restriction but as an aspect of their freedom, and they often made a point of changing masters at least once a year; the hiring fairs were always busy events. A statement by Geddes, in an article on the farm labour-team, is relevant: 'From about 1800 until 1939 the farm hands and their families could have been described as semi-nomadic' [1949: 13], although in Dumfriesshire, where there was the tradition of living with relatives, it is likely that the migration especially of unmarried labourers was not as sizeable as in other parts of central and eastern Scotland. But, at the same time, Dr Singer, who was both a clergyman and an agriculturalist, was concerned:

There is no regular and general plan of employment for them [labourers].... Married servants are too few in proportion.... [SINGER, 1812: 393]

There had been steps in the right direction, however, most notably in the building of new villages which incorporated numerous 'semi-utopian' features.
The Nitidale-Annandale Agricultural Report for 1813-1814*. All but the most favoured parishes approached the 1813 seed-time with more than usual caution because of the general paucity of the 1811 harvest and the variability of that of 1812: '...nothing but the strictest economy can carry us forward to another crop without experiencing the strictest privations' [Fm Mag, 1812: 538]. Thus by early February 1813 the prices of grain were already too high for the great mass of the population, particularly in the towns. But fortunately for the poor of the countryside their staple, potatoes, had proved a good crop. Severe frosts in November and December had damaged the turnips that were left in the ground for grazing of sheep. In the upper parts of the dales it was difficult to secure decent seed from the 1812 crop, although wheat and barley were a little better than oats; whereas on the lower land the grains had been good, and even oats were above average quantity. The spring was introduced by very variable weather; March came in like a lion and went out like a lamb, while April was the opposite and an end-of-the-month snowfall caused havoc among the upland sheep. However there had been enough warm weather to allow the field work to be brought almost up to schedule. By the end of April the oats were sprouting even in the upper fields, and the wheat in the maritime parishes was looking healthy, while potatoes were being planted. The price for grain, in the eyes of the farmers, was rather low even though they were holding on to a large proportion of the 1812 crop. This lack of response by the market may have been a result of the importation of foreign grain, which had become commonplace because the price had stood above the import bar for some years. To the good fortune of Dumfriesshire, cattle and sheep sold high throughout the first half of 1813 and park was in demand.

The end of July brought an optimistic

* The Farmer's Magazine published an invaluable set of quarterly agricultural reports, which extend well beyond our period. From the Nitidale-Annandale region there were reports regularly submitted under the headings 'Upper Annandale' and 'Dumfriesshire'. In addition there was a regular letter from Langholm which gives some insight into the conditions on the higher land running down the east side of our region.
comment: 'Seldom has our report been written under conditions so favourable to agriculturalists...' [Em Mag, 1813: 365] (surprisingly superlative for a farmer). The early potatoes were almost ready in the maritime parishes, and their lifting would be a great relief to the poor of the region. The grains were progressing well all over the county, under the warm weather with occasional showers. The barley had not been so good for years in the upland parishes. The only disappointment was in sown hay, and perhaps also in the prices for grain, meal, and cattle, which were either static or retrogressing. Cheviot wool was also unsuccessful on the market. Fine, dry weather at the end of August, and suitable harvest weather at the end of September and into October, brought a jubilant ending to the agricultural year. In upper Annandale it was said 'the crop now in the stack yards has not often been surpassed in value, though the bulk has occasionally been greater' (p. 483). And, in the lower parishes, the major harvest operations were concluded before the middle of October, and it was reported that the wheat was one of the best crops ever grown in the county both for quantity and quality. Potatoes, as expected, were also above average. The success of the grain crops, of course, almost automatically led to a reduction in the prices. But the demand for young cattle was brisk throughout the region, and they brought high returns.

The winter of 1813-1814 was remarkably fine except for the first week in January. Field work was halted for little more than three weeks in the whole of the winter. The highest flocks of sheep fared better than expected, because the snow had proved dry and the ridges had been blown bare of it. Lower flocks suffered from the bitter cold of the ensuing rainy weather which drove them into the valleys where the snow was deepest. Potatoes and turnips which had been left in the ground during the winter season were damaged by frost in the upper fields. Although there was a good sale for fat meat, prices of most agricultural products remained low, and farmers wondered whether or not it was worth threshing their grain. But the only obvious element of worry was the magnitude of rents being demanded on new leases; 'It is now manifest that rents have been stretched to the very utmost...', said the reporter for upper Annandale [Em Mag,
1814: 98]. The early spring weather was showery and field work was only slightly behind schedule, and by potato-planting time (late April) it had caught up. The birds on the grain fields were luxurious by the end of April. But the farmers were still suffering a little for their own success in that the plenty of 1813 was keeping prices low. There was also the foreboding that the suggestion of peace with Napoleon was depressing the value of money and also reducing demand. Through June and July the weather was mainly dry, and there were actually frosty nights. Then rains set in accompanied by warmth, and this was an ideal combination for the well-being of the grain crops. The grains were indeed superior, but the sown hay had failed largely because of frost, and potatoes and turnips appeared to be only an average crop or less. Prices continued low - even cattle having fallen - except for wool which made a strong recovery. The weather, however, was not to remain entirely propitious, and the harvest was generally a disappointment. The first part of August was wet and cold, interrupting the ripening of the crops. Then a gradual clearing toward the end of the month and fine weather through September allowed good harvesting conditions. But the higher areas were caught unfinished by heavy rains which came frequently after mid-October. Although potatoes and turnips proved about and average crop, the grains, except barley, were deficient in both quantity and quality. The problems of the harvest had held back field work, and there was little encouragement for grain growers, in particular, from the prices being offered. Only fat meat had maintained a good price; sheep were in demand, and cattle prices, which had had a very dull summer, were rising rapidly by the end of October.

This was the situation at the 'watershed' of our study, on the eve of 1815, a year of many profound changes. This agricultural commentary will be continued under Section III: The Changing Geography, 1815-1816.
3) Unimproved Land

Both unused land and land that could be used more intensively were being attacked with gusto in 1613. Unimproved land embraced these two types. Stated improvements included the paring and burning of muirs, antecedent to being brought into cultivation, and the fellowing— which usually involved heavy liming, ploughing, and planting of grass seed— of light mosses and gravelly ground [Mag, 1612: 120]. However, the Mithsdale-Annandale landscape was still a patch-work quilt liberally blotched by unimproved land.

And the further up the dales one moved the less out-of-character did unimproved land appear to be. But there was not much area in the county that was considered as absolute waste, although Lochar Moss was a sizeable example of this. Singer did not feel competent to state an actual area, but Sinclair attempted to give an idea (‘supremely impressionistic’ is the term Henderson has used to describe the agricultural reports for the Board of Agriculture from which Sinclair drew his information [HENDERSON, 1952: 340]) by stating what was cultivated and what not, an attempt which proved to be thoroughly unsatisfactory [SINCLAIR, 1814, II: 2]. It should be recalled in this connection that the improvers of 1813-1815 were later criticised for having brought into cultivation too much land, land that could not economically be kept in cultivation; and some tell-tale welts are still to be seen on the flanks of the hills.

There were assorted reasons for the existence of unimproved land, apart from the obvious one that some farmers were old-fashioned. The most common was wetness of the site, such as occurred in mosses, although this land offered the best possibility for improvement.*

* Differentiation between the terms 'moss' and 'muir' is difficult. The meanings that are employed here have been arrived at after consultation of various Scottish dictionaries, and the usage of certain Scottish authors. A 'moss' is an area on which peats can be cut, and thus it is a damp-to-wet layer of organic material lying on top of a gleyed parent material. Depending on the degree of wetness it may be called a 'peat-moss' or a 'flow-moss'. A 'muir' on the other hand is physiologically dry, or, at the most, damp. It is an area on which heath grows, and it has a surface layer of organic material; but it is usually characterized by having numerous stones near the surface, a poorly-developed gley horizon, if any, and often a hard-pan layer. Thus it was possible to use muir as pasture, for sheep in particular, whereas most of the area in moss was ordinarily avoided except for the cutting of peats [Of ROBERTSON, 1957: esp. 1-5].
The art of draining mossy land had been highly developed especially in upper Eskdale, so draining, followed by ploughing, liming, and seeding to pasture, was common. Even the intimidating Lochar Moss had been successfully challenged on a small scale, through a method of canalizing and reallocation of ground materials similar to that in practice in the Netherlands. On some mosses, after ditch draining, the top was pared off with spades, or ploughed, and burned; then the ashes were spread, lime was applied, and after mellowing for up to a year it was ploughed for the planting of grasses, or grain, or even potatoes. The application of an earth or gravel top-dressing was a popular device in the reclamation of mossy land. Steepness of the site was a condition that daunted even the improvers of 1813. Stoniness was not insurmountable as long as there were five inches or more of humus overlying the main accumulation of stones. This was a condition often found on infertile dry muirs. The suggested procedure was to plough with the stocky Scots plough, the heath having been burned off, leave to mellow, then lime, and after another interval plough and seed for oats or grass.

Another adverse phenomenon was the area of 'bogs' (Singer, p. 306). These bogs typically dotted the glacial drift which lay as huge billowing hems around the edges of the physiographic basins. Technically they were kettle ponds, and they are still plentiful along with the damp spots where drainage has taken place in the Dumfries and Closeburn basins and around the midland edge of Annandale. Some improvers advocated that they be drained and planted with tilled crops, but the wiser voices advocated seeding to fine meadow.

The map of soils (i.e. Map XXVIII) records some of the more persistent areas of unimproved land during our period. These were the major mosses and muirs in the cultivated section of the region; the location of the moss on the northern fringe of Annandale was of interest because between it and the Marquis of Annandale's Beef Stand (The Devil's Beef Tub) ran the main road to Edinburgh. These areas have been extracted from Crawford's Map of Dumfriesshire (1804); what he
has chosen not to show are the less immediately important stretches of muir and moss on the various 'levels' of the peripheral hills, and on the ridge separating Nithsdale and Annandale. It should be noted that in the lower parishes, where there was a heavy regolith of glacial or marine debris, the moss was common. This is the result of the isolation of wet patches, remnants of the derangement of the surface drainage. The four mosses near the Solway coast have been blocked in behind a marine beach. On higher land the muir was more common because the basic problem was more often faulty soil drainage resulting from a shallow regolith or a hardpan layer, complicated by excessive precipitation,
4) The Vegetation

The vegetation lends itself to a two-fold classification into improved and unimproved. The tree cover, for example, was made up of the untidy natural growths of valley sides, and the well-husbandled plantations set up as profitable investments on rather poor land. There was a limited number of shrubs grown in gardens for bearing fruit; and, on the other hand, shrub growth was common in the untended strips of woodland. The ground cover embraced both the fine grasses of the water meadows, and the coarse tenacious grasses which were degrading many pastures.

Trees. For something so important in the lives of the people — to judge from the frequency and affection with which trees were described — there were remarkably few trees in the region. And natural growth, or very old post-climax growth, was extremely scarce; the 'ancient forests of Caledonia' had long since reached their nadir. Plantations, on the other hand, were increasing in extent every day. Sinclair, in his General Report (1814, II: 311), estimated that there were three thousand acres of natural woods and twenty-eight thousand acres of plantations. It is difficult to reconcile this with the estimate by the usually-reliable Edinburgh Encyclopaedia of six to seven thousand acres of woods and plantations in the county (p. 197). The proper answer lies between these two, but closer to the Encyclopaedia. In the thirty-eight parishes in our region there were, according to the Second Statistical Account, 16,102 acres of woodland. Three of the parishes, however, did not report on this subject, and if we postulate an additional 90 (Annan), 80 (Halfmorton), and 700 (Pengont) acres, which are figures compatible with Crawford's map and other evidence, then the total for the region is 16,972 acres. This meant that approximately three percent of the region's area
was under woodland of some description.* In 1813, if anything, there were probably slightly fewer acres.** The details of the information from the Second Statistical Accounts are set out in Appendix II.

There was a rough dual division in tree growth in the region. In the small upland valleys the trees were almost all in natural growths on the steep sides, adapting as well as possible to the environment. The growth in the bottoms of the dales—and this includes the cultivated land from the Sanquhar basin down to the Solway parishes—were usually planted either as an investment or an ornament, and we could say that the environment was as much adapted to the trees as vice versa. In addition to these two divisions there were the clumps, strips, and wind-breaks which adorned the vicinities of most houses, from farm-houses to castles, in all the country parts of the region (cf the Cart that plan at the back of the volume).

Evidence from peat-mosses suggested that the two major tree types characterizing the ancient forests had been oak and Scots pine (Pinus sylvestris). By our period oak was still found in some of the natural growths, but paradoxically, the Scots pine was no longer a native tree, and had not been for many decades. The most spectacular individual trees, in 1812, were oaks, some of them measuring more than seventeen feet in circumference near the ground; however, oak, along with ash and elm, were becoming increasingly scarce. The larch had been introduced for many plantations and proved very successful, even in the apparently bleak area of Wanlockhead where they were report-

* Which agrees closely with Sinclair's two to four percent; but it must be realized that he arrived at this figure through two false premises: his acreage of woodland was much too high, and the number of acres in the county by his calculation was 115,000 more than the actual! However, he was inconsistent on the last point, for in another part of the above work the figure given is a little lower than the actual.

** Cf the remarks made in some of the Second Statistical Accounts; Dun- score: most planting done since 1805; Button & Corrie: the one hundred acres of woodland all in recent plantations; Ruthwell: of the 520 acres, 203 planted since 1812; Penpont: extensive plantations have been and are being made.
ed to be up to seventy feet high. The Scots pine was a popular re-entrant, but hardly any of them were of a usable size in 1812. The rate of growth of larch was prodigious in favourable locations. One 35-year-old example, on a particularly good site, measured five feet in circumference near the ground. And a contemporary expert claimed that spruce would accumulate as much wood as larch in the course of sixty years. The Scots pine, it was thought, had a lower rate of growth, one grower claiming it to be only half as fast [SINGER, 1812: 545]. The larch was remarkable for its success even on poor soils, although shallow soils would limit its growth. Alder was the basic genus in the natural growths on valley sides, with birch, oak, and ash. And in some smaller valleys in the midlands, other types were planted amongst the natural growth, notably larch, spruce, Scots fir, silver fir, oak, ash, elm, plane, and beech. They thrived when there was a thick cover of soil over the sandstone, and they struggled when it was thin. But in any case, the cover on the valley sides was usually copious, and in most copses the ground around the young trees was clothed with natural brushwood as well [cf 2nd S A: 173-4]. Appendix III lists the trees which were considered indigenous, and those which had been introduced.

Proprietors were beginning to take up the idea of planting trees on poor quality land rather than trying to eke out cultivated crops. But, of course, the tendency was not universal, and, as Singer said, 'What is most to be regretted is, that many proprietors have no taste, or inclination, for this most elegant and interesting improvement; and that others want the means of carrying it through, or hold their lands by a tenure which does not encourage it' (p. 296). But those who had the inclination or the opportunity found, partly to their surprise, that the plantation was an unmistakably good investment and yielded returns better than would have been obtained from a cultivated crop. One reliable estimate (made in another part of Scotland, but applicable here) stated that, whereas a total of £30 per acre had been expended in land preparation, weeding, pruning, and general husbandry, it was expected that the market value of the trees would be £100 per
acre. A Dumfriesshire grower indicated that for sixteen years he had been
benefitting from the weedicings of one plantation at the rate of £1 per acre,
and on cutting the remaining trees was confident of getting £100 per acre.
Another landowner, at the opposite south-east side of the county, estimated
his plantations to value on the average £50.18.6 per acre; this included
thirty-six acres of good quality trees at £100 per acre, down to seventeen
acres of degenerate Scots pine at only £5 per acre [SINGER, 1812: 285, 592].

Preparation of the land for planting
trees usually consisted of fencing well, draining, and burning off the
thick ground cover if necessary. Ploughing was not used. Nursery-grown
trees, although expensive, were commonly used, and planting involved simply
folding the root bundle into a spaded hole. But there were numerous oppo¬
ponents of the nursery specimen who claimed that seed-planting was the best.
They believed that in the time taken by the young sapling to adjust to
its new environment, the seed would have produced a stronger plant that
lacked little in size. In difficult circumstances the most sagacious
planters set their trees in clumps so that they could protect one another.
The Scots pine was quite often used as a quick-growing protective wall
for hard-wood varieties. The larch was recognized as a hardy type, and
it would even grow on the most barren muir if it was planted by 'fitting',
so that its roots could reach the underlying mineral soil horizon.

The plan of many of the plantations
contained a laudable aesthetic component. Planting was done with the
colours of the spring and autumn foliage in mind, and the contrasting
forms of the trees were considered. Allowance was even made for a sprink¬
ing of flowering trees, which added daubs of colour to the scene, and also
attracted birds and insects.

It is not known what the reactions of
the smaller farmers were to the plantations of their large neighbours.
But it is likely that they were favourable. The informed opinion pointed
out - and this was probably self-evident - that the trees formed a pro¬
tection: they partly barred the force of high winds; and it was also
said that trees ameliorated the climate, which was probably true in certain seasons and while the forests were of a moderate size. But it seems likely that the chief beneficial effect was little more than that of protection.

Improvers in Dumfriesshire in 1813 were not satisfied, however, with the extent of the tree cover, and particularly of that in the uplands. In the agricultural report of 1812 it was said,

No person can pass through Dumfriesshire without perceiving that much remains to be done in this delightful branch of improvement: but the mere traveller cannot be aware of a still greater deficiency of plantations, which is justly complained of by storemasters, in the higher and colder farms, where these are most wanted for the safety and improvement of the stock [SINGER, 1812: 292].

(It is interesting to note that this last argument is the same one used to support the earlier destruction of the forests, which were known to be refuges for beasts of prey and some unwanted plants). The high hills, by 1813, were almost totally devoid even of stunted trees let alone any planned plantations. This can be seen, for example, in the plan of the Kirkland of Kirkmichael farm (at the back of the volume). And, in words of the minister of Applegarth, which were applicable to our period, 'the temperature must be considerably influenced by the nakedness of the country, which from the N.W. round to the N.E. is generally destitute of growing wood; ... the cold winds from these quarters receive no check, and consequently, the temperature no increase from well-grown woods [2nd S A: 171-2].

The map of Tree Coverage (VII) concludes this picture of the woodland. The information has been interpreted from Crawford's map, which is an accurate record except for some of the highest and most remote parts of the region. Three notes concerning the key are necessary: 1) the term 'plantation' is to a certain extent self-explanatory, in that it carries the connotation of trees having been planted fairly thickly and according to an organized plan; but it is
partly insufficient because in some cases young trees were planted on valley sides to augment natural copses, old plantations were thinned out in a very irregular way, and from Crawford's symbols it is often difficult to draw a definite line between plantations and random growth.

2) 'Random growth' includes both the sometimes thin and stunted patches of the irregular rough woodland, and the sparse tree cover on the ornamental meadows around great houses. 3) The strip growth, as the name suggests, incorporates single rows and also multiples of this to as many as ten or a dozen rows. Such growth usually occurred in the parkland surrounding a house, along river banks or roads, and in hedgerows. The map displays clearly the dichotomy between the upland and lowland growths. The heads of both dales have limited plantations on the floors of the basins, whereas in the radial valleys there are only random and strip growths.

**Shrubbery and ground cover.** Natural brushwood was mentioned above as commonly filling the interstices in a valley-side growth of young trees. This brushwood was a nondescript collection of shrubbery which included birch, alder, mountain ash, hawthorn, and willow. The same phenomenon can easily be found today. In addition to this there was a generous selection of proper bushes: sloe, bramble, whin, broom, and honeysuckle, which were flowering species; and the first two of these, with of course the domesticated raspberry, currants, gooseberry, and the wild raspberry, strawberry, and the berries of the high hills, also produced edible fruit.

The actual ground cover was suited to a tripartite division; the mainly flowering plants of the woodland and hedgerows; the domesticated grasses, the utilized wild grasses, and other plants of the pastures and meadows; and, the vegetation of the muirs and mosses.
rows, which often invaded adjacent cultivated fields, in our rather general view of the subject can be considered as very similar to the present. Common species, bearing the names used in 1813, were the scented woodruff, juniper, marsh marigold, queen of the meadows, great white ox eye, corn chamomile, corn-cockle, and wild mustard. Among those in process of being rapidly reduced in numbers were thistle, dock, mugwort, common gale, wild skale, and spurry. This is reported from Moffat at the head of Annan-dale [2nd S A: 109-10]. From the foot of Annandale, in Annan parish, there were plants adapted to the milder drier conditions, such as the coltsfoot and common butter-bur in early spring; and the wood sorrel, primrose, dog's-violet, wild hyacinth, wood anemone, which shortly after adorned the woodland; in summer the purple fox-glove, meadow-sweet, great wild valerian, and also the less numerous woody nightshade, and great bind-weed; species of the St John's Wort abounded, and along ditches and small streams were found the ivy-leaved crowfoot, the great spear-wort, and the water fig-wort [2nd S A: 521-2]. The flora varied throughout the whole of the region as a result of variations in soil materials and climate, although variety was of far less importance than the similarities which existed. The day nettle was known to grow on land spread with magnesian limestone, which weathered slowly, but it was apparently a semi-rare plant. Many of the Statistical Accounts listed rare plants occurring in their particular parishes, but these are details outside the scope of this thesis.

The plants of the pastures and meadows* were made up of a few stalwarts with some additional less popular species. For a good pasture the best combination was considered to be clover mixed with rye-grass. If the pasture was to be used chiefly for

* The terms here refer, respectively, to land sown to grass and grazed off as part of a rotation; and, to land which was usually damp, kept permanently in grass for grazing but chiefly for cutting. Singer's usage of the terms (in the General View of the Agriculture) without being specific, agrees with these definitions.
hay, especially if it was a one-year crop only, broad red clover was sown. If, however, grazing was to be the purpose, white clover was chosen. Timothy was known but very little used at this time, and vetch or tare was recommended as an emergency crop which could be planted in early summer. The plants suited to the wetter ground and permanent meadows were, if anything, more numerous than those of the pastures. They included both the domesticated species and the wild species of the water-meadows (known generally as 'foggage'). The chief among these was the soft meadow grass, called Yorkshire fog, which was particularly valuable in the reclaiming of peat moss. It could be used to good advantage in water-meadows because it prospered under excessive moisture, particularly that applied during the summer. Other bents were used in very wet land, along with the crested dogstail grass and fescue. Not all the plants in the pastures and meadows, however, were of value. On some of the finest dry pastures bracken often invaded, and great white ox eye, and other bothersome weeds sprang up on the slightest pretence. In the water-meadows there was always the threat of coarser plants, like rushes, capturing bits of the precious acres. One group of plants not yet mentioned was that of the natural pastures. The most notable of these was heather, which was most palatable to sheep after it had been properly burned and was sending up new shoots. Other plants of particular importance in these pastures were the versatile bent family and the sheep's fescue. These two grasses and heather were waging a struggle against bracken and its coarse allies. Bracken was unpalatable to sheep, but it inhabited the best dry land in the pastures. This was putting greater pressure on the heather, which began to suffer both from over-grazing and from sheep dung, which was inimical to it. As this stage of deterioration continued the sheep turned more heavily upon the pasture grasses, which, as a result of over-grazing, began to give way to coarser grasses (particularly mat grass). There is more said about this in the paragraphs on the Problems, below.

The muirs and mosses had appearances very similar to their counterparts of today, and the vegetation inhabiting them was basically the same. The muirs fostered a growth of low bushes mixed with an expanse of hygrophilous grasses. The bushes were blueberry,
crow-berry, knub-berry or Queens-berry, and hag-berry. Brightening the scene in the spring were the marsh marigold and the queen of the meadows. The moss vegetation was a thick matrix of sedges - i.e. species of the genus Carex - with a few larger plants rising above the general level. One of the latter was the cranberry; there was also the sweet gall, and rushes occupied the wettest corners. The flowers of the marsh marigold and the queen of the meadows were also seen in the mossy land [2nd S A: 109-10].

Problems. As intimated above, at the beginning of the nineteenth century changes were taking place in the vegetation. As far as the tree cover was concerned the change was chiefly incorporated in the macroscopic new planting or cutting. Whereas in the ground cover a change was taking place which was, if not 'microscopic', at least insidious and unseen though suspected. The major agent involved was the sheep; the major beneficiaries were the plant bracken (Pteridium aquilinum) and its less noticeable accomplice, mat grass (Nardus stricta). Bracken was originally endemic to woodland in Britain, and it spread, like other members of the fern genus, through a vigorous rhizome. While land was still being used for mixed farming, and even unpromising fields received cultivation once in a while, and heavy-hoofed cattle crushed bracken in the pastures, the plant made little headway outside the woodlands. But not long after sheep-farming was introduced in place of mixed farming, bracken began to spread across the land like a conquering army, and the sheep, disliking its taste, carefully left it unmolested. The sheep dung was also an aid to these malefactors because of its adverse effect on heather.

It appears that another agent - climate - was playing a part in modifying the vegetation. In 1813 (as will be shown in the exposition on climate in part II.C) the climate was in the initial stages of a new era. But even before this the popularity of Scots pine had been questioned on the grounds of its uncertain
success, and heather had begun to lose out more quickly than expected to bracken and mat grass. And in the immediately subsequent years there were to develop some urgent problems among fruit trees and other outdoor plants, both domesticated and wild.
5) Population

The Nithsdale-Annandale countryside was a busy one, especially inside the sheep-pasture periphery which was quickly traversed on all the main roads. The activity was partly due to the number of workers used in the mixed and arable farming*, and partly because it was the policy of many landholders to build and let roadside cottages to tradesmen not directly associated with the work of the farm. In some places landholders had gone further, and erected groups of such 'untied' cottages into villages. Thus there was roadside settlement with its accompanying 'busyness', interrupted by no large breaks in continuity, from Kirkconnel at the top of Nithsdale down the length of the valley to Dumfries, and similarly from Moffat in upper Annandale to Gretna, on one road, and Dumfries on the southwestern road. Although some landholders let cottages to tradesmen away from the main roads and amidst the agricultural land, this was generally viewed as either a makeshift arrangement or a mistake. The first simple fact of population distribution in the region was that there was a concentration along the roads, especially the main roads.

The second fact was that by 1813 the population had begun to gather markedly in the villages; the proof of this, however, only showed up in the 1821 census, when the parishes without a growing village or other unusual settlement development within their boundaries discovered, with the onslaught of the depression, that their agricultural prosperity had been to a certain extent ephemeral (for discussion of this see Section III.B), and people were forced to leave. This was the first stage in the movement of the excess population from the land to the nucleated settlements. In the second stage even the local villages suffered when population moved from them, and a percentage by-passed them, enroute for the burghs and large progressive villages.

The third fact involves somewhat of a qualification of the second; for it was not true that the nucleated settlements were the predominant influence in population increase up to

* Cf the discussion of the farm labour-team under Agriculture, above.
1813, and it was still possible for a striking upsurge of numbers in
the countryside to result from the inauguration of agricultural improve-
ments. Thus, at one and the same time, there were population increases
in the region as a result of the attraction of a town or rising village
(for example Sanquhar parish), and as a result of a rather late ventur-
ing into vigorous agricultural improvement (for example Kirkconnel and
Johnstone parishes). Consult the map of Population Distribution facing
the previous page, and specifically Map 1A (Population Change), p. 69.

The total population of the region
in 1811 was 58,300. But there are three qualifications of this figure to
be considered. Firstly, some of the original parish figures may be sus-
pect. The government censuses, which began in 1801, were enumerated by the
parish school-teachers, and the respected clergyman of Ruthwell was not
fully confident of their accuracy. This was not because of the dishonesty of
any of the teachers, but because the techniques of census-taking had not
been completely evolved.* A parent might report to the teacher, for in-
stance, all the children of the family rather than only those within the
parish. The Ruthwell clergyman's own survey, of 1824, which appears to
have been highly meticulous, concluded with markedly less than the offi-
cial 1821 census [2nd S A: 230-1]. Secondly, the figures for the domes-
tic military force of the county have had to be added to the basic total
population, and, because Eskdale is not a part of this study, ten percent
of the militia was deleted as being its contribution (this percentage is
the same as Eskdale's portion of the total county population). Thirdly,
Halfmorton has been severed from its unnatural union with Langholm par-
ish, and is considered a part of the Annandale fringe. Because Half-
morton was combined with its parent parish where statistics were concerned,
there are no separate figures, so the writer has had to make carefully-
weighed estimates (which have proven to be virtually identical to those

* 'The earliest census of some detail and precision is that of 1841....'
O'DELL, 1938: 284].
made by the 1851 census for purposes of comparison with the earlier cen-
si).  

The most populous parish, of course, was Dumfries, with 9,262, over 7,000 of which were in the burgh. Next to Dumfries came Sanquhar with 2,709, 1100 of which were in the burgh, and 870 at the Wanlockhead mines. The parish with the smallest population was Wamphray, in upper Annandale, with 481. The adjacent table of population elucidates four important aspects of the population just prior to our period: the actual numbers, the percentage change from 1801 to 1811, the density of population of the various parishes, and the density per cultivated acre. In the figures of density, persons per acre is the unit used, despite a little incompatibility, because acres are most applicable for comparison with other sections of the thesis. A perusal of the table reveals that the most densely-populated parish was Dumfries, and the fewest persons per acre occurred in Hutton & Corrie, with Wamphray, Moffat, Kirkpatrick-Juxta, Tynron, and Kirkconnel close behind. The density of Dumfries, because of the burgh, was even far higher than that of the other maritime parishes. Consequently the average for the maritime parishes (.30 per acre) was higher than that of any other figure except Dumfries and Annan. The mode for the maritime parishes was .16, and if the large population centres were deleted, this would be a representative figure for most of the maritime strip. The sparsest density in these parishes

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<th>Percentage increase 1801-11</th>
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<th>Ratio: Persons/cultivated acre</th>
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<td>1831 Population</td>
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[Basic population figures from BRITAIN, 1831: 379]

Consult the facing map of Persons per Cultivated Acre

was the .14 of Ruthwell. The average for the midland parishes was .12 per-
sons per acre. The range in this case was from .22 for Lochmaben to .07 for both Applegerth and Johnstone. The upland parishes expectedly ranked lowest in density, with an average of .05 persons per acre. Vast stretches of their mountain pastures were completely uninhabited. The highest figure for them was the .20 of Morton (in which the village of Thornhill was beginning to flourish), and the lowest was Nutton & Corrie. This brings us logically to the even more meaningful results of the last column of the table, showing the ratio of population to the acres of cultivated land which were extrapolated from the graphs in Agriculture (above). It is understood that these results represent not the actual number of people on each cultivated acre, but, let us say, the fraction of a person that each cultivated acre theoretically had to support. Once again Dumfries stood at the top, with the high density of 1.3 persons per acre. The only other maritime parish worthy of attention in this regard was Gummertrees, which had .5 persons per acre. There were a few reasons for this relatively high figure: the parish had a small extent of cultivated land because of stretches of barren land in the north-east part; it was close enough to the burgh of Annan that workers could go there to work; the main Dumfries road, which would attract roadside cottages, bisected the parish; and, finally, the Kelhead limestone quarry was probably busy with the gradual improvements going on in the parish itself. One midland parish worth special notice was Lochmaben. It contained the fourth heaviest population density in the region, and also the fourth heaviest population per cultivated acre, at 1.60. The cause lay in the advanced degree of subdivision that had taken place in the parish, under the unique system of small freeholding called 'King’s Kindly Tenure' or 'Udal' (said to date from King Robert the Bruce).* There were about 255 freeholders, only ten of whom held

* From the Scottish National Dictionary: 'KINDLY... 3. Enjoying a right or privilege by virtue of birth or inheritance; specif. in Sc. Law phr. kindly tenant, one who occupies land on favourable terms under a special lease which gave a sort of hereditary right, now surviving in the case of the King’s Kindly Tenants of Lochmaben in Dumfriesshire, whose rights derive from their presumed descent from supporters of King Robert Bruce and are perpetual and alienable...' [volume V, 1960: 406].
properties at least the size of a proper farm. Agricultural improvement had been effected at a relatively early date in Lochmaben. There appears to be no correlation between the location of a parish and its density per cultivated acre. Torthorwald, for example, was .69, Morton .52, and Moffat .72. But there is a very meaningful correlation involving these three parishes, along with Dumfries and Sanquhar. The correlation is this: the highest densities of persons per cultivated acre occurred in the parishes where there was a growing village. Torthorwald had the villages of Collin and Roucan, which were being encouraged by the landlord, and were filling up with tradesmen who found employment along the road to Annan, and others who went daily across the moss to Dumfries. Morton parish had the village of Thornhill, and Moffat had its health-resort village. Sanquhar had its burgh and Wanlockhead, both of which were prospering on mining activity. However, it can be pointed out that Annan, Dryfesdale, and Gretna, while containing large villages, still showed low densities. This is because they lay in rich and highly-developed agricultural land, which was the main factor in the growth of their villages, and their density per cultivated acre was little higher than their density per acre. Thus we must modify our statement above, and state that the highest densities per cultivated acre occurred in parishes (excluding Dumfries) where cultivated land was scarce, where agricultural improvement had not been pursued to an advanced stage, and where a village was prospering on some basis other than the cultivated land (for example sheep exports, mining, natural therapy, etc). These density figures also provide a critical cross-reference for other information available on the parishes. For instance, the good lowland agricultural parishes which had no sizeable village within their borders, produced some of the lowest figures for density per cultivated acre, ranging approximately from .14 to .24 (cf Kirkcudbright, Holywood, Caerlaverock, Dalton, and Applegarth). The reason is that most of these areas had passed through the major stages of improvement and their populations had arrived at a period of steady rather than spectacular growth. It must be taken into consideration, of course, that one cultivated acre in an upland parish is worth much less, in terms of sustenance, than an acre in
a maritime parish.

### POPULATION, 1801 & 1811 (Crude figures)

<table>
<thead>
<tr>
<th>Parish</th>
<th>1801</th>
<th>1811</th>
</tr>
</thead>
<tbody>
<tr>
<td>THE REGION</td>
<td>49,595 (including ca 1,170 militia)</td>
<td>58,300 (including ca 2,022 militia)</td>
</tr>
<tr>
<td>Annan</td>
<td>2,570</td>
<td>3,341</td>
</tr>
<tr>
<td>Applegarth</td>
<td>795</td>
<td>858</td>
</tr>
<tr>
<td>Caerlaverock</td>
<td>1,014</td>
<td>1,170</td>
</tr>
<tr>
<td>Closeburn</td>
<td>1,679</td>
<td>1,762</td>
</tr>
<tr>
<td>Cloamertrees</td>
<td>1,309</td>
<td>1,633</td>
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<tr>
<td>Dalton</td>
<td>595</td>
<td>691</td>
</tr>
<tr>
<td>Dornock</td>
<td>691</td>
<td>768</td>
</tr>
<tr>
<td>Dryfesdale</td>
<td>1,607</td>
<td>1,693</td>
</tr>
<tr>
<td>Dumfries</td>
<td>7,258</td>
<td>9,262</td>
</tr>
<tr>
<td>Dunscore</td>
<td>1,174</td>
<td>1,325</td>
</tr>
<tr>
<td>Durisdeer</td>
<td>1,148</td>
<td>1,429</td>
</tr>
<tr>
<td>Glencarn</td>
<td>1,403</td>
<td>1,666</td>
</tr>
<tr>
<td>Gretna</td>
<td>1,765</td>
<td>1,749</td>
</tr>
<tr>
<td>Halfmorton</td>
<td>497</td>
<td>ca 505</td>
</tr>
<tr>
<td>Loddon</td>
<td>1,250</td>
<td>1,428</td>
</tr>
<tr>
<td>Hollywood</td>
<td>809</td>
<td>830</td>
</tr>
<tr>
<td>Hutton &amp; Corrie</td>
<td>646</td>
<td>677</td>
</tr>
<tr>
<td>Johnstone</td>
<td>740</td>
<td>904</td>
</tr>
<tr>
<td>Keir</td>
<td>771</td>
<td>993</td>
</tr>
<tr>
<td>Kirkconnel</td>
<td>1,096</td>
<td>1,017</td>
</tr>
<tr>
<td>Kirkmahoe</td>
<td>1,315</td>
<td>1,464</td>
</tr>
<tr>
<td>Kirkmichael</td>
<td>904</td>
<td>1,035</td>
</tr>
<tr>
<td>Kirkpatrick-Fleming</td>
<td>1,544</td>
<td>1,664</td>
</tr>
<tr>
<td>Kirkpatrick-Juxta</td>
<td>596</td>
<td>821</td>
</tr>
<tr>
<td>Lochmaben</td>
<td>2,053</td>
<td>2,392</td>
</tr>
<tr>
<td>Middlebie</td>
<td>1,507</td>
<td>1,683</td>
</tr>
<tr>
<td>Moffat</td>
<td>1,619</td>
<td>1,824</td>
</tr>
<tr>
<td>Morton</td>
<td>1,255</td>
<td>1,570</td>
</tr>
<tr>
<td>Mouswald</td>
<td>705</td>
<td>769</td>
</tr>
<tr>
<td>Penpont</td>
<td>966</td>
<td>987</td>
</tr>
<tr>
<td>Ruthwell</td>
<td>996</td>
<td>1,184</td>
</tr>
</tbody>
</table>
There were persistent currents in the movement of population which can be woven into a general pattern. The dominant movement was definitely within the region rather than out of it; the increase in its population, 1801 to 1811, was 3½% higher than the Scottish average and 3% higher than the English (there was some immigration, particularly from Ireland). In terms of the internal migration different parts of the dales were at different stages. It has been intimated above that the 'town-ward' movement of people had begun by the first decade of the nineteenth century. This movement had two stages: when a person found himself redundant in his usual working area, or decided that a better living could be gained not too far away, he would move to the nearest promising location, which was usually a village in his own or a neighbouring parish; this was the first stage. After this solution had been tried with mediocre success, and the horizons of the country people had been widened somewhat, a new onslaught of difficult years (as from 1815 to 1822) brought into effect the second stage of the migration; this was a movement of the surplus rural population not so much to the local villages as from both the villages and their hinterlands to the burghs and large villages. In our region the large attracting nuclei were Dumfries, Thornhill, Sanquhar, Moffat, Lochmaben, Lockerbie, Annan, and to a lesser degree Gretna, Ecclefechan, Collin (near Dumfries), Moniaive (spelled then Minnytime), and Wanlockhead. In the third stage even the regional centre was by-passed, as the local villages had been,
in favour of emigration; but as a dominant trait of the movement this came long after our period.

We can illustrate many of the foregoing points through a consultation of the map of Population Change (IX). In the moderately isolated parish of Glencairn, on the western edge of the region, the healthy increase was partly due to the growth of Moniaive and one or two other small villages. In the neighbouring parish of Dunscore the village was also a focus, as it definitely was in Torthorwald, and probably also in Ruthwell, Tinwald, and others. But Johnstone parish, in the centre of Annandale, was not strictly in this category. Its population was rising rapidly partly on the strength of agricultural improvement, and partly on the policy of the chief landlord of building cottages along the main road to house masons, slaters, joiners, dykers, blacksmiths, and other such tradesmen. In a total of less than one thousand these few families would make a significant percentage augmentation. At the foot of Nithsdale it appears that the second stage had begun to have an effect around Dumfries; the only explanation for the low rise in Holywood parish is that its surplus population had been going to Dumfries to take employment in some of the new light industries. The continuation and spread of this phenomenon shows up dramatically on the 1811 to 1821 map (Map XXXIII, in Section III).

There was a fundamental difference in the shape of the two dales which can be seen even in a population map. Nithsdale was a corridor with slight swellings in the three basins; Annandale was a broad triangle debouching on the Solway. As a result, Annandale displays a pattern closer to the basic zonation of the region, with slow-growing peripheries (Hutton & Corrie, upper Moffat, and perhaps part of Closeburn), a steadily-growing centre portion based on prosperous farming, and a concentration on the mouth of the dale (Annan and environs). The remarkably low value for Gretna and the south-east corner generally is inexplicable; perhaps Carlisle was already drawing people from this part in significant numbers. Most of Gretna parish was under cultivation by 1813, and as a result agricultural improvement was to provide little in
the way of additional employment. The pattern in Nithsdale, on the other hand, is a spotty one when expressed in parish units. A more realistic picture is seen in the cartogram of Percentage Population Change. The 1 to 10% strip from Tinwald to Dalton is the top of The Weld, much of which was moss and muir. The heads of the dales, and all the dale-sides and uplands, should theoretically be just beyond the fringe of important increase. Moffat, however, was saved by its health resort business and, up
to 1616 at least, by its sheep, and Sanquhar by its mines; Kirkconnel reveals its peripheral location markedly, and perhaps more so because of the attraction of Sanquhar.

These characteristics of the population distribution form the background for the 'busyness' of the scene in 1613. Other characteristics of the population, such as the almost unvaried outnumbering of men by women, and the births, deaths, and marriages in the parishes, are not included because of their distance from the main theme. Relevant sidelights, however, are provided in two appendices (IV and V) on the occupations and heads of households engaged in each, by parishes, 1611 and 1631. This chapter has indicated the influence of the settlement nuclei; the next chapter deals with the nuclei themselves.
6) **Urban Settlement**

It has been stated that the settlement nuclei had become of prime importance in the population distribution of Dumfriesshire by 1813. In some of the lesser-advanced parts of the region they were to become even more important in ensuing decades when the displacement of population, which occurred in some places with agricultural improvement, came into effect.

The urban settlements - if we may stretch the term 'urban' to cover the country villages discussed herein - were clearly of three sizes. Dumfries was the largest by nearly five thousand inhabitants, and was in a class of its own. It ranked with the more sizeable Scottish burghs of the period, and was more than just a regional centre. The second rank of urban nuclei in the region was that of small burghs, which usually had a claim at least to some functions not duplicating those of Dumfries. Their populations ranged between about 500 and 2,300, and they were situated in all corners of the region. The third size was that of the diminutive 'local villages', as they were called in the preceding chapter, which contained from forty or fifty inhabitants to as many as four or five hundred. In many cases they were nodular developments around a farm house and its offices, or on one or both sides of a road and difficult to distinguish from the 'strassendorf' distribution of cottages along the through routes.*

Sanquhar. A traveller coming into the head of Nithdale would have come upon the royal burgh of Sanquhar within his first ten miles. Sanquhar,

* Houston's contention that 'the very name "village" is alien to Scotland' is philologically true; but the term was common currency in Dumfriesshire, and in the Second Statistical Accounts there was actually a heading for 'Towns, villages, etc'. The second part of his statement, however, - that 'definition of the term can only be arbitrary' - is as applicable to our region as to any part of Scotland [see HOUSTON, 1948: 129].
with a population of approximately eleven hundred, was a prime example of the small burghs in the region. It had been a burgh as far back as reliable historical records could go, but in the nineteenth century it was taking a renewed interest in its future as a result of the prosperity of its coal mines and woollen and cotton manufactures. Its main street, which was a portion of the Dumfries–Ayr road, was a little less than one-half mile long, and virtually the whole of the burgh was ranged along either side of this street. Consult the ground plan of the burgh as shown on the excerpt from Crawford's map (next page); there had been some expansion along the road since this survey had been made. Sanquhar was a modified form of route centre. Just a mile above the kirk a road branched off the Dumfries–Ayr through-way, and crossed over the north-west rim of the hills into Ayrshire. Two and one-half miles below the town a road came down the Mennock Water into Nithdale from the mining villages of Wanlockhead and Leadhills, thus extending routes from Clydesdale to Sanquhar. Another road came into Sanquhar parish from the south, making a link with Penpont, Tynron, Moniaive in Glencairn, and Kirkcudbrightshire.

The coal mines appear to have been on the north-east side of the burgh, while the majority of the small factories were on the river side. It was typical of southern Scottish towns in having one good-sized kirk, in this case at the upper (west) end of the settlement. And probably all of its buildings, by 1813, were built of stone, mostly with slated roofs, which was typical especially of the region's midland and upland settlements. In some of the maritime parishes where the proper materials were available there was still a sizeable remnant of clay cottages with thatched roofs. Sanquhar was unusual, however, in having a large area of common (apparently a little less than two hundred acres) still undivided, on the north-east side of the settlement.

The burgh's functions were those of a sub-regional centre, and in this regard there was a similarity among all the small burghs. They provided locally the necessary services that Dumfries provided regionally and extra-regionally. This is the reason why, in the rudimentary stage of urban specialization that had been reached in the region, Dumfries was surrounded by a 'halo' extending outwards to
approximately ten miles in all directions, in which no sizeable burgh existed. The closest was Lochmaben (6½ miles), and it was separated from the capital by both the Lochar Moss and The Wald ridge. Sanquhar's functions focussed on its market place, for it was here on market day that its centrality took on real meaning. The people came in from the countryside to sell and buy and have their weekly social contact, but perhaps also to speak to a solicitor, to visit the physician, to arrange
for a child to attend school, and so on. Among Sanquhar's eighteen or more professional and other educated people, there would have been three or four solicitors (called 'writers'), the same number of medical practitioners, an apothecary, a clergyman, perhaps three specialists in responsible positions at the mines; it is likely that at least two of the teachers had some university training, and also the town librarian. Other reasons for visiting the burgh were the shopping facilities there: the cloth shops, tailors, smiths, fleshers, barber, watchmakers, shoemakers and cloggers, and saddlers. And there were other useful entrepreneurs like joiners, wheelwrights, millers of grain, and carders of wool. There were four fairs held in Sanquhar at different seasons of the year, in which buying and selling of animals was carried on and hiring of farm labourers took place. And the town held the important commission of being the postal depot for upper Nithsdale.

**Moffat.** Moffat stood in approximately the same position to upper Annandale as Sanquhar did to upper Nithsdale. It was seven miles inside the county, and major roads came to it from five directions. The vital London-Glasgow road entered Moffat from Carlisle via Gretna and Lockerbie. From the opposite direction it came up Clydesdale and down the Evan Water.

Adjacent to this latter road was the strategic link with Tweeddale and Edinburgh via The Marquis of Annandale's Beef Stand (The Devil's Beef Tub). Out of the hills north-east of the village and down the magnificent gorge of the Moffat Water came a road linking Moffat with the Yarrow valley and lower Tweeddale. And up the opposite side of Annandale to this came the antipodal road from Dumfries. Under construction through most of our period was a road on the west side of the Annan, connecting Lochmaben with Moffat, and joining the Dumfries road about four miles below the latter village. It was probably not convenient to use this road at all seasons of the year, particularly during wet weather, and travellers going to Lochmaben often followed the Carlisle road to a point just under
THE MOFFAT UMLAND
as indicated by a draper's list of customers 1813-1816

KEY
- Regional boundary
- Other county boundary
- Parish boundary
Scale: 1/2" = 1/2 mi.

THE MOFFAT UMLAND
as indicated by a draper's list of customers 1813-1816

KEY
- Regional boundary
- Other county boundary
- Parish boundary
Scale: 1/2" = 1/2 mi.
five miles north of the village, where they crossed westward over the Annan and met the more direct road. The roads can be seen on the Moffat map (from Telford), below.

Moffat differed from Sanquhar in that, despite lacking local mineral workings, it had a larger population than its analogue; in 1813 its inhabitants numbered close to 1,350. Moffat's economy was based on sheep farming. Four annual fairs were held in the village, two of them particularly important in the life of the county: one of the best-attended hiring fairs occurred in Moffat in March, and the main tup fair took place there in late June. There was also a weekly market.

Moffat provides a good example of the extent over which the influence of the small burghs spread. From the account books of a draper in the burgh this writer has extracted the addresses of customers who charged their purchases; the list must be accurately representative because this was a common practice in such a community where farm produce and wages were transmuted into money only once or twice a year. The accounts for 1813 to 1816 were studied, and only those locations for which two or more entries were made are included on the adjacent map (The Moffat Umland). As might be expected, there is a marked concentration of customers close to the burgh (and it has not been possible to include them all), but there is also a notable scatter which extends through distances of more than twenty miles, into the headwaters of the Clyde, the Tweed, and the Esk. There were, for instance, a dozen purchases made from Crawford, three from Whiteholm, two from Kingledoors, and so on.

Notes on the map facing

It is impossible to verify the locations listed, and some of them may be suspect; in particular Carnuthers, Biggar, and one or two in the south of Johnstone parish. For example, the 'Biggar' listed in the account book may actually refer to a farm on the east side of Kirkpatrick-Juxta parish, named 'Biggarts'. The 1813 spelling has been adhered to.
four from Crook, and two from Biggar. And there were a half-dozen from Lockerbie, at least three from Dumfries, and single items from Castle Douglas and Edinburgh. Neither the purchases generally nor those from the far-flung points seem to have had a particular seasonal ebb and flow.

The morphology of the village was generally similar to the others in the region that had developed along a main road; it was markedly lineal, and had the widening of the central street, for use as a market place, which was typical of planned Scottish towns of the eighteenth and nineteenth centuries. It was a delightful settlement to look down on from the nearby hills.

It is situated at the head of a plain or valley, extending upwards of twenty miles along the banks of the Annan, which runs on the west side of the village. It is encompassed on all sides, except the south, by hills of different heights. The principal, or rather the only street, is spacious, with two good inns and lodging-houses, which are let to invalids during the summer. The church is a handsome building, surrounded with trees. [WEBSTER, 1819: 487-8; applicable to 1815]

There is a ground plan, from Telford's map of roads [BRITAIN, 1815], appended for consultation.* In contrast to Sanquhar, the spacious kirk sat at the lower end of the settlement.

Moffat's functions were like those of Sanquhar, with the exception of the mining specialization. In its turn, however, Moffat had an unusually large number of medical practitioners, because, as suggested in the above quotation, its specialty was natural therapy both through the medicinal waters of two mineral wells, and through the stimulation of a brisk and clear summer climate. Moffat also had its solicitors, schools, shops, and artisans of many kinds.

* An addition should be made to map XIII: the road running south to Lochmaben, via Beattock Bridge, was completed by early 1816; a meeting was called for May 20th to discuss 'taking into consideration the means of providing for the deficiencies of the funds to discharge the claims of the contractors for the different lots of the road' [Journal, 7/5/1816: 3; also 6/9/1816]. The Telford map had evidently not been brought up to date from the 1809 survey.
And it too was a postal centre.

The other sub-regional centres in Nithsdale-Annandale, holding a status similar to that of Sanquhar and Moffat, were Lochmaben, Lockerbie, Ecclefechan, Gretna, Annan, Thornhill, and Wanlockhead. Apart from the last these did not have as clear-cut unique functions as the coal-mining and the hydrotherapy of Sanquhar and Moffat.

On Telford's maps the existing road is shown as grey, the proposed as black.
Lochmaben. Lochmaben's traditional raison d'être was in being the burgh for the area of 'Udal' tenure, the concentration of smallholdings; and originally it had been the barony village, or the 'faubourg' by the castle. It was not expanding quite as rapidly as some of its peers because it was not on a main road, nor did it have alternative advantages, like a harbour. In fact it was a place considerably difficult of access, at least until 1816 when the new road gave it outlets to north and south. The linen manufacture that had occupied many hands at the First Statistical Account, had sunk to an otiose condition, and almost all local progress was dependant on agricultural improvement. On a plan very similar to that of Dumfries, but on a smaller scale, the main street of the burgh focussed on the clock steeple and the town chambers. There was a lane on the west side of the burgh, which ran almost parallel to the main street and within a stone's throw of it (see the plan). The population of Lochmaben in 1813 was about 600, and that of the nearby Four Towns (one of which will be mentioned under the local villages) was nearly half this. A brightening of the burgh's opportunities occurred with the building of the road from Moffat. It had been initiated in 1812, completed in 1816, and as well as giving the burgh a northern portal, it continued southward to meet the main Dumfries-Carlisle road near its crossing of the river Annan.

Lockerbie. Lockerbie was a village that in most ways duplicated for its umland the more fundamental functions of Dumfries. But it had developed one specialty; this was the annual lamb fair, held each August, when about twenty thousand lambs were displayed on a flat hill on the north-east of the town. And it was acquiring a reputation for its fairs, having also two of the busiest hiring fairs in the county, in mid-April and the end of October. In addition there were numerous markets from which as much as fifty thousand yards of linen per year, as well as agricultural products, were sold into England. The varied occupations that Lockerbie embraced (in 1833) are detailed in the notes to Appendix V; in 1813 they were not quite as numerous, and an acceptable adjustment can be made.
accordingly. Its morphology was in large degree common to the smaller urban settlements of the county; i.e. it stretched for a half-mile along the through-way joining Carlisle to Glasgow. One reliable 'topographical dictionary' of the time described it in the following terms:

Its contains about 150 houses, 80 of which have been built within these few years; and the parish church of Dryfesdale [sic], seated on an eminence at the head of the principal street, has a fine effect [WEBSTER, 1819: 459].

In this case the kirk was at the north end of the town. Almost opposite the kirk a street branched off in an easterly direction, and reached for a full quarter-mile to the foot of the steep hill edge enclosing the valley on that side (see the plan, next page). Lockerbie was a major stopping-place for the stagecoaches, along with which it was a post-town, and its population numbered 900.

Ecclefechan. Ecclefechan was called by more than one contemporary writer 'a considerable market town' [cf GLOVER, 1818: 75]. This phrase epitomised the village's significance for its neighbourhood. Ecclefechan was 'remarkable for its fairs', said one gazetteer [MONTEITH, 1816: 60], having one each month, and in addition a weekly market for swine from January 1st to May 1st. This village was not strictly a 'strassendorf'; it had begun to grow as a cross-roads settlement, being at the point where a road from Eskdale to Dumfries met the Carlisle-Glasgow road. In fact the latter major through-way made a large-scale detour here, following the Dumfries road for more than a mile westward before continuing north, instead of continuing directly north from Ecclefechan as Telford suggested the new road should do. But the growth of the village was limited - because its sphere of influence was limited - by the degree of prosperity of its agricultural hinterland. Its population in 1813 was about 500. See the appended village ground plan.
Gretna. What we can consider as the urban area of Gretna (spelled 'Graitney' at that time) was in fact a tiny agglomeration, including Gretna itself, Springfield, lying only a few hundred yards north of the English border, and the scattered cottages around the road junction that was called Gretna Green. These villages were virtually a stone's throw from each other, and every new cottage brought them closer to actually mingling. Gretna was described as 'a neat comfortable village' [KONTEITH, 1816: 60], but Springfield was slightly less respectable and was associated at this date, to the detriment of its reputation, with 'clandestine marriages of fugitive lovers from England' [WEBSTER, 1819: 306]. The foundation of Gretna village and the adjacent cottages was agricultural, but Springfield was specifically conceived (1791) to house a number of artisans working with linen or cotton, and also tradesmen who plied their trades along the busy road on which they lived. Gretna was built on either side of the road from Dumfries, while Springfield straddled the Carlisle-Glasgow road. This is best shown by Telford's map (XVI, next page), but it should be emphasized that even this accurate piece of work does not show all the dwelling houses. The combined population of this agglomeration in 1813 was between 700 and 800, with Springfield being slightly larger than its older neighbour. A fourth village in this corner of the parish, Old Gretna, which was within a half-mile of the Solway coast on the ancient ford road to Carlisle, is not shown by Telford and had apparently faded to insignificance in the face of the competition from the main thoroughfare villages.

Annan. In terms of size and amount of activity Annan was chief among the smaller burghs. It had one-third as many inhabitants as Dumfries, and in the second decade of the nineteenth century it was adding whole new streets to its fringes:

The houses are neat and well built, and the town has been considerably improved and beautified of late years. Sev-
eral new streets have been opened in the E. and N. parts of the town, and a number of good new houses built [WEBSTER, 1819: 31-2; also copied verbatim, except for mistakes in punctuation, in GLOVER, 1818: 73, from Webster's 1817 edition].

Annan was located on the road from Carlisle to Dumfries and the Stewartry, but in addition its location was related to the estuary of the river Annan which provided a harbour for sizeable craft (two hundred tons). Thus the morphology of the town had developed along two axes, one along the road.
leading up to the bridge across the river, the other following the river down toward its mouth. Annan was a focus for other roads; there was, for instance, one from Lockerbie which took a southerly course, came close to the river and followed it down to Annan. Another road from Langholm, which almost bisected Annan parish, met this latter one two miles above the burgh. And a road from Kirkpatrick-Fleming, on the north-east, met the Carlisle-Dumfries through-way on the eastern side of Annan. There were two main roads coming to the west side of the town; one was the old Dumfries-Carlisle road, which went through Ruthwell and kept fairly close to the Solway; the other was the new Dumfries-Carlisle road, which chose a much more direct tangent through the upper part of Mouswald parish and across the southern end of The Wald. The town's main street was approximately three-quarters of a mile long, and the central portion of it, reaching from the parish kirk almost to the bridge, was considerably wider than the normal road width but typical in being unpaved (see the town plan, Map XVII). It was here that the weekly markets and the half-yearly hiring fairs (introduced, according to Little, only in 1808 [1853: 32]) were carried on. See the discussion of the widened street three pages further on. Annan was an agricultural centre; but its progress was a result of it being more than that. It was effectively the capital of lower Annan-dale, and it housed the concomitant 'retainers', such as solicitors, building contractors, medical practitioners, tailors and clothes merchants, grocery importers, funeral undertakers, and so on. Out of the burgh's revenue from the dividing of the large common (2,062 acres) in 1802, an academy was endowed, and in 1812 the first banking establishment was opened. It was traditionally a centre for the salmon fishery in the

Notes on the map facing

This survey of Annan was actually done in 1825 by John Wood, and the map is from his atlas. To make it applicable to our period it is necessary to realize that the streets and buildings north of Toot Hill and English Street were largely new additions.
Annan river, and from the latter part of the eighteenth century cotton manufacturing had been conducted to a varying extent. Annan's population was about 2,300.

Thornhill. Thornhill was an active village in central Nithsdale, but its vigorous growth was recent enough that the second basin of the dale, in which it was located, still bore the name Closeburn rather than Thornhill.
The village was intended to serve the rising agricultural area in its own parish and those of Durisdeer, Penpont, Keir, and Closeburn, and on the strength of this it was growing as rapidly as any settlement in the region. But a part of its prosperity was dependent on the manufacture of linen and woollen cloth and linen yarn, which were important secondary aspects of the village economy. The various necessary service functionaries, such as have been mentioned for other villages, were also found in Thornhill. And, a subscription library was initiated in 1814.

Although similar in functions to the other towns in the region, Thornhill differed from most of them in having a ground plan of a definite T-shape. To use Webster's competent description:

It is pleasantly situated on a dry rising ground, half a mile east from the river Nith. It is regularly built in two streets, crossing each other at right angles...the one leading from Dumfries to Glasgow, Sanquhar, and Edinburgh, by Leadhills; the other going westward into Galloway by Minnyhiv[218: 638].

This plan can be seen on the adjoining map. The main street was broad for most of its two-thirds of a mile, allowing room for the tri-monthly fairs, but the intersecting road from the west was less than half the width. Thornhill's population in 1813 was just over 750.

Wanlockhead. To complete the full circle to the north-west corner of the region again, let us consider the unique case of Wanlockhead. This was a village which was thriving in a location of which it was said, 'It can scarcely be supposed that any would voluntarily choose to reside there at so high an elevation' [2nd S A: 310]. The elevation was thirteen hundred feet, the population 870, and the reason these people chose to live there was based on the famous lead mines of the Leadhills-Wanlockhead area. The village had its own chapel, and also such community improvements as a subscription library. The inhabitants were considered exemplary for their qualities of character. Food supplies were largely grown on the lower land of Sanquhar parish and adjoining parishes, and this market proved a boon to the farm economy in those areas. Wanlockhead did not have as large a
variety of professional or artisan inhabitants as might have been expected in a settlement of its size, the principal reason being the rather unreliable and temporary basis of its prosperity. There were professional workers engaged at the mines, and there was a sufficient contingent of medical practitioners, while other specialists could always be found at Sanquhar. The morphology of the village was more haphazard than the others of comparative size in the region; but there was a generalized grouping of the collages into a Y shape along the sides of the forked valley, with the fork pointing east (it is not shown on Crawford's map).

The widening of the main street was a common feature in the morphology of the region's urban settlements. It was notably apparent in Annan, Dumfries, Thornhill, Moffat, and Lochmaben, and, among the smaller centres, Drydekirk had a kind of 'broad-green' which was part of its plan and was, in fact, 'Ground to be Laid out for Large Gardens etc.' But the wide street was a different phenomenon from that of the 'street-green' analysed by Thorpe in County Durham. Of Scottish urban settlements only the royal burghs normally had common land, and this was most often on the edge of the burgh. In the majority of the villages individual cottages had plots of land adjoining; and even where wide main streets occurred they were not used for grazing or for any 'common' use, in the strict sense of the term, except fairs and public celebrations. All of the wide main streets in the Nithsdale-Annandale settlements probably originated in the decision of the proprietor of the land to encourage the growth of a weekly market in his village, and new building along the business street was set back in order to leave space for carrying on a market. This was the design of the proprietor of Thornhill, for instance, who built up the village at the end of the eighteenth century with the intention of making it both a market-place and a centre for small manufacturing. The ancient high street of Dumfries was evidently partially superceded as a market-place when the cattle fairs became too crowded for it and the Whitesands area on the river-edge took its place. The market cross was usually the hub of the widened street. The place-name
'Gretna Green' was not, as might appear, an exception to what has been said; it was little more than a fashionable epithet bestowed on a clachan, and the 'green' seems to have been the private grounds of Gretna Hall.

The local villages. At numerous points on Crawford's map there are small settlement inflorescences. The nodal point of these was in some cases a farm house (of the Carthst Plan, at the back), in others a kirk (the true clachan; of Penpont and Kirkmahoe), in yet others a mill (Crawick Mill), or perhaps a road crossing. These variegated types of settlement are the 'local villages' referred to in earlier pages of this work. Some of them were spontaneous creations - i.e., land had been provided to meet an obvious need for a village - while others were the artificial creations of land-owners who had decided that a village would be convenient or a good investment, and had planned and built one. The latter was an incompletely-understood sign of, and a temporary solution for, the increase to excess of population that had begun to affect parts of the region by the early 1790s. It coincided approximately with the first stage of the internal migration of the population, from the countryside to the local villages; this migration, as has been clarified in an earlier chapter, began in the more progressive and richer parishes in the lowland, and gradually spread to the upland parishes in the early decades of the nineteenth century.

Sizeable examples of local villages were Kirkconnel, Crawick Mill near Sanquhar, Penpont (including also Townhead of Penpont and Brierbush), Dirisdeer, three nuclei in Closeburn parish (probably Cample, Closeburn, and Croalchapel), Monisive in Glencairn parish, Dumscote (also called Cottleck), Keir Mill, Duncow and Kirkton in Kirkmahoe parish, Kirkland of Tinwald (Amisfield Town was almost its equal), Torthorwald, Roucan, and Collin in Torthorwald parish, Mousewald, Glencoeple on the Nith estuary, and Shearington at the 'toe' of Caerlaverock parish, Ruthwell and Clarencefield in Ruthwell parish, Cummertrees and neighbouring Powfoot, Dornock, Brydekirk in Annan parish, and Hightae, one of the Four Towns of the 'Barony of Lochmaben'.
Moniaive was the most populous of these. With its 'twin' village of Dunreggan, which was linked to it by a bridge over the Dalwhat Water, it contained 400 inhabitants. By virtue of precedence it precluded the development of a village in Tynron parish, and at the same time it served the three glens which deeply insinuated the peripheral hill fringe in its own parish. It was a centre for hiring fairs, but the parish kirk was situated more conveniently for the parish population at large, being 2½ miles east of the village. Other functions originated in the village being a postal stage on the road from Edinburgh into the counties of Kirkcudbright and Wigton.

Most of the villages in the region had only one major function apart from the social convenience of living close together; they had a mill, or a kirk, or large farms nearby which needed many hands. But, of course, they all contained people who were engaged in occupations outside the major function, most commonly as agricultural labourers or artisans, and a classification by functions (as in the list below) must be viewed in the light of this qualification. The large centres as well as the local villages are included, and those marked with an asterisk will be found under more than one heading, i.e. having more than one dominant function; for example, Sanquhar was both a market and a mining centre. A classification can be descriptive, and it can be genetic; these two choices are not always compatible. In the case of Moffat - an instance of compatibility - the genetic (or historical) classification of the village as a clachan* and market does not clash with the added function of health resort which grew up particularly around the turn of the nineteenth century. But in the case of Torthorwald, which was historically a castle-toun, there had been a marked modification

* There is a valuable clarification of the term 'clachan' (kirk-toun) in an unpublished paper by Dr Arthur Geddes [see GEDDES, 1961].
leading to its contemporary function as a large ferm-toun, and the village had grown away from its ruined castle. For our purposes the 1813 function(s) - i.e. the contemporary description - takes precedence over an historical classification which might have been somewhat different. Since Nithsdale-Annandale was basically an agricultural region, the urban settlements can be divided into those connected with agriculture and those not. In the former division were the ferm-touns, clachans, mill-touns, and markets; in the latter the mining, manufacturing, and health resort centres.

### Classification of Urban Settlements by Function, 1813

<table>
<thead>
<tr>
<th>Market</th>
<th>Ferm-toun</th>
<th>Clachan</th>
<th>Mill-toun</th>
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<tbody>
<tr>
<td>Dumfries*</td>
<td>Lochmaben*</td>
<td>Durisdeer*</td>
<td>Annan*</td>
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<td>Thornhill*</td>
<td>Kirkconnel*</td>
<td>Penpont*</td>
<td>Crawick-mill*</td>
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<td>Sanquhar*</td>
<td>Durness*</td>
<td>Dunecore*</td>
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<td>Moffat*</td>
<td>Carron Bridge (n)</td>
<td>Kirkland*</td>
<td>Keir Mill</td>
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<td>Lochmaben*</td>
<td>Penpont*</td>
<td>Wamphray Kirk*</td>
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<td>Lockerbie*</td>
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<td>Annan*</td>
<td>Carron Bridge (s)</td>
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<td>Moniaive</td>
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<td>Administrative</td>
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<td>Kirkland*</td>
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<td>Amisfield Town</td>
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<td>Hightae</td>
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<td>Heck</td>
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These settlements have more than one dominant function.
This list should be compared with the table of urban nuclei by parishes, below.

The local villages listed above had populations amounting to between 100 and 150, except for Penpont (ca 300), Luncow (200), Roucan (ca 200), Collin (ca 250), Hightae (ca 275), Brydekirk (221), and Dornock (ca 200). Brydekirk, in another way, stood apart from most of the other urban centres in the region in being a planned settlement (Clarencefield and Springfield had been planned earlier, as had some others to a lesser degree). It was, in effect, the creation of the local landlord, Alexander Dirom of Mount Annan. He began the construction of it in 1600, and by 1811 it had almost reached the stage shown by the accompanying plan from Singer [i.e. 1612; facing 595]. Dirom had remarkably perspicacious ideas about planning a rural village. He was aware of the desirability of amenities, many of which were unknown to Scottish villages of the time, and he also had a clear knowledge of the characteristics of his prospective settlers. In an article written for the 1803 volume of the Prize Essays and Transactions of the Highland Society of Scotland, he emphasized the need for variety in the setting out of streets and houses [i.e. 1803: 267]. His design for the cottages of the village, which were to be one storey with two main rooms on ground level and an attic having dormer windows, were typical of the best new cottages being built throughout the region. Feuars were required to build their houses of stone and lime, with a slated roof, according to the design. They were also bound to construct a common sewer through their properties, and to pave a ten-foot width in front of their houses, skirting the public street. There was a spacious lot behind each cottage, and in addition there were available to feuars two acres of croft land and four acres of muir land to each cottage. Occupants paid an annual rate which was devoted to the upkeep of the streets and roads. The terms of occupation were reasonable, but 'beyond the rent which could be afforded by vagabonds' [ibid: 268]. Dirom reserved the right to decide what kinds of enterprise would be allowed to set up in the village. He had encouraged the establishment of certain manufactures, and as a result a small but
vigorous woollen industry had grown up. Opposite the woollen factory, on the village side of the river Annan, a mill for grinding wheat and barley had been built. At the site there was a fall in the river sufficient to satisfy these two uses and a number more. Brydekirk was an adventure on the part of Dirom, but it was a particularly enlightened one.
and, in its peculiar circumstances, a particularly successful one. New villages also had recently been set up on the properties of Dalswinton, and Kelhead (for limestone quarry workers), and Rockhall, but none of these approached Brydekirk in size or in the extent of planning.

Dumfries. Dumfries had little of Brydekirk's planning and less of Sanquhar's good fortune in the possession of highly valuable natural resources. But it was indisputably the county town, the largest centre in the Solway counties, and in a class of its own among the Nithsdale-Annan-
dale urban settlements. It was traditionally the capital of the Western Marches; however, in 1813 it was just beginning to build up perennial ties reaching outside its region, as communications improved and distance became less of a barrier.

The founding of the burgh had been occasioned some eight or more centuries before because of its convenience as a river-crossing point. It had been almost surrounded by water and wet land - the Lochar Moss and three or four lochs on the east and north-east, the river and its flats on the west and north-west. Further down-river the tidal flats opened out, further up-river were wide undrained holms, so that the gravel bars (isolated portions of the copious kame deposits which encircled the Dumfries basin) on either side of the river at the Dumfries site gained a greater focal importance. Devorguilla's famous bridge was built at this point in the thirteenth century. But the convenience of the site as a river-crossing had been almost hidden by the spreading of the modern town. The vigorous village on the opposite side of the river, Bridgend (which officially became Maxwelltown fifteen years later), was effectively a part of Dumfries. The burgh's houses were reaching out the main roads, forming the star shape common to expanding urban settlements in the Western World. The central business district and heart of the burgh was, as might be expected, of an area almost equal to the whole of any other town in the region except Annan. It was said at the time,

The principal street extends full three quarters of a mile, the whole length of the town, in a direction parallel to the Nith. Towards the middle of the town it is nearly 100 feet in width. Besides this, there are 8 other streets, with byelanes, making the breadth of the town from a quarter to a third of a mile. The situation of the town, rising gradually on the E. bank of the river, is beautiful and advantageous [WEBSTER, 1819: 192].

The 1819 town plan is shown in detail in the contiguous map from Wood's Atlas, and Dumfries with environs, providing a suggestive comparison with the 1819 plan, is shown in the preceding excerpt from Crawford's 1804 map. The capital differed from its subsidiary centres not only in horizontal
extent, but also in vertical profile. Whereas the other towns in the region could not boast buildings higher than two or perhaps three stories, many buildings along Dumfries' High Street were of four or five stories (see engravings on next page). Although there was no major manufacture in the burgh, the occupations of Dumfries were multifarious, in keeping with its status as the chief service centre for the region. Pigot's *Commercial Directory* of 1820 lists no less than 605 different business establishments, including such things as bank agents (5), auctioneers (6), booksellers and stationers (7), linen drapers and haberdashers (12), coopers (5), flax dressers (5), physicians (4), surgeons (10), straw hat makers (5), timber merchants (6), a wheelwright, a land surveyor, a cheese monger, an optician, a pump borer, and numerous carriers [Pigot, 1820: 99-104]. More than fifty of these were in Bridgend, across the Nith. This total omits public servants like magistrates, deacons, rector and masters of the schools, and an excise officer. It should also be remembered that the lists in commercial directories are always somewhat imperfect. Quoting Webster's comment on the manufacturing of the town, 'The industry of the place is employed chiefly for the accommodation of the inhabitants and the circumjacent country. It possesses no considerable manufacture, nor extensive commercial transactions, though almost every branch of mechanical and commercial industry is practised' [1819: 192]. And, according to another source, 'the town depends for its prosperity on the country. Indeed, the remark applies to such an extent, that almost all the shopkeepers transact more business on Wednesday (the market-day) than during all the other days in the week' [Mcdiarmid, 1832: 16]. Dumfries' most famous function lay in the two huge livestock fairs held annually, in which nearly four thousand beef cattle were known to have been exhibited on the Whitesands market area in one day. In conjunction with these fairs many horses were sold, and also the largest number of hare and rabbit skins disposed of in any one town in Scotland (ca thirty-five thousand). Less spectacular functions, but no less notable, surrounded the Crichton Infirmary (parishes throughout the county gave annual sums for its maintenance), the weekly market, the conducting of the annual
Notes on the engravings

These illustrations are engravings from McDiarmid's Picture of Dumfries..., 1832, opposite pages 65, 67, and 74. On the facing page are, top, 'Dumfries from near Mountain Hall [i.e. looking north]', bottom, 'Dumfries from the New Bridge [i.e. looking south]'; and below is 'Dumfries, High Street'.

![Image of a street scene with engravings depicting Dumfries]
assizes for Dumfriesshire and the Stewartry of Kirkcudbright, and the existence of the new county jail. The burgh was the most important focus in the road network, and was at a vantage point for access to Kirkcudbright, Nithsdale and its exits, upper, middle, and lower Annandale, and Cumberland. Its inhabitants numbered 7,000.

The degree of urbanization. Village residence was being chosen more and more by people uncertain of their future on the land, and this applied even to the outlying parishes. These migrants were the vanguard of the army which left Scotland's countryside in favour of her towns and cities, a movement which began to appear in the population statistics only in 1841 or after. An attempt has been made, in Map XXII, to depict the percentage of the population in the various parishes which was to be found in the 'urban' settlements. For some parishes no figure can be suggested; for most of the others the figure has been arrived at by interpolation from the First and Second Statistical Accounts and other cross-references. The meaningfulness of the percentages varies because the returns for some parishes are fuller than for others. And, it may be questioned that forty inhabitants (for example in Wemphray) constitute anything that may be called 'urban'; however, these small nuclei are included in the map's data because they represent the first step in the townward movement. In most cases those parishes for which no conclusive data are available fit into the category of no urban settlement; but this certainly does not apply to Caerlaverock.

LIST OF URBAN NUCLEI, BY PARISHES

with parish urban population figures in brackets

Kirkconnel (125)  Sanquhar (2,000)  Durisdeer (180)
Kirkconnel  l. Sanquhar  l. Durisdeer
NITHSDALE-ANNANDALE
PERCENTAGE
URBAN POPULATION
BY PARISHES, 1811

KEY

Nuclei numbered according to list of urban places in text

Scale in Miles

500-Foot Contour

Principal Urban Centre

XXII.
Penront (350)
1. Penront
2. Burnhead

Keir (160)
1. Keir Mill
2. Glenhead (and others)

Dunscore (125)
Dunscore

Dumfries (7170)
1. Dumfries
2. Kelton

Caerlaverock
1. Glencaple
2. Shearington
3. Bankend
4. Glenhowan
5. Blackshaws

Ruthwell (260)
1. Ruthwell Town
2. Clarencefield

Cummertrees (360)
1. Cummertrees
2. Powfoot
3. Kelhead

Annan (2525)
1. Annan
2. Frydekirk

Dornock (200)
Dornock

2. Crawick-mill
3. Wenlockhead

Glencairn (400)
1. Moniaive
2. Dunraggan

Glasburn (550)
1. Canple
2. Glasburn
3. Croaichapel

Kirkmichael (140)
Various 'ferm-touns'

Tinwald (275)
1. Kirkland
2. Aminfield Town

Torthorwald (600)
1. Torthorwald
2. Roucan
3. Collin

Mouswald (250)
1. Mouswald
2. Cleughbrae
3. Rockhall

Dalton (50)
Dalton Kirk

Hoddon (500)
Ecclefechan

Gretna (600)
1. Gretna
2. Springfield
3. Gretna Green

2. Carron Bridge (n)

Morton (800)
1. Thornhill
2. Carron Bridge (s)

Kirkmichael (550)
1. Duncow
2. Kirkton
3. Dalewinton
4. Quarrel Wood (?)

Kirkpatrick-Juxta (50)
Various 'ferm-touns'

Moffat (1350)
Moffat

Wemphray (40)
Wemphray Kirk

Hutton & Corrie (75)
Various 'ferm-touns'

Dryfesdale (900)
Lockerbie

Lochnaberen (1175)
1. Lochnaberen
2. Hightae
3. Heck
4. Greenhill
5. Smallholm

The nuclei are not strictly listed according to size
The average parish urban population, excluding Caerlaverock but including the other uncertain parishes as having none, amounted to 23%. Twenty-one of the region's thirty-eight parishes had smaller-than-average percentages (considering Caerlaverock to be above this figure). The locations of the urban nuclei provide a significant pattern. In Nithsdale the central parts of the three basins held groups of villages, while Durisdeer, Moniaive, and Dunscore were strategically placed to serve tributary glens. Likewise, Moffat held sway in upper Annandale, while in middle Annandale there was a galaxy of villages in Lochmaben and Dryfesdale parishes. There were numerous nuclei across the maritime parishes. The map gives a sidelight on the density of population in the region, when it is seen that the large parish of Moffat, with 1,550 town inhabitants, was 74% urban, and Penpont, with 350 village inhabitants, was 35.5% urban, while Lochmaben, with 1,175 in its villages, was only 49% urban, and Noddon, with 500, was 35%. The 'halo' effect, in which the growth of other nuclei was inhibited within the uiland of the major burghs, is best seen in the upper dales. Although the parish percentages concur with the phenomenon, the actual locations of the villages particularly emphasise it. For instance, around Sanquhar with its satellite, Crawfordmills, there were no nucleated settlements for many miles. The closest was the small parish village of Kirkconnel, existing on a little coal mining and an iron forge. Wanlockhead was approximately ten miles by road, and was an unusual settlement based on the lead mines. And about twelve miles separated Sanquhar from the villages in Morton and the southern tip of Penpont. Dumfries had a slightly modified halo. It was surrounded by villages, such as one would expect to find in a populous agricultural countryside, but the villages were small and the parish percentages were relatively low, except where the villages were in effect suburbs of Dumfries, as was largely the case with Collin and Roucan in Torthorwald parish. In upper Annandale Moffat's supremacy was obvious (cf Map XII, above, the village's uiland). It was surrounded by parishes in which urban population was of little account. This low percentage zone was continuous between Moffat and the group of nuclei in the midland parishes. Annan
too was ringed round by parishes having either no urban settlement at all, or only small villages. However, there were two exceptions in this case; the one was Brydekirk, within Annan's own parish; the other was Ecclefechan. The village conurbation of Gretna was the focus of a small-scale repetition of the pattern.
The Nature of Housing and Living

Housing.

The plans of cottages in Dumfries-shire are by no means perfect, excepting in some of the villages. Many cottages are ill contrived, ill built, and ill set down.

In the villages they are generally built of stone and lime, with corners and windows of sand-stone, slated roofs, two good apartments on the ground-floor, boarded and cieded, and an attic-story with sky-lights above....

Rural cottages consist either of stone and lime walls, or of dry stone walls plastered over with lime, and are generally thatched.... A few of the poorest cottages have been erected of stones, with layers of turf, and no lime. In places where stone cannot be got, a few cottages are to be seen, the walls of which are of mud [SINGER, 1812: 97-8].

Some 'ill contrived' cottages were found even in the towns:

They are built with unhewn stones thrown together as if by an accident, and covered with a thatched roof black with rottenness, but giving nourishment to a harvest of rank grass and weeds, and topped by most uncouth chimneys, each formed by four stakes placed about a foot asunder, and wrapped round with bands of straw, or filled up with sods and earth.... There are two or three alleys in Annan filled with such huts... [AYTON, 1815: 175-6].

And even cruder examples were described by this writer in the country:

A short distance west of Comlongon I came to the village of Powheilin, which gave me a more complete idea of the utmost rudeness of Scottish cottages than I had yet formed. It contained twelve mud huts, with walls full of grooves and hollows, the effects of the rains, thatched roofs, ready for the scythe, and the same kind of grotesque and preposterous chimneys that I had seen at Annan.... Those mud-huts, however,... are far superior in positive comfort to many stone-built cottages [1815: 160].

An example of what the better housing looked like is seen in the reproduced etching of the recently-finished Buccleuch Street on the north-west side of Dumfries (next page).

Farm buildings, including the
farmers' houses, were commonly being rebuilt at this period, 'the offices of stone and lime walls, covered with slate, and the houses comfortable, though plain buildings, consisting mostly of two stories, or of one story double house, or one story single, and wings' [SINGER, 1812: 87]. In fact the improvement of housing was general; it was said by many Dumfries-shire writers in the Second Statistical Account that, by 1830, the cottagers' houses were as good or better than those in which a large percentage of farmers had been expected to live in the 1790s. The new cottages were usually eighteen to twenty feet in length by sixteen feet in width, and if there were more than one they were erected in a terrace. It had been
common for the old tiny cottages to be single structures clustered near the farm house. The new cottages were set away from the farm house, although preferably within sight of it. They were of one storey, with a side wall seven or eight feet high, and among the better examples, such as in Drydekirk, they had one or two dormer windows in the roof or one in the gable end to form a garret. There was almost no encouragement given to thatching, and new roofs were tiled. The body of the cottage was usually of stone and lime mortar, or perhaps stone and clay. The most common plan was of two principal sections; the largest part of the house was occupied by the living room in which all the family's activities were carried on, and adjoining this was a smaller pantry and store room, where coal or peat, and wood were kept as well as food. The pantry was generally the first room inside the door of a cottage (at the front), and a short passage led into the living room. Immediately inside the doorway of the living room there were two beds (probably box-beds), and in a corner of the room there was a press-bed which folded away during the day. On one or two of the walls there were shelves which held a myriad of articles from nets and candleholders to books, and in the middle of the room was a table (cf Ayton's description, below). The fireplace was in the wall furthest from the door; if the cottage had a garret there would ordinarily have been a fireplace in the same wall upstairs. The main floor was of large flag-stones, or even of earth, and the level of the floor was raised a foot higher than the ground outside. Only one or two small windows - increasing, however, to three or four if it was an unattached cottage - illuminated the interior. It was common for an out-building to adjoin the cottage wall, preferably at the end opposite the living room. In this out-building there was a pen for swine and perhaps chickens, and sometimes a toilet attached to the back of the pen.

The farmers' houses, as noted by Singer above, were distinguished by being either two stories or, if one storey, more extensive than labourers' cottages. On the upland grazing farms there was relatively little need for barns, and one or two build-
ings, twenty to thirty feet each in length, sufficed. The midland and low-
land farms, which dealt with beef cattle and cultivated crops, required far
more space for animals, machinery, and stores. A moderate-sized farm (ca
one hundred acres) in this category required an implement shed, granary,
cattle shed, byre, horse stalls, pig sheds, and at least one other barn,
and a court or straw yard. These were generally arranged on three sides
of a rectangle, with the yard in the centre. The farm house made the
fourth (preferably the souterly) side. It was two stories, entered by
a central front door and hallway. On one side of this hall was a parlour
of up to twenty feet square, on the opposite side a kitchen of the same
size; flanking these rooms were the scullery, milk house (off the kitchen),
pantry, and storeroom. From the hall a stairway led up to the three bed-
rooms above. But on a larger farm, of three hundred acres or more, it
was felt that more was required both in the living quarters and the farm
offices. As an architect at the time pointed out, 'the following accom-
odations are necessary.

1. A comfortable dwelling-house.
2. Barns.
3. A granary.
4. Stables.
5. Feeding-houses.
6. Cow-houses or byres.
7. A calf-house.
8. A Dairy.
9. A poultry-house.
10. Pig-houses.
11. A boiling or steaming-house.
12. A cart shed and place for im-
plements.
14. Stack or rick yard; and
15. Straw yards, with dung-pit
and reservoir for urine'.

[Richard Crichton, et al, in SINCLAIR, 1614, I: 137]

The approved arrangement of these buildings was in a square or rectangle,
as for the smaller farm above. The horse stable and cow byre were usually on
the same side, and in some cases cattle sheds were built in the centre of
the yard in order to confine the dung to a smaller, more convenient area.
Especially when the farm offices were separated from the house they could
extend to 120 feet by 160 or even 200 feet. The house on a large farm
was popularly of two stories with single-storey wings, and the main two-
storey portion alone was as roomy as a large farm house of the previous
century. Once again the central entrance with lobby was characteristic.
On the ground floor were a dining room and drawing room, and in the wings a business room, kitchen, work room, and a barrack room for farm servants. At the back, extending into the court, were a storeroom and milk house. Upstairs in the main house there would have been about four family bedrooms. All the rooms in farm houses had fireplaces. Basements were seldom constructed even in the finest houses, unless the slope was great enough to easily allow for a kitchen or storerooms under the main storey, and the wooden floors were laid within one or two feet of the ground.

Farmers ordinarily accumulated a large variety of belongings, both household and agricultural. In the farmyard there was likely to be one old-fashioned plough, fairly stocky in design, perhaps made largely of wood; also a newer, sleek 'Lothian' or 'Small's' plough, made of iron; two to four, or more, two-wheeled carts, the universal transport in Dumfriesshire; iron-toothed narrows, in this region almost always yoked in pairs; a turnip drill; and, a wheel-barrow. In the barns there would have been a threshing machine, fanners, pitchforks, rakes, 'grapes', and shovels, a peat spade, various stocks of grains, and harnesses with, perhaps, riding gear. And there were the numerous articles of furnishing in the house. All of this belonged to the farmer himself, and represented a large and often crucial investment (see the complete list of gear for one farmer, in Appendix VI).

The lay-outs of farm buildings, if we are to judge from Crawford's and Telford's maps, and from what were circulated as ideal plans, were predominantly of two types: on the low, relatively flat land they formed three or four sides of a square, with the house as one side, sometimes separated a little from the rest (as described in the three pages preceding); while in the sheep country they were composed simply of the house and a nearby barn or shed (see the contiguous excerpt from Crawford's map). This is an oversimplification; however, it applies particularly to the many farm buildings which had been rebuilt in the 'new style', i.e. since about 1770, and it gives the essence of a trend that was in full flight. The older examples still appeared as small clusters of buildings as seen in the plan of Carthat.
and Rockhallhead (in pocket at back of volume). The farm house, offices, and scattered cottages of Kirkland of Kirkmichael farm (also at the back) are an example of the new style layout.

**MAP XXIII**  
**FARM OFFICES FROM CRAWFORD'S MAP**

Cottages were often placed in the vicinity of the farm house, but fully as often they were close to a nearby road. In some of the totally rural parishes, like Kirkpatrick-Juxta, Kirkpatrick-Fleming, and Midfield, they were numerous enough along stretches of the through road to form an open 'strassendorf' settlement. The cottagers were usually skilled members of the farm team, called 'hinds' - ploughmen, for instance - and they were provided with the cottage, and other necessities of life, as part of the terms of employment. See the plan of
roadside cottages in Gretna, Kirkpatrick-Fleming, and Middlebie parishes, from Telford's map, 1815 (under Urban Settlement, above). The bothy system, housing unmarried farm labourers in cottages near the farm offices, which was common north of the Forth and Clyde, was almost unknown to Dumfriesshire. The rule was to have the unmarried servants living in a back room of the farm house, or in an attached wing next to the store-room. Another prevalent arrangement in Nithsdale-Annandale, and particularly in the areas of field husbandry, was that of unmarried workers living with their families or relatives in neighbourhood cottages, which were often in small villages. These agricultural villages were numerous throughout the maritime and midland parishes.

The dwelling houses in the villages and the small burghs, as intimated above, were chiefly cottages similar to those in the countryside. However, there were usually a few two-storey houses occupied by the minister, perhaps the school-master, the medical doctor, merchants, and managers of mills or factories. Often dormer windows were put in the roofs of such houses to make a third storey, and the plan was square or rectangular with a central entrance and hall-way in the ground floor front. In the large burghs this type of house, as well as spacious terrace rows, made up a considerable section of the residences.

Many of the living arrangements were suitable enough in themselves; but the crucial consideration is how many people had to share each living unit. In most parts of the rural areas each dwelling housed an average of 6 to 7½ persons, although if servants living at the farm houses were deducted the average would be lower. Even in the best of the cottages, with two ground floor rooms and two attic rooms, this meant crowded conditions. But this was a peccadillo compared with conditions in the myriad poorer cottages, such as described by Ayton (cf above), where 'each usually contains only one room, in which the family with all their worldly property must somehow be packed [;] it would be harsh and unreasonable to complain of a want of neatness...; but the dirt that shows itself amidst the jumbled litter of children, dogs, chickens,
beas, chairs, old coats, and breeches, and stockings, scythes, ... pitchforks, and spinning wheels, and an incredible number of other materials that are and are not wanted, is quite abominable' [1815: 180]. In Hutton and Corrie parish, even as late as 1833, there were some old clay or stone and turf houses holding more than one large family [2nd S A : 551]. In the rural towns the average was a little lower. Moffat parish, for example, had an average of about five per household, chiefly because of the numerous 'respectable' families, many of which were composed of elderly couples, who chose to reside in the town. Dumfries, on the other hand, had a high average per house (7½) because it contained much larger houses, and the taking of boarders was common.

Living. When the potato was first grown extensively in Scotland it quickly became a boon to the peasantry. This was still the case in Nithsdale-Annandale half a century later, during the period of this study. The potato was the basic foodstuff, although it shared this important position with oatmeal, and in more than one period of hardship, such as the years 1800, 1812, and 1816-1817, it held off starvation. It was said of the poor of Dumfrieshire, in 1792, that they 'depend more on potatoes in this county, than in any other in the South of Scotland' [1st S A , IV: 520]; and, in July 1813, it was specially noted that the impending potato harvest had become a necessity for the poor [Em Mag, 1813: 365]. The cottagers' diet was simple, but probably not as simple as the written accounts suggest. One writer says tersely that their diet, in one of the southernmost parishes, was oatmeal, potatoes, and salt herrings, with meat seldom seen [YOUNG, 1926: 95]. For an adjacent parish on the Solway we have a description of the peasant diet from the Second Statistical Account: breakfast was usually oatmeal porridge with milk, or with beer made from treacle, while tea was a rare luxury; dinner was Scotch broth and potatoes, with butcher meat when it could be afforded, or, instead, herrings or flounders (fish was far less common in the inland parishes); supper was oatmeal porridge; in scarce seasons the diet was almost nothing but potatoes or oatmeal [2nd S A: 251].
Comparing the economic conditions of 1813 and the time of the Second Statistical Account we can be confident that the diet of the earlier date was fully as good as the one detailed above. In fact Singer’s account of it in 1812 was very close: breakfast, oatmeal (in some form) and milk; dinner, beef or mutton, barley broth, potatoes or oat-cakes; supper, as breakfast, or potatoes with milk or butter [SINGER, 1812: 396]. But what writers fail to emphasize is the vital role of the cottage garden; it was customary for a small garden to accompany each cottage, and from this plot came most of the variety for the diet. And, by 1813, it was common for a cottager, especially in lower Annandale, to have a pig for fattening. Another way in which meat was acquired was by families joining to buy a whole carcass, and then dividing it among them. When the assessment is complete, however, it seems that even skilled labourers had a diet no better than that of inmates in the average English workhouse! [GRANT, 1926: 94]. The price of oatmeal varied from time to time and place to place: in the arable districts the price was lower than in the herding districts; and in 1812-1813 it was generally high because of scarcity, while in 1814 it fell almost to half the amount. In comparison with a day-labourer’s wage, the price of oatmeal in 1813 and 1814 modulated from being about equal to two to three days’ pay to being equal to 1 to 1½ day’s, per stone of 17½ pounds (i.e., from 5s to 2/6). It is no wonder that the minister of Kirkpatrick-Juxta found it ‘very difficult’, in 1792, to balance a labourer’s expenses with his earnings; in the subsequent two decades this balance became easier. It seems inevitable that most cottagers’ wives and some of their children also worked during the busy days of the agricultural calendar [1st S A, IV: 520]. The wages of the skilled artisan reached to twice that of the farm labourer, and as a result he could live at a higher level. It also is likely that the servants who lived with the farm family ate a little better than most cottagers, and the diet of the farmer’s own family exhibited variety throughout the year. The farmers of course, lived higher than the cottagers in all respects. One clear mark of status, which occurred in almost every parish where coal was not mined, was that the farmers and landowners used coal while the rest
of the population had to win peats from the mosses.

Cleanliness was not a characteristic virtue of the Scottish peasantry at this time. In fact it was continually a source of amazement for English and Continental visitors that a people so mentally civilized could be so materially primitive.

This combination of intellectual improvement and moral elevation with so lamentable an ignorance of all the comforts and conveniences of life, or rather, perhaps, with so supreme an indifference for them, forms an exception to the general harmony and correspondence of character that is ordinarily preserved in all the ramifications and subdivisions of civilization, for which I cannot at all account (AYTON, 1815: 182).

Ayton’s journey was through the southern part of our region. In neighbouring Eskéale one French traveller found

...the cottages miserably dirty, and a sad contrast to those of Wales.... Children in health and in rags, with fair hair and dirty faces, swarm on the dung-hills at each door.... The stable and dwelling are under the same roof; one door serves for both, – and the dark runnings from the heap of dung, and the heap of peat, piled up against the house, drain under the floor, and some upon it. The climate must be healthy indeed, where all this does not breed infection (SIMOND, 1817: 345).

This comment seems a little highly-coloured, but, on the strength of the account’s general objectivity, it must be accepted as a fairly realistic depiction of some of the living places in the region. Along with the spirit of agricultural improvement, however, went an improvement in other aspects of living, including cleanliness. And by the 1830s writers in the Second Statistical Account could speak of the striking changes that had taken place in this regard.

Education. It may be that cleanliness follows after education, but in Scotland this reaction was certainly retarded; accompanying the above poor conditions was a system of education that had become the envy of all Europe before the end of the eighteenth century. The system extended a thor-
ough education to all levels of the population, even the poorest, so that Ayton, for example, 'was pleased at seeing here, for the first time, a room full of dirty, ragged boys, some learning English, some Latin, and some arithmetic, and all obviously in earnest.... The lower classes in Scotland furnish the most satisfactory refutation of all the arguments that have been adduced against the policy and humanity of a system of universal education. They are beyond all comparison the best informed, the most moral and orderly people in Europe' [AYTON, 1815: 177]. Almost every parish in the region had a school, and some had, with parochial and private or endowed schools of various sorts, as many as half a dozen (excluding Dumfries, which had many more than this). The schools were relatively new establishments, and as a result they were customarily situated as conveniently as possible to serve the population. This meant, of course, that a parish school was sometimes situated in a lightly-populated area in order to serve a zone of scattered upland settlement. Often the main parochial school was built near the kirk. The private schools, which relied on fees, were almost without exception in a town or village. See also the discussion of Education and the Character of the People, page 181ff.

Amusements. Time off from agricultural duties was a rare thing, but depending on the season of the year, there were some amusements which might have been seen by a visitor to the region. In the winter curling was widely enjoyed, and in the summer quoits (at least in mid-Annandale). At Easter-time Handsel Monday was celebrated, with sports for the youths and rolling of eggs for the children. And, at harvest time there was a series of festivals (called The Kirn in Mouswald [YOUNG, 1926: 98]), taking the form of a lowland ceilidh, given by different farms in turn. A peasant wedding was a highlight in the rural social calendar; in the maritime parishes, if not more widely, a party would leave from the bride's house and another from the groom's house, and from the point where they met the young men of both sides would race back to the bride's house. Dumfries was known as a provincial town of some gaiety. It had a gamut
of amusements, many of them genteel to suit the country gentry who spent the winter there, and perhaps the most notable was its autumn theatre.

The wheels of change were in full motion in 1813, and, though at a slower rate than in the subsequent century, a new era was taking shape. This was recognized not only by the poets and politicians, but also by the ploughmen and journeyman tailors. In most ways it was a good thing; but not without qualifications. Some peasants were finding that the land could no longer support them; in the peripheral areas (rather than in the richer cultivated areas) the enlargement of farms for more efficient animal husbandry meant the turning off of some people. Reluctantly these displaced persons chose to go to the villages, or the towns, or even across the Atlantic to the New World. Also in other ways life was becoming less satisfactory. The Ettrick Shepherd was of the opinion that the country folk were 'better fed, better clothed, and better educated than the old shepherds and hinds of my first acquaintance; but they are less devout, and decidedly less cheerful and happy' [HOOG, 1832a: 256]. This could be suspected as sentimental; however, one change that he laments, which was also applicable to our area (he was writing specifically of the Ettrick and Yarrow valleys), was the increasing estrangement of the farmer from his labourers. An excess of prosperity during the Napoleonic Wars had subtly undermined the 'team spirit' on the farms; whereas the farmer had formerly been the leader of his workers, and personally acquainted with them, prosperity had allowed him to set himself apart and leave the direction of work to a grieve.
8) The Nature of Roads, Harbours, and Vehicles of Transport

Frequent commercial intercourse between different districts, even in the same vale, was a relatively recent phenomenon in Scotland. But it had developed rapidly. This can be seen in two Parliamentary acts concerning roads: in 1686 an act introduced statute labour on roads; and less than a century later, in 1777, an act made it possible to turn statute labour into a money assessment for road upkeep. At the first act decent roads had become a necessity; at the second they had become so numerous, so much a part of the fabric of living, and so commonly used by heavy vehicles, as to require a specialized administration and maintenance.

The road network in Nithsdale-Annan-dale was a fairly closely-woven web, as seen in the accompanying map of roads, but it hung mainly in the maritime-midland corner of the region. The small map of oecumene shows the extent of high accessibility within the region, in this case using one-half mile or less from a public road as its yardstick.* In addition to the parish roads and the main lines of turnpike there was a multitude of private farm roads, many of which were popularly used as short-cuts. The lanes which crossed the farms of Carthat and Rockhallhead (see plan in back pocket) were of this kind. Between Crawford's map, which was valid for the turn of the century, and Telford's map, which was brought up to date for 1809, only a few minor changes occurred. One of these was the turning of some fragments of seasonal roads into permanent ones. Another was the rapid proliferation

* This is a severe localization of 'the habitable world'; but compare Whittlesey's precedent (via Jefferson) in The Earth and State, 1944, where the application is to land within ten miles of a major railway.

Notes on the map facing

Crawford was slightly inaccurate in the locations of many of the routes, but there is no source to provide definitive corrections. Wherever possible the locations have been modified on the strength of recent Ordnance Survey maps. Also some 1804-1816 changes have been added where relevant cross-references are available. In any case the map shows what is of immediate importance for our purposes, i.e. the extent and situation of the network.
of cottages along the main roads. A third development, but one which was not to appear on the maps until after 1819, was the active interest being shown by the central government in improving the thoroughfares.

A vital characteristic of the roads, which is not indicated by the map, was the quality of the surface. From various indirect sources we can conclude that in general even the main roads were bad. In support of this we would cite the time taken by a visitor in 1817, presumably travelling by stagecoach, to get from one town to another: Ecclefecnan to Lockerbie, a distance of nine miles by the main road (shortened in 1819), took seven hours; Dumfries to Thornhill, fourteen miles, took twelve hours, but apparently the slope played an influential part because the Thornhill to Dumfries trip only took four hours! Thornhill to Senquher, a distance of twelve miles, was a journey of eight hours, and Dumfries to Ruthwell, ten miles along the southerly road, occupied the traveller from nine in the morning to six in the evening [GLOVER, 1818: 75, 80, 61, 82, 69]. And more direct comments are found in the evidence given before a select Parliamentary committee investigating the Carlisle to Glasgow road; one witness pointed out that 'nothing has been done on the road for several years', and another claimed that the mail coach was delayed on every trip. At the same time tolls had been raised as high as they could be [BRITAIN, 1815: 10, 12, 4]. There were road trustees in the county, and an act of 1809 had empowered them to borrow money to put the roads into proper condition. This had not been acted on to any extent; and there was an even more immediate chore for the trustees, that 'the present rude lines require to be protected by them, and preserved in a passable condition. It is said that many of these are very grossly and openly destroyed, by the plough made to pass over them, and to turn and leave quantities of earth and stones on the roads' [SINGER, 1812: 409]. Sectional improvements were going on, however, and Telford mentioned during the above inquiry that the portion of the road in the valley of the Evan Water had recently been properly laid out. Some of the parish roads were also in good condition, but the qual-
ity and nature of these fluctuated widely from one parish to another. It is likely that the parishes with large percentages of cultivated land displayed the first road improvements, while the upland parishes followed some years later. In Dryfesdale, for instance, the report of the First Statistical Account said that roads in the parish were even then 'getting into excellent repair' [1st S A, IX: 429]; but the Hutton & Corrie report, at the Second Statistical Account, said 'The public roads have been greatly improved, or rather almost entirely formed, within the last thirty years' [2nd S A: 544]. Middlebie parish, like Hutton &
Corrie, had much of its area in upland pasture, and the 1831 account of it said 'Our parish roads, which were formerly almost impassable, have been improved to an incredible degree within the last twenty years, and, with our bridges, are now in excellent condition' [2nd S A: 368].

The construction of roads was still a rudimentary art. The usual method used large stones as a base, with gravel and earth on top, all rolled down to form a firm surface. Maintenance consisted chiefly of keeping the surface level by filling up the tracks made by the carts. However, Macadam's method, which used no large stones as a base and small, broken gravel for its surface, was known, and it probably was being employed in the construction of the new sections of turnpike roads. Efficient draining of the road edges and of the surface itself by cambering from the centre (which came to be called 'turnpiking' in North America), were receiving attention; 'It is now a common and most excellent practice to employ intelligent surveyors in levelling, before any new lines of road are precisely fixed, and to enter deliberately into the consideration of expenditure in bridges, conduits, metalling, and other particulars' [SINGER, 1812: 642]. The turnpike roads were permitted to be forty feet in width, and no building was to be erected within twenty-five feet of the centre of the road on either side. But in fact the actual width was much less than the maximum allowance, and, on Inglis' evidence, the stretches of the Glasgow-Carlisle road which were constructed in 1819 and the early 1820s were no more than seventeen feet wide [INGLIS, 1924: 213]. Thus a reasonable figure for the newly-built roads which were not turnpikes would be ten to thirteen feet. Any older roads, no matter how good their quality, were narrower than this. For instance, the famous Well Path, a section of an ancient highway which traversed Nithsdale on its way from the South-west to Edinburgh, was a finely-engineered road through Durnsdeer parish and into the Lowther Hills, but it was only seven feet six inches wide [INGLIS, 1924: 220].

The rivers of the region were turbulent unpredictable streams, and, as the parish boundaries indicate, they had been formidable barriers. Thus the bridges which carried the
main roads over the rivers were important communication links. Villages often grew up at the bridges, such as Carron Bridge, Bridgend (Maxwelltown), and Brydekirk. Over the Nith there were six bridges and over the Annan five, as well as a number of others that were found where turnpikes or major parish roads crossed smaller streams (Cample Bridge, Kirtle Bridge, Sark Bridge), and over many rivulets in the vicinities of the burghs. Of the principal bridges those over the Nith were at Dumfries (2), Auldgirth (Closeturn parish), Thornhill, Drumlanrig Castle (Durisdeer parish), and Sanquhar. Those over the Annan were at Annan, Brydekirk, probably Hoddom Castle, Millhouse (Applegarth parish), and Moffat. The bridges were normally built of stone, because good building stone was plentiful in the region. But some of the smaller spans would have been of wood; a sizeable wooden span, of seven arches, was thrown across the Annan near Lochmaben in 1830, and this ambitious step would not have been taken without precedent.

Harbours. Harbours were a relatively minor facet of the Nithsdale-Annandale economy but, with twenty-five miles of sea coastline, it was inevitable that they would be permanent. The major quays were in the estuary of the Nith, and at Annan, and the Customs and Excise Officer resided in Dumfries. By an act of 1811 the navigation of the Nith channel was being improved, and vessels of 150 tons could come up to Dumfries itself. Other quays existed at Kingholm, Kelton, and Glencaple further down the estuary, and each could take succeedingly larger vessels. Annan was the only other quay of importance; vessels of 150 tons could come up to the small harbour which was a few hundred yards downstream from the burgh. There were other points along the coast where vessels occasionally exchanged goods by tender. In Gretna parish this occurred at Sarkfoot, Redkirk Point, Browhouses, in Annan parish at Barnkirk Point, and in Cummertrees parish at Powfoot. The trade was a simple one consisting of cattle, grain, and potatoes as the main exports, and coal, slates, timber, and groceries as the imports. Dumfries and Annan had slightly more varied
bills of lading, which contained, as exports, grain, potatoes, wool, cattle, some Scottish timber, lead, and building stone; imports were coal, limestone, slates, pine timber from North America or the Baltic, specialized groceries, wine, cork, and iron [Edin Enc. (1830): 200, 197; AYTON, 1815: 178]. The primary problem for the coastal trade did not lie in the volume of the turn-over, which would remain relatively steady, but in the shifting sands and muds of the Solway coast. The vast tidal flats, which were characteristic of the Solway at low water, had centuries before sealed off the Locher Water to form the huge area of moss. The aggression was going on with renewed vigour during our period, and as the rivers disgorged their loads of debris into the firth the inefficient re-allocation of it caused channels to change their courses, and expensive dredging operations were a perennial necessity.

**Vehicles.** By far the commonest vehicle to have been seen in the county was the cart: 'We meet with strings of light one-horse carts, driven by only one man, - a much better contrivance than the English heavy waggons' [SIMOND, 1817: 346]. The peculiarity of these carts was their lightness, permitting them to be drawn by a single horse and handled by only one man. Yet they were capacious, and a horse commonly drew from ten to fourteen cwt of lime or coal or other material. The cart was a two-wheeled vehicle, and there was a modification of it (in fact the more numerous type), called the coup-cart, which could swing back on its axle without unyoking and release the contents in a single sweep. No waggons, and almost no goods vehicles of any kind requiring more than one horse, were used in the county. To state an average, the number of carts that would have been utilized with each one hundred acres of land in areas emphasizing cultivated crops was two or three. Wooden sleds, which had been common up to the last half of the eighteenth century, had been almost entirely replaced by carts in the nineteenth century. The stagecoach was one large vehicle that was common in the region, and these passenger transports journeyed along all the turnpike roads. There were also coaches used by the farmers and landowners for their private transportation.
9) Additional Economic Aspects

There were certain economic aspects, not discussed in the above chapters, which had a definite influence on the geographical picture. Some of these were internal matters, others reached outside the region.

Internal. Of the internal aspects the location of limestone for agricultural uses was most fundamental. Conveniently there was a stratum of Permian limestone which underlay most of the basins in the region, and in a number of places it was found within a few feet of the surface. The opening of a lime quarry commonly gave rise to a variety of striking results; there was a remarkable improvement in the neighbouring agriculture through the use of lime as a manure, and it was credited throughout the county with having been the primary *artifice* of the 'new agriculture'; the population increased faster than normal, both because the land with lime could support more people, and also because the lime works themselves encouraged the growth of a settlement; and, there was a general brightening in the economic outlook of the neighbourhood. The lime quarries were located near the main roads, and there were few parts of the region more than ten miles from one of them. The principal quarries were at Barjarg (Keir parish), Croalchapel (Closeburn), Kelhead (Cummertrees), Brown Muir (northern Annan), Caldronlee (Kirkpatrick-Fleming), and Blacket Rig (Middlebie). These quarries and a few others are shown on Crawford's map. The production of the county works was prodigious, but the demand was more than equal to it:

The use of *lime* in this county is very liberal and extensive, not less than 1,500,000 Winchester bushels of shells being used annually, one way or another [25 Winchester bushels equal 24 bushels, one peck, imperial measure]. This would fully load 100,000 single horse carts; and four-fifths of the whole are computed to be consumed on the land.... The kilns* within the county furnish the greater part of all this... [Edin Enc, (1830): 196].

* See note next page.
The part not supplied by the county quarries was mostly imported by sea, although some was brought into the heads of the dales from adjoining counties.

Coal was a material second only to lime in the importance of its role in the agricultural and industrial revolution as it affected Dumfriesshire. And the county was in the enviable position of possessing virtually the only economically-attractive coal deposits on the south side of the Uplands. Sanquhar was the principal centre of production, and it supplied most of Nithsdale. The same field stretched seven miles up the valley, and at Kirkconnel a small amount of coal was taken. At Sanquhar there were three workable seams, at depths from twenty-four to 192 feet, and it was necessary to construct vertical shafts to reach the working levels. The other source (having at least two shafts in operation), a few miles outside the south-eastern boundary of our region in Canonbie parish, supplied the demands of middle and lower Annandale. In this case the best seam was at 146 feet, once again necessitating a system of shafts. The coal could be purchased at the pit-heads and carried away in coup-cart's, but there were also carriers who delivered coal to depots in the various burghs. As mentioned above, under The Nature of Housing and Living, the use of coal was still unusual enough to serve as a status symbol separating the farmers and landowners from the rest of the community. But this restriction of use, largely because of price, did not apply to the same extent in the towns, and the demand was great enough to require imports by sea from England, and by road to the upper part of Annan-

* (From previous page) The most prevalent type of lime kiln used for burning the 'shells' or mined stone was a large round one twenty or more feet high. The limestone was fed into the kiln at the top, and after the heating had been completed the 'roasted' powder was removed at the bottom. There was an improved type of kiln used by at least one quarry in the county (Menteath's at Closeburn); its dimensions were 12 feet long at top and bottom, and 24 feet high; 20 inches wide at bottom, and widening gradually to 4½ feet, at 16 feet high, and then gradually drawn in to 4 feet at the top of the kiln' [reported in SINGER, 1812: 541]. This same producer had devised a lid for his kilns which preserved the heat and made weather unimportant.
dale from Douglas, Lanarkshire.

The salmon fisheries of the Solway had been famous in the last half of the eighteenth century. But they had been seriously decreasing since the First Statistical Account because of the use of the 'trap-net' (a particularly effective and extensive type of stake-net)*, or more correctly because of its use at the season when many of the fish were moving up the firth and the rivers for spawning. As a result the replenishing of the stock was seriously hampered.

The fishings in the rivers have greatly failed of late years. This failure is ascribed to the killing of spawning fish in these rivers; ...it proceeds very much from the almost entire capture of the fish as they move up the Solway, in the numerous nets that are placed there in the salt water [Edin Enc, (1850): 197].

The informed author of a letter of 1811 was 'fully persuaded the fishings in the Solway will meet with a great fall in rent when they are exposed to set [lease] again, by reason of the fishing grounds altering for the worse, as also the smaller quantity of salmon, gilses, etc, for there is not near so many caught in the Solway, and the rivers which empty themselves into it, not one for 100, taken forty years back from this date; and each year growing fewer in number' [recorded in SINGER, 1812: 539]. This degeneration in the fisheries did not continue unchecked; by the

* From a description by Drom of Mount Annan: 'Stake or Trap-nets consist of one or more apartments, inclosed with netting, supported by stakes of from 5 to 15 feet high or upwards, driven into the sand or beach, and with netting also for their roof, and having doors that open with the tide, which, after admitting the fish, are shut by the returning current. The salmon and other kinds of fish are led into these traps by two long arms or leaders, which embrace several hundred yards of the channel, the one conducting them into the traps in the flowing, and the other in the ebbing tide. It is about thirty years since these engines were invented...' [in SINGER, 1812: 605]. There is another description of the trap-net by the minister of Dornock in the Second Statistical Account (p.259), and KISSLING, 1958, describes other nets used in the Solway fishery.
time of the Second Statistical Account the annual rental of the fishing rights had considerably increased. In 1813 there was a moderate amount of revenue being received by four or five landowners and the burgh of Annan, and fish appeared even in the labourer's diet at certain seasons, either through purchase from a local market or, more often, as the reward of poaching.

One final minor economic sidelight, but one which affected numerous individuals in the region, was the sale of skins of local wildlife. The Dumfries Fur Fair, held each February in conjunction with the Horse Fair, had unmistakably the largest turnover of skins, during the first half of the nineteenth century, of any market in Scotland. In our period rabbit skins were of no importance; hare skins, however, were sold in the thousands, and in 1813 to 1816 the sale was thirty to forty thousand per annum. Polecat skins were also numerous, the sales totalling in the low hundreds. Other skins which appeared on the Dumfries market were those of fox, otter, and badger [cf RITCHIE, 1920: 162-70].

External. Of the heretofore undisussed aspects having an external orientation, those requiring attention are cattle, sheep and wool, grain, pork, and lead. These were products for which the region had become well-known, and they formed the basis of its export trade. Although there were other goods exported, such as eggs, a certain uniqueness of reputation had been gained for those listed above.

The location of cattle farming was exhaustively treated in the chapter on agriculture. It was shown to have been chiefly in the midland parishes, with a particular emphasis on the broad Annendale midland. A direct result of the popularity and success of cattle husbandry was the famous cattle market in Dumfries. From April to December animals were exposed for sale, with the largest numbers of animals intended for outside the county being shown during October. Well over twenty thousand animals were sold at Dumfries each year, and the majority of these were
conducted by drovers into England.* In addition, it was noted that 'in a period of ten days, during the droving season, more than twenty thousand head of cattle have been known to pay toll on the English road, and not one of which had been exposed in the market' [2nd SA: 20-1]. A large proportion of these would have originated in the region. Thus an extensive part of Nithsdale–Annandale relied heavily on this export trade in home-raised or fattened up-country beef cattle.

The sheep was another domestic animal on which a large section of the region depended. Sheep were also drawn southwards in great numbers for sale in the English markets. They were commonly prepared for selling in the markets of Cumberland and Northumberland. But perhaps the more important aspect of sheep husbandry was the wool clip. This was another product which went south of the border, and in the case of wool it was considered by many to be in the final analysis a loss; 'The manufacture of wool is almost lost in this county... for want of correct stapling houses', was the cry of a writer in 1615 [Edin Enc (1830): 196].

The general situation in the wool trade was not promising in 1813 because, unlike most other agricultural products, it depended considerably on sales to Continental countries and the United States, and during Napoleon's blockade of ports its welfare suffered. But in 1814, with the temporary peace and a resumption of trade, wool prices rose brightly leaving most other agricultural prices struggling. Whereas the coarse wool had been the only kind with a sale, and that a difficult one, the 1814 prices for both coarse and the finer Cheviot went up, the latter by twenty percent and more.

As a partial summary of the last two paragraphs it can be reported that the returns from milk cows, beef cattle, and sheep in lower Dumfriesshire was greater than £300,000 a year [Edin Enc: 197].

The third member of the domestic animal triumvirate in Dumfriesshire in 1813 was the swine. At the First Statistical Account the swine had been well-known, even some cottagers keeping one,

* Franklin indicates that the trek to Norfolk normally took about three weeks [1952: 131].
but only in the succeeding fifteen years had it developed into the export specialty of curing bacon for the English market. Annandale bacon was sought after in London. The business was centred in the southern and south-eastern parts of our region. The 1612 agricultural survey of the county calculated that there were thirteen thousand animals annually fed and slaughtered [SINGER: 324]. One-third of these were kept within the county, while the rest were exported as bacon, either 'green' (i.e. uncured or partially cured) or, more commonly, cured by a process which was concluded by smoking over a peat fire. This product brought nearly £50,000 into the region each year.

Grain was one of the region's basic exports. It was particularly suited to water carriage and it was a major item in port records. The port of Dumfries, which included Annan and the inconsequential 'lying off' points on the county's coast, in the year ending Michaelmas 1813 handled the following grain transactions.

<table>
<thead>
<tr>
<th>Shipped (Winchester quarters)</th>
<th>Landed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat</td>
<td>4,327</td>
</tr>
<tr>
<td>Barley</td>
<td>9,552</td>
</tr>
<tr>
<td>Oats</td>
<td>46,250</td>
</tr>
<tr>
<td>Wheat</td>
<td>-</td>
</tr>
<tr>
<td>Barley</td>
<td>296</td>
</tr>
<tr>
<td>Oats</td>
<td>279</td>
</tr>
</tbody>
</table>

(one Winchester quarter equals 7.75 imperial bushels) [Source: BRITAIN, 1813: 120]

The imported grain, in the case of the barley, may have been a particular quality for bread-making, and the oats were probably for seeding purposes. The majority of outgoing vessels carried grain, whereas a similar proportion of incoming vessels carried coal. Some grain also left the region by road, both into England and over the hills into the Glasgow district, or Edinburgh, or even Eskdale.

The lead mines at Wanlockhead gave the region yet another - and more unusual - valuable export. But the demand for the ore fluctuated, and in 1811 there was a fall in price (to £24 per ton) which jeopardized the existence of the mines. It was said that to produce and transport the ore cost £25, although this was apparently an exaggeration. The Wanlockhead production in 1809, a busy and profitable year, amounted to about 330 tons of ore. Almost all of this left the region to be used in the manufacture of paints and in plumbing apparatus.
10) The Picture Described

The geographical picture has been built up in the foregoing chapters through an analysis of the various parcels of which it was formed. The true picture, however - the one which was part of the experience of those who knew the region in 1813 - was a single entity, a fusion of the various parcels. In this chapter the words of some who were familiar with the region are used to describe Nithsdale-Annandale as it appeared at that time.

The first deft lines carry us to the north-east corner of the region, and in fact outside it, to St Mary's Loch, and then bring us through the hill portal to Loch Skeen and Moffatdale. We are shown 'lone St Mary's silent lake';

Thou know'st it well - nor fen, nor sedge,
Pollute the pure lake's crystal edge;
Abrupt and sheer, the mountains sink
At once upon the level brink;
And just a trace of silver sand
Marks where the water meets the land.
Far in the mirror, bright and blue,
Each hill's huge outline you may view;
Shaggy with heath, but lonely bare,
Nor tree, nor bush, nor brake is there,
Save where, of land, yon slender line
Hears thwart the lake the scattered pine.
Yet even this nakedness has power,
And aids the feeling of the hour:
Nor thicket, dell, nor copse you spy,
Where living thing concealed might lie;
Nor point, retiring, hides a dell,
Where swain, or woodman lone, might dwell;
There's nothing left to fancy's guess,
You see that all is loneliness:
And silence aids - though these steep hills
Send to the lake a thousand rill;
In Summer tide, so soft they weep,
The sound but lulls the ear asleep;
Your horse's hoof-tread sounds too rude,
So stilly is the solitude.

Yet him, whose heart is ill at ease,
Such peaceful solitudes displease:
He loves to drown his bosom's jar  
Amid the elemental war:  
And my black Palmer's choice had been  
Some ruder and more savage scene,  
Like that which frowns round dark Loch-Skene.  
There eagles scream from isle to shore;  
Down all the rocks the torrents roar;  
O'er the black waves incessant driven,  
Dark mists infest the Summer heaven;  
Through the rude barriers of the lake,  
Away its hurrying waters break,  
Faster and whiter dash and curl,  
Till down yon dark abyss they hurl,  
Kises the fog-smoke white as snow,  
Thunders the viewless stream below,  
Diving, as if condemned to lave  
Some demon's subterranean cave,  
Who, imprisoned by enchanter's spell,  
Shakes the dark rock with groan and yell.  
And well that Palmer's form and mien  
Had suited with the stormy scene,  
Just on the edge, straining his ken  
To view the bottom of the den,  
Where deep, deep down, and far within,  
Toils with the rocks the roaring linn;  
Then, issuing forth one foamy wave,  
And wheeling round the Giant's Grave,  
White as the snowy charger's tail,  
Driven down the pass of Moffatdale.  

The mountain...that is by far the highest of the surrounding district is the White Coom of Polmoody, which rises in the immediate neighbourhood of the boundary of Selkirkshire on the west, though not touching it. ...From east, west, north, and south, it is seen with its broad head, like Ben Nevis in the north, rising above all its brethren. The view from this mountain is prodigious, and not to be equalled in Scotland, excepting that from Ben-Lomond, in richness and variety. The Friths of Forth, Clyde, and Solway are all in view, and it is said the sea at Berwick, though I never could distinguish it. The whole range of the Grampians from Ben-Lomond to Ben-Voelich is seen; the Cheviot Hills on the eastern borders; all the high mountains of Cumberland and Westmoreland; the Isle of Man, Arran, and the intermediate mountains of Galloway, Ayrshire, and Nithsdale, rising behind each other like waves of a stormy sea. ...The hills of the next great range are all on a par in point of elevation, or so near it, that every shepherd accounts his own the highest. These are, Winterhope Height, Broad Law, Black Doddy, Crawmel Craig, Dunse Law, Dollar Law, etc.... The next in degree are Ettrick-Pen, Andro-Whinny, Ward-Law, White-
Wuss, Mount-Benger, Minch-Moor, and Hangleanaw Law of Elibank. All these are on a par in height.... From these they degenerate into the common green dumpling-looking hills...generally named Laws, from the Gaelic word lagh (a bent bow), to the form of which the outline of every one of them bears a resemblance [Hogg, 1832b: 284-5].

Thus the 'erosion surfaces' of the Southern Uplands were recognized at least as early as the first part of the nineteenth century, by a shepherd and, no doubt, his companions. More than one visitor supplemented this local tribute:

We passed this afternoon a tract of country very different from England. It is a succession of steep hills, with intervening vallies, all uniformly covered with a fine green turf, smooth, and unbroken by a single tree, bush, weed, or stone; sheep hanging along the sides of the vallies, and here and there a shepherd-boy wrapped up in his plaid;—nothing to interrupt the sameness and stillness, but the little stream bustling along each valley, over a bed of round pebbles...there was much simple grandeur and beauty in the scene [Simond, 1817: 344-5].

This excerpt referred especially to Eskdale, but it is largely applicable to the upper reaches of Annandale (described by Hogg), and even of Nithdale (except that our two dales were drier and more heathy) where the boundary was formed by the mountains 'called the Lowthers, partly covered with heath, partly with verdure, and a strong species of grass called bent' [Playfair, 1819: 107 (actually a plagiarizing of the First Statistical Account of Burisdeer)]. The table-top of these mountains differed from the slopes, as at Wanlockhead where 'nothing can equal the barren and dreary appearance of the surface, neither trees, shrubs, nor verdure, not even a picturesque rock amuses the eye' [Clover, 1818: 60].

A later commentator has given the description a slightly more specific tinge:

The southern border of the [Southern Uplands] is less exactly defined [than the northwestern], except to the west of the Nith, where it plunges into the sea, and in Berwickshire, where it rises out of the Merse. In the tract between these two districts an occasional gradation from the characteristic features of the great upland country into a mingling of wild moorland and cultivated valley gives a peculiar charm to the landscapes of the
Borders. From the Solway to the Cheviot Hills the margin of the uplands is fringed with a line of bold escarpments, which look away over the moors of Eskdale and the Ewes Water. . . . the smoothness and verdure of the hills are here and there exchanged for bold rocky scarps, bare crags and cliffs, and deep narrow defiles, like the romantic Pass of Dalveen among the Lowther Hills. . . . Where the ground rises into the group of Broad Law and Hart Fell, more rugged features are seen. We there come upon the deep dark gles that lead into Moffatdale, as those of Black Hope, Carreifran, and the Grey Mare's Tail; the solitary glen of the Talla, and the crescent-shaped cliffs of White Coomb and the Loch Craig, that 'frown round dark Loch Skene' [see Scott, above].

In no part of Scotland is the relation of the valleys to the streams that flow in them so strikingly shown as in these Southern Uplands. The uniformity of geological structure and monotony of feature allows us to trace out the valley systems without the conflicting impressions that great ruggedness and variety of surface can hardly fail to produce. There is a singularly apt proportion maintained between the size of each stream and that of its valley [Coikie, 1901: 310, 317, 331].

As Lebon (among others) has pointed out (1935), there is a marked hydrological contrast on either side of the Southern Upland watershed. The descent toward the north is relatively gradual, whereas toward the south it is sharp and often precipitous, with vigorous streams actively eroding deep gorges. The basic reason is that the Nith and Annan, in low-level basins, flow over thick cakes of poorly-resistant Carboniferous and Permian sediments, while the northerly streams must contend with long stretches of the Lower Palaeozoic. This condition has been explained more frivolously in the local rhyme Robert Southey heard from the lips of Thomas Telford:

Tweed, Annan, and Clyde,
All rise upon one hill's side,
Tweed run, Annan won,
Clyde fell and broke his neck.

[Southey, (1929): 266]

This asymmetrical stream erosion influenced the heights of the passes through the hills. For example, where the Clyde 'fell and broke his neck' the Evan tributary of the Annan had captured the upper three or four miles of its course. This resulted in a low and convenient pass. Captures also provided relatively low passes through the valleys of Dalveen (although the
Well path was still the popular route) and Crawick. The Menloock pass, to Wanlockhead and Leadhills, and the Ericaste pass out of the head of Annandale past the Marquis of Annandale's Beef Stand, were higher. The valley of the river Nith itself provided a broad and easy passage into Ayrshire.

Within the mountain fringes were the populated basins of the two rivers. The local variations in this division of the region have been described by many writers. The correspondents in the First Statistical Accounts had offered descriptions. Concerning Button & Corrie parish:

Within sight of Dryfe, till near its source, the hills are of a fine verdure, the banks mostly covered with wood. The water alternately on rock and gravel, makes the whole romantick and pleasing. In sight of Milk, the view is something similar, but less hilly, less woody, and less rocky. In sight of Corrie, the extent of rich pasture and meadow is striking. But on the heights between these waters, the scene is much the reverse. It is partly mossy, and generally bleak, but not barren [XIII: 568].

On the opposite side of the region, in Penpont parish, there was a slightly different gradation from the heights down to the populated holms.

...there are 4 steep ridges, lengthways, with three deep and narrow glens, each watered by a very pure and plentiful stream. The lower end is washed by the Nith, a considerable river, which divides Penpont from Duriadeer and Morton, and by the Scarr, which is the march between it and Tynron and Keir. On the south-west, the Scarr runs between Penpont and Tynron for 5 miles. The hills on both sides are so steep and high, and the bottom so narrow, rocky, and woody, that the general view is pleasant for those who have any taste for romantic scenes. ...The general prospect down the rivers Nith and Scarr is extensive and beautiful, consisting of level ground highly cultivated, gentle risings, woods, villas, and mountains. The manse and church stand on a plain, about 30 feet above the Scarr, which winds about, in the form of ands, from south-west to north-east. There is from hence a distinct view of the rivers for 8 miles, first separate and then united. The pools here and there show themselves as smooth sheets of water; and in floods the low ground is inundated for a mile broad, and 6 farm towns surrounded to the very doors [1: 203-4].

The adjacent parish of Morton displayed a complementary scene.

Along the banks of the Nith and Cample, there are about 200 acres
of good holm land. Adjoining to this is a considerable extent of
gently rising ground, of a light but fertile soil, upon a gravelly
bottom. The village of Thornhill is pleasantly situated upon the
highest part of this ground. A little farther E., is a considerable
ridge of land somewhat higher, the greater part of which is still
in a state of nature, though very capable of cultivation, as so
much of it as is improved turns to very good account. The soil is
deeper than that of the lower grounds, but lies upon a colder bottom.
Farther E. still the ground rises into hills of a considerable,
though not remarkable, height, covered partly with grass, partly
with heath and rocks. At the foot of these hills, on the W. side,
where the farm-houses are placed, the croft land is pretty exten-
sive, and of an excellent quality [X: 150-1].

And, in middle Annandale, at the foot of the Howe of Annandale, lay the
truly midland and populous parishes of Lochmaben and Dryfesdale.

The waters of Dryfe, Annan, Kinnel, and Ae, [unite] their kindred
streams in the centre of the vale. In summer and harvest it is
delightful indeed to see such a rich variety of lofty mountains
and deep vallies, of green hills and growing dales, of winding
rivers and rivulets, of rich pastures and richer crop-land, all
around. The royal burgh of Lochmaben is in full and distinct view
across the Annan to the west. The town clock is heard, and the
Castle loch, a sheet of 204 acres of water, with the castle ruins
on a peninsula on the south side, is seen. The prospect is beau-
tiful and variegated with a great number of gentlemen's seats and
plantations on all hands... [Dryfesdale, IA: 450].

And Hoodam parish:

A place is always pleasant where there is much wood, water, and
dry ground. All these contribute to beautify Hoodam... The fields
lying on the banks of [the three] rivers, particularly the Annan,
are charming being mostly holm land, dry and at the same time rich,
and surrounded with beautiful banks of wood. On this side of the
Annan, one large wood, consisting of birch, oak, and ash, ascends
from the river about a quarter of a mile, and extends alongst its
banks about two miles.... Mention has already been made of the
large plain in the body of the parish: The road from Dumfries to
Carlisle by Ecclesfechan runs through it. On each side of the
road, this plain is divided into inclosures, fenced with hedges,
and interspersed with clumps of oak and ash. To the traveller
coming from Dumfries, who has to pass through a wilte, bleak, hilly
tract of country, this vale, at first view, appears like a
paradise [III: 355-6].

And at the Second Statistical Account, concerning Wamphray, one of Annandale's
upland parishes:

There are two mountain-ranges in the northern part of the parish, running parallel with the river Annan, and with each other, from S.S.W. to N.N.E. and varying from 1000 to betwixt 2000 and 3000 feet in height. Besides these, there are two ranges of hills nearer the south, and running also nearly parallel with each other, from S.E. to N.W. The latter rise from 500 or 600 feet to about 1000 feet above sea level. Though some of the lower hills, and some also of the higher, approach to a conical form, yet they are chiefly tabular or ridge. Most of the low lands are on the banks of the Annan; and though there are some level tracts along it, yet they generally rise with a gentle acclivity to the ranges which run parallel with it. There are also some fine valleys more confined and secluded; especially that of the stream above the church, where there is a number of extensive fields above its woody banks, both rich and fertile as well as beautiful. Towards the S.E. of the parish, where the hills are low and partly arable, at least yield excellent pasture, the valleys interspersed are perhaps of the deepest soil in the parish, and produce excellent crops [IV: 137-8].

Kirkmichael parish, traditionally in Nithsdale but, with the addition of Garvald parish to its north-east side, more properly on the dividing line between the dales:

There are two ranges of mountains in this parish, stretching nearly north and south, the one situate between the small river Ae and Glenkiln-burn, and the other between Glenkiln-burn and the lower grounds. The hill of Holehouse, on the northern part of the first range, is about 1500 feet above the level of the sea.... The southern part of the parish is, in general, level; though there are several rising grounds interspersed, which descend, by a gradual declivity, towards the farm of Quarruc, at the southern extremity, about 190 feet above the level of the sea [IV: 67-8].

Glencairn parish, the south-western terminus of the region's mountain periphery:

There are many ranges of hills in the parish, most of which run nearly from west to east. The upper ranges are mostly covered with heath, but the greater proportion afford excellent green pasture. The valleys are in a high state of cultivation, and produce luxuriant crops of all the sorts of grain cultivated in this country. The height of the highest hills varies from 1000 to 1500 feet above the level of the sea. There are three valleys in the upper district of the parish, each extending to about six
miles in length, which meet at the village of Minnyhivie; and a fourth of greater breadth, which extends seven miles towards the lower end of the parish [IV: 330].

And, Torthorwald parish, abutting the maritime fringe and the county burgh

lies on the south-west face of a gently-sloping ridge, the summit of which, about 600 or 700 feet in height, constitutes the march between...Nithsdale, and Annandale.... The boundaries betwixt this parish and those of Mousewald, Lochmaben, and Tinwald, are not of any strongly defined natural kind, but chiefly dikes, ditches, or small runners, separating the lands of conterminous proprietors. But from the parish of Dumfries it is separated by the water or river of Locher, which runs along the whole line of march. The shape of the parish is pretty compact, and nearly square, excepting one long point, consisting principally of moss, and projecting about three miles beyond the rest towards the south. In this tract there is a very long strip of valuable meadow along the water of Locher, and a small tributary stream; but all the rest is a barren moss, neither cultivated nor inhabited... [IV: 29-30].

Finally, St Mungo parish in the lower midland of Annandale:

The surface of this parish is uneven, being elevated into two hill ridges, and depressed by their accompanying vales. On the south of the parish, the high wooded grounds of Kirkwood in Dalton, and Nutholmhill in this parish, form a beautiful vale a mile long, through which the river Annan flows in a serpentine course. In the centre of this enchanting vale, and on the bank of the river Annan, the manse and church, embowered in wood, are situated. ...Nutholmhill, elevated 200 feet above the sea, sinks gradually into a plain eastward at the junction of the Annan and Milk, and westward near the village of Lockerby. Directly east, and nearly parallel with the ridge of Nutholmhill, rise the eminences named Barrhill and Breckenhill. Barrhill sinks into the level of the holms of Hoddam on the east; whilst Breckenhill, stretching westerly, sinks into the bed of the Milk on the confines of the parish of Tundergarth. ...Through the highly cultivated and richly wooded valley formed by these hills, the water of Milk takes a serpentine course of three miles, on the bank of which is built the modern mansion of Castlemilk [IV: 203-4].

The vale of Annan contains more champaign or open lands, and is less boldly divided by the hills, than that of Nith.... The midlands contain hills and low ridges, with a large proportion of low situated lands; and they possess a few flocks of sheep, together with a considerable number of black cattle, and a corresponding extent of arable soils.... As the main rivers approach the Solway, their separating ridges vanish, and their course for
some miles is through an open country.... In the lower part of the county, adjacent or near to the Solway Frith, a gently undulating surface, consisting mostly of dry soil, presents itself, intersected by those rivers and streams which flow into the Solway, diversified by spots or fields of haugh or clay soils, and of peat moss ... [Edin Enc (1830): 194, 195].

In the gradation from the mountains to the firth the tendency was for the paths to lead, particularly in Nithsdale and western Annandale, to Dumfries. The approach to Dumfries, from any direction except that of Lochar Moss, yielded a country

in the highest state of cultivation, and animated by gentlemen's seats, and farms, and cottages, and all the cheerful signs of populousness and prosperous industry.

I thought the entrance into Dumfries, the capital of the south of Scotland, very unpromising, and as I passed through a mean street between two rows of the aboriginal huts of the island, was preparing some bitter reproaches; but before I had time to note them...I was in the High-street, which at once changed my disposition, displaying a stateliness suited to a town of this rank and importance in the country. This street, containing the largest and most respectable part of the town, is irregular, and laid out on a rough steep ground...; but it is of a fine breadth, with houses and shops on each side of a magnitude, beauty, and elegance, that would do credit to any town in the kingdom. The eye is offended by the awkward situation of the town-hall, which stands plump in the middle of the street, interfering materially with the beauty of its perspective, and not a little with its commodiousness as a thoroughfare. There are several other very good streets, one in particular of great elegance, called Buccleugh-street, but just finished.... Dumfries...is built of stone.... I strayed into one or two miserable alleys, and observed that some of the better streets, with their modern improvements, were deformed by the unseemly intervention of some of the ancient huts; but the battering-ram of reform...will soon...level them with the dust....

Dumfries being the largest and most respectable town in the south of Scotland, is the winter residence of many families of note from the surrounding country. Amongst its establishments for gaiety and amusement it numbers a theatre, but a small one.... The town is little distinguished as a place of trade, though a considerable quantity of hats and stockings are made in it.... It is principally enriched by the great fairs for black cattle and pigs that are held in it [AYTON, 1815: 186-7, 189].
Thus the traverses from the muirland fringes across the modulating vistas of the vales and into the busy landscape of the basins ended at the focus of the region — the county burgh and capital of the south of Scotland, Dumfries.
C. THE GEOGRAPHY EXPLAINED

There were various aspects of the environment – both non-human and human – which do not properly fit into the Geographical Picture itself, but which require elucidation before we can fully understand the picture. The subsequent chapters deal with these aspects.

1) The Zonation of the Region

In an earlier chapter (Parish Categories) the region was referred to as 'fundamental' because its zones were based principally on physiography. The physical frame was of two almost-enclosed dales having, however, a few passes through their upper parts on one hand, and on the other a broad window on the sea firth with coastal passage-ways into contiguous districts (see the relief map of Dumfriesshire, page 136). The physiography itself was the result of two major factors: the solid geology, and the glacial deposit. The rivers with their terraced deposits, and the marine beaches near the coast, were two other minor factors. The peripheral hills of the region had been carved out of the relatively resistant Lower Palaeozoic strata which were the matrix of the whole of the Southern Uplands. For instance, in Glencairn, 'the hills are chiefly of the transition [i.e. Silurian] class of rocks, and their appearance is characteristic of that series' [2nd Sc A: 33]. Extensions from these hills reached into the lowland in places; in the centre of Nithsdale were the Keir Hills which separated the Nith from Glencairn parish; the march between Nithsdale and Annandale was at this time along the ridge referred to herein as The Wald; and, on the eastern edge of the region there was a block of high land, a lower continuation of the uplands, which provided a definite limit to the valley of
the Annan on that side. Towards the south this continuation gradually sank below the more recent sediments which formed the Solway slope of the county. Where the more recent sediments began there was a remnant of a lava flow which at one time blocked off Annandale, and still provided a row of dividing hills between upper Annandale and the lower maritime parishes. The younger sediments were deposited in the basins of the region: in the Sanquhar basin, the Coal Measures; in the Thornhill basin, and likewise in the Dumfries basin, the soft sandstones of the Permian; and in Annandale these sandstone deposits were repeated in the narrow upper basin, and the broad midland basin; in the Solway syncline itself the same strata occurred and underlay the south-east corner of the region, being flanked by the older Lower Carboniferous on the north and west as far as the extended arms of the Silurian. The floors of the river valleys were covered with alluvium, and after draining they became the choice holms of the Nith and Annan. Consult the Geological map (this and the relief map are from The Land of Britain, part 19 [McIVER], pp.222 and 223).

Among the agents responsible for carving the surrounding hills were the glaciers of the Southern Uplands. When these huge tongues of ice had done their work and were dying away as massive, stagnant cakes in the various basins, they dropped copious deposits of drift. These deposits were particularly heavy around the edges of the basins, forming deep kame terraces, and, in association with many meltwater channels of varying sizes, and some patches of drumlins, the resultant landscape had the billowing outlines of a stormy sea. This can be seen even on the small-scale relief map, especially on the western side of Mid-Annandale. In the centres of the vales any glacial deposit had been levelled out by the meanderings of the streams and overlain with alluvium. The maritime parishes, too, were subdued. There were drumlinoid mounds across the south-eastern part of the region, and, except for a few with a relief of seventy-five feet or more, they were all low. The coast of the maritime parishes had been built up as a beach which had been isolated as the coastline receded. A few wet areas had been left behind the beach, and these had formed into mosses, the most notable of which was the Lochar.
Thus the physiographic pattern was also tripartite. The resistant Silurian hills enclosed the region, the hummocky glacial drift characterized the midlands, and the smoother horizon dipping gradually to the Solway was that of the maritime parishes.

Modifications. The physiography, and - as will be seen - the climate, and with less exactitude, the soils, asserted the zonation. But there were other aspects which, while they did not blatantly break with the zonation, caused modifications of it. The livestock distribution was an example of this: the 'beef cattle wedge' stretched deeply into the midland parishes of Annancsele (where it would be expected a relative balance between cattle and sheep would have existed) because major drove roads intersected the area, the land was as suited to beef as to sheep, and the returns from cattle were higher. The towns also caused aberrations from the basic zonation. Being markets, each of the towns had in its environs a concentration of market gardens, and the large ones had dairy farms; these specialized enterprises were exceptions to the rules of the agricultural zonation. The magnetism of the urban centres, when it came time for people to leave the land, had a strong influence on the appearance of the population map, and stretched the zones to the limits of their flexibility. The mines in Sanquhar parish, and the limestone quarries in other parishes, to a lesser degree, created modifications in their own districts. At the mines themselves a concentration of population was built up in what was, usually, an 'unlikely' location. And, as a result of this concentration of population, there was an extension of cultivated lands, for the purpose of feeding the population, into other 'unlikely' locations nearby.
2) Soils

The map of soil textures does not show the three-fold division that we found to have been persistent in the geography of the region. However it distinctly separates the uplands from the rest, for the simple reason that the upland parishes were covered by a soil material which was mainly immature and muiry, commonly having a hardpan layer, with a few valley strips of sloping gravel or sand; whereas even the midland parishes had a variety of mature soils of at least three distinguishable kinds. The information on the map has been extracted from the Statistical Accounts, and in all cases it has required some interpretation and correlation with physiography.* Because of this it is far from satisfactory. It cannot be more specific than a general textural name, which can result in the equating of a freely-drained soil on a marine sand parent material with, for instance, a sandy loam (perhaps imperfectly drained) on the mixed material of drumlins. It can tell virtually nothing about fertility; and, what is even more relevant, it can tell nothing about the amount of manures that had been recently applied, an aspect which tended to be neglected as the distance from the limestone source increased.

One possible correlation to be seen is that between soils and the 'Annandale wedge' which displays itself in the maps of percentage of land cultivated, population, and livestock emphasis. The apparent correlation between soils and land cultivated is as much dependent on the location of main roads as on soil textures. But, of course, the dry, light soils which occurred in much of the wedge were highly favoured land at the beginning of the nineteenth century. Population density tended to follow the lines of the percentage of cultivated land. And the

* It must be emphasized that this map gives only a general location and description of the soils. Cultivation of land over a century and a half can modify the texture of the soil, and to a certain extent its morphology. In addition, description of soils was little developed at the time of the Statistical Accounts, and we must be careful not to infer too much from it.
emphasis on cattle in the Annandale wedge was based both on the location of roads and on the liaison between cattle and cultivated land as contrasted with sheep and rough pasture. The soils which coincide with the wedge are the light, sandy loams, continued northwards in loams, lying on the lower slopes below the cold and heavier soils of the hills—brows and muirland tops. The clergymen of Cummertrees referred to a part of this wedge, delineating it as 'nearly two-thirds of all the land in the lower district of Annandale [i.e., from the Dalton—Kirkpatrick—Fleming line to the Solway], where the soil is so thin, sandy, and gravelly...'. [2nd S A: 251]. Most of the sandy land of Annandale, like that which broadly ringed the holmland in the Nithsdale basins, was the residue of a massive system of kame terraces and related glacial debris. The mounded materials 'consist chiefly of great masses of gravel and sand, which spread over the low lands of the parish, and are formed into ranges and groups of little hills.... The sand and gravel cover the solid rocks,...and appear upon examination to be composed of the fragments of the various formations found in the vale of Annan' [2nd S A: 372]. A partial description of the material in Nithsdale claimed it to be 'a sandy gravel, to the depth of upwards of 20 feet...'. [2nd S A: 80]. There was a closer connection between the richest cropland in the region and the alluvial holmland, which by 1813 had been mostly drained and turned to crops. The upland soils were mostly of a muirland type interspersed with the wetter peat mosses. But on the west side of the region the Statistical Accounts do not refer to muirs; they say that the soil is generally sandy, or thin, or light. Undoubtedly the upland levels in this district were also of muir and moss, and the soils they were describing were those which were most used, i.e., the soils of the lower valleys. The muirs on the east side of the region, on the other hand, were moister, having this in common with Eskdale: 'The sheep-walks of Eskdale are mostly green hills, well-drained, though naturally moist.... The sheep-walks of Annandale and Nithsdale contain more of rock and gravel, and are therefore drier, and bear a large quantity of heath' [Edin Enc (1830): 194]. The upper extremity of Nithsdale did not coincide with the foregoing description, being largely cold and wet to the
extent of being boggy, a condition attributable to its higher precipitation. The subsequent list details the descriptions of soil types which are given in the Statistical Accounts, and clarifications are included.

Kirkconnel: a) cold and swampy on the uplands; b) light gravelly loam overlooking the river.
Sanquhar: a) 'A great part of the land farther distant from the river [Nith], on both sides, partakes much of clay and moss, and is in great proportion wet and boggy...' [2nd: 304-5]; b) near the river dry and gravelly with some loam; c) light and gravelly in the south.
Penpont: generally sandy, mostly deep [most of the sandy and coarse lands on the sides of the Nithdale basins were attributable to kame terrace and some ground moraine deposits].
Durisdeer: '...in general is deep and fertile.... There is some wet heavy land, but in general it is dry, and in some places gravelly and sandy; the greatest part is of a loamy nature' [2nd: 324].
Morton: a) holmland along river; b) light, kindly, and fertile soil on the first slopes; c) then, intermediate hills before the mountains, coated with a damp to wet soil on clayey bottom; d) at the foot of mountains is extent of arable and meadow land on an alluvial soil.
Tynron: thin and sandy.
Glencairn: a) light and warm on low slopes; b) holmland in south-eastern part of parish.
Clootburn: a) rich loam along river; b) contiguous to this the land rises towards the east and is covered with light, dry sandy soil; c) on the further rising ground, before the mountains are reached, is a strong, deep soil, tending to clay; d) 'The higher level of the parish, before the ascent of the transition [Silurian] hills, is in general water-worn gravel upon freestone' [2nd: 77].
Keir: a) light, dry land overlooking the holms; b) muir on the hills.
Dunscore: a) on the east, 'the river Nith and its fertile holms'; b) the main glen 'becomes very rocky and barren in the upper extremity.... Except on the holms and more fertile valleys, the soil in by no means deep. On part of the higher grounds it is extremely thin and poor....'; c) 'In the higher district, the prevailing character is a species of loam on a till bottom, and abounding with small stones' [2nd: 336, 337, 338].
Holywood: a) 'The lands along the Nith, and also for a considerable tract on the Cluden, are of a deep alluvial soil, and entirely free of stones'. b) 'Advancing beyond these tracts, the soil becomes lighter. It is dry, and lies for most part on coarse sand....'. c) 'There is another portion receding from the former, which consists of a deep strong loam. The subsoil is tilly, and abounds with small stones....' d) 'In the higher parts, the soil is of the same character, though less deep' [2nd: 555-6].
Kirkmaeoe: a) broad holms along river; b) gravelly to sandy on the rolling land that rises from the holms; c) moor or muir on gravel or till in
the higher part constituting the northern half of the parish.

Dumfries: no information recorded.

Caerlaverock: 'The soil is in general a light loam, and what is rather uncommon, the worst soil is generally in the valleys' [2nd: 350].

Tinwald: a) 'On the southwestern boundary of the parish, there is the moss at the side of the Locher...'. b) 'Next to this, upon the east, and closing round it upon the north, is a range of fields from a quarter to half a mile in breadth, of a sandy gravel'. c) 'Above these fields... is a range of much greater length as well as breadth...and consisting of a dry clay loam (very much mixed in some places with small stones) ...'. d) 'That towards the east, however, is of a stiffer and more retentive clay, rather spongy, and from its less favourable exposure, not so well adapted for cultivation'. e) 'The north and northwest portion of the parish...consists of a cold moorish clay' [2nd: 40-1].

Torthorwald: a) moss on the west and south-west; b) 'a long narrow strip, extending from the moss one-quarter mile upwards, is a light kindly soil, upon a sandy or gravelly bottom....'. c) 'The second division, extending up the ridge about half a mile farther, is...of a stronger quality, and upon a rotten slaty rock bottom'. d) 'The third division, extending to the top of the ridge, is steeper and more uneven on its surface, the soil colder...' [2nd: 31].

Mouswald: a) moss on west; b) light sandy land; c) on higher ground 'tolerably deep and rich' [2nd: 443].

Kirkmichael: a) fertile holms along the Ae and Kimmel Waters; b) middle part of the parish dry and gravelly; c) the upland, constituting half the parish, is of moist soil.

Kirkpatrick-Juxta: no information recorded.

Moffat: a) holm along the rivers, and particularly at the confluence below the town; b) lower slopes are light gravel; c) uplands are muir, with some moss especially on the west side.

Wamphray: a) holms along Annan; b) light loam [the light and gravelly loams on the sides of Annandale, as in Kithsdale, were based on glacial debris, especially on kame terraces, drumlines, and perhaps some lacustrine deposits]; c) cold and muir land upon the high hills.

Barton & Corrie: a) in valley of Corrie Water, fine clay; b) in other valleys a gravelly parent material with coarse soil, probably including what was referred to by the minister as 'their dry uplands...covered with heath and coarse grasses. They are generally a fine dry soil...although the elevation is in most cases great, being from 400 to 800 feet above sea level ...' [2nd:540]; c) in high northern parts, moss and muir.

Tundergarth: a) in valley of Milk Water a gravelly soil; b) higher land is muir.

Johnstone: a) near the river Annan, light and sandy; b) the central part of the parish is 'rich and good'; c) the segment of the parish lying in the hills is moss or a clayey material.

Applegarth: a) a broad triangular expanse of holm across the interstice between the Annan and the Dryfe Waters; b) uplands are 'black muir'.

Dryfesdale: a) broad holm of deep loam; b) most of the rest of the parish is light and dry.
Lochmaben: a) considerable amount of alluvial land around the confluence of the Ae, Kinnel, and Annan streams; b) a dry soil around the burgh of Lochmaben; c) the slopes on the west, leading up to The Wald, are light and gravelly.

Dalton: a) loam holms along the Annan; b) light sandy loam in most of the parish; c) clay soil over till in the glen of Little Dalton which forms the northern arm of the parish.

St Funge: a) fertile and loamy holms on Annan and Milk waters; b) on the slopes 'it is more sharp and stoney' [1st, XI: 384].

Hoddom: a) deep rich loam along rivers; b) light and gravelly on slopes; c) a dry till in the upper parts of the parish.

Middlebie: a) 'There is a great variety of soils in the parish, and sometimes at a small distance from each other. A clayey soil, however, mostly prevails, though gravel and loam are also not unfrequently to be found' [2nd: 364]; b) the higher land displays soils mostly strong, deep and wet, on a cold till.

Kirkpatrick-Fleming: the main expense of soil sandy with a gravel base, but two stretches of moss, and towards north of parish a strip of white clay'.

Halsmore: the soil on the banks of the streams is a clay loam.

Gretna: a) near the shore the land is loamy, with sand towards the west; b) inland there are gravel and clay hills.

Dornock: no information recorded.

Annan: a) 'To the west of Annan, the shore is gravelly, to the east, one part is wholly sandy, while the other consists of a mixture of sand and gravel'. b) 'Almost every variety of soil is to be met with in the parish, and that sometimes within a small compass. The lower ground along the banks of the river consists of alluvial depositions, and is very rich. To the west of the river, for a short way above its influx with the frith, the soil is clayey, ... and loamy with a gravelly subsoil. Northwards, on the same side of the river, it is mostly light and moorish. On the east side of the river, and to the south of the town, it is mostly loamy...; to the north of the town, it is generally light...; to the north-east, east, and south-east of the town, it is almost wholly moorish and mossy...'. [2nd: 517, 520].

Cummertrees: the soil is mostly a thin wet clay over a hard till [the southern quarter of the parish was of sandy, freely-drained soil].

Ruthwell: 'The soil is various, consisting, however, generally of a strong gravel, intermixed with vegetable mould. Towards the west, on the low ground near the sea, and on the banks of the Locher, a sluggish stream, there is a considerable tract of clayey soil, mingled with sand...'. [2nd: 220].

Some indications of the sources of the soils have been given above. No full-scale government soil survey has been carried out in Dumfriesshire, but surveys have been done in comparable areas, and a partial survey has been made in the south-west corner of our
region. Relevant information is given in the subsequent paragraphs.

On the low ridge of Permian sandstone that lies through Caerlaverock parish, a freely-drained sandy loam has developed. The hollows are occupied by a red clay imperfectly-drained loam, which was called by the writer of the Second Statistical Account 'the worst soil' (p. 350). Nearby, on the raised beaches (shown as 'sand' on our map), three textures have been differentiated: sand and gravel (Dreghorn association), fine sand (Lochar association), and silt and silty clay (Carse association) [BRITAIN, 1958: 47].

It is likely that on the kame terrace deposits plentiful in both Nithdale and Annandale (shown on our maps as 'sandy loam', and partly as 'loam') a soil closely resembling the Yarrow series (of the Yarrow association) would evolve. It is a freely-drained soil said to develop on Kame terraces, other fluvioglacial material, and river terrace gravels, derived chiefly from Silurian greywacke. It is commonly coarse, having numerous cobbles and pebbles, but it may have a loamy texture.

The soils on the uplands can be compared with those on adjacent hills outside the region, because the soils through the central part of the Southern Uplands are quite similar, having had similar environmental conditions and genesis. The Soil Survey map of the Jedburgh-Morebattle area, which touches the north-east corner of Eskdale, indicates a progression of relevance to our region. On the summit levels of most of the bow-shaped laws there is a cap of hill peat. Surrounding this, and covering most of the upper part of the hills is an expanse of the Dod series (Ettrick association). This soil, or a closely similar one, with its hardpan layer near the surface, was probably coincident with the muirlands (as contrasted with mosses) in our region, at least on the north and east sides. The Survey's inventory of the Dod series points out that it 'generally occurs on gentle to moderate slopes on high-level plateaux under high rainfall (greater than 40”). The till has a loamy texture and is often stony. The series is usually freely-drained below the B1 horizon but above it may be imperfectly or poorly drained. The vege-
tation is frequently some form of Molinietum or Nardetum' [BRITAIN, 1956b: 48]. There is often a humus top of some inches, and the total profile of this 'peaty podzol' is about eighteen inches. The hardpan occurs at about three inches into the mineral soil proper. The Ettrick association develops on a till of Silurian greywackes and shales. On the slopes below the Dod-type soil, and above the sands and gravels which usually occurred in the valleys, there was probably a soil similar to the Linhope series (Ettrick association). This is the freely-drained member of the association. The Survey report says 'The Linhope series is developed on till with a loamy texture and moderate to high stone content. This till is to be found on steep slopes and hill tops.... The vegetation is usually some form of acid grassland.... The series is stony, occasionally very stony.... Much of it lies above 1000 feet...'[ibid: 47-8]. Often this series was found on very steep sites on valley sides, and this condition augmented the efficiency of the drainage. Weak induration of the B₃ horizon was characteristic. It was a deep soil considering its location, seldom being less than 2½ feet in profile, and it provided excellent pasture although bracken also found it amenable because of its dryness. Full descriptions of the soils cited are to be found in Appendix VII.

Some ameliorations had been introduced which affected the soils over large areas. The application of manure was one of these, and for visible results lime was the chief of the manures. In the last half of the eighteenth century this dressing began to be used, increased to a remarkable extent by the end of the century, and continued well into the succeeding century. 'Previous to 1840 the main, practically the only, substances used for soil improvement were lime and bones along with the dung made on the farm' [GILLIES, 1930: 153]. It was reliably estimated in 1815 that 140,000 acres in the county were being improved with lime. But, as was discovered through decades of use, lime husbandry was not the consummation of every type of land. Generally on the soils of sandy, sandy loam, and most of those of loamy consistency lime was advantageous. Many of the sandy soils were of a low base or even acid status. On the other soils it was probably the breaking of the land rather than
the application of lime that most benefitted the subsequent crops.

The draining, breaking, and mixing which were usually parts of the process of bringing formerly unused land into cultivation, were other ameliorations. Draining had been carried to a high state of efficiency in the damp lands of upper Eskdale and Yarrow, and Nithsdale-Annandale followed this example. Extensive areas of upland sheep-walks were endowed with effective systems of drainage in the first few decades of the nineteenth century. And at this time, or earlier, stretches of holmland were brought into productivity by being properly drained. The systems varied in complexity, but the best of them employed on arable land were subtly adjusted to slopes, and involved tapping the springs and wet enclaves, constructing a course of broken stones, and then re-instating good soil on the surface. Tile drains did not come into use until the late 1820s.
3) Climate

In an agricultural region like Nithsdale-Annandale climate was second only to soil among the non-human factors in the environment. For a Scottish county the climate of Dumfriesshire was an amenable one. With the mountain back-drop the vales were sheltered from much of the bitter weather that was experienced on the east coast, and they rose gradually towards their tops so that they faced fully the southern exposure. It was a climate in which wheat would grow, but later varieties of peas would not prosper. And, as the writer of the agricultural report of 1812 pointed out, the contrasting parts of the region lay under varying climatic conditions: 'In the low vales and dry soils, a great deal of work is done with the plough during the shorter days of the year; but the case is not so favourable in the higher districts and colder soils'. He continues his sketch of the climate:

From the vast Atlantic, heavier and more extensive clouds are borne on the wind, and carried over the western coast, than the German sea emits on the east. Of course the climate is not so dry as that of Berwickshire. The rains which prevail most are towards the beginning of August, and the end of September, which are well known under the names of Lammas and equinoctial rains. It is not uncommon to experience long and heavy rains also in the winter months. ...[But] most of the rain that falls in this county accompanies mild winds from the south or west, and is very different from the cold rains and hoar fogs that annoy the eastern coasts of the kingdom. ...Snow does not remain very long, even on the mountain faces of Dumfriesshire; although it lies on the summits of Hartfell, Carrifran Yoke, Whitecoun, Lochfell, and the rest of that group of gigantic mountains, which look over the sources of Annan, Esk, Tweed, Clyde, Ettrick, and Yarrow. It happens often that the sheep farmers in the heights of Lanarkshire, and of the counties of Peebles and Selkirk, are obliged to remove their stocks of sheep, or to support them with hay given on the snow, while in Annandale and Nithdale the sheep have access to food on their own hills [SINGER, 1612: 15, 14, 13].

The prevailing wind was from the south-west and west, although this applied particularly to the summer and autumn months. In winter and spring easterly and northerly winds were common. 'Cold east winds prevail much in winter,
especially in spring and the beginning of summer; and though then, during the day they may follow the sun, yet they too often resume that direction during the night, and being accompanied with frosts, they prove very hurtful to vegetation and the blossoms of fruit trees' [2nd S A: 139].

Extraordinary weather phenomena had occurred in recent years in the county. A destructive snow-storm, which was 'general through the kingdom', struck on the 24th of January 1794*, causing immense losses of sheep. On the night of September 5th 1807 there was a violent gale, and throughout the following November there was a copious fall of snow with severe winds, which blocked many roads. In April 1808 (the 8th and 22nd according to Mossman) heavy snow fell and buried many ewes with their new-born lambs. And in two or three seasons between 1795 and 1813 the crucial potato crop was damaged by frost.

To balance these instances of severity, it may be mentioned, that in general the climate is mild; and in particular seasons remarkably so. In the winter months of 1809, the double red rose blossomed; and in 1810, a transplanted moss rose, with a Portugal laurel. In this latter season, a laburnum and a fruit tree sent out blossoms a second time in October. In most very warm days in summer the thermometer stands about 70 degrees on the scale of Fahrenheit, about the centre of the county; in the summer of 1811, it stood repeatedly above 80°; and on the 25th of May, 1807, during the time when the sheet lighting of tropical regions appeared, about three in the afternoon, it stood at 92° in the shade within three miles of Moffat! This was the highest ascent of the thermometer that had been observed there [SINGER, 1812: 16].

The climatic contrasts that could occur between Dumfriesshire and other parts of the kingdom were well known through information published in the newspapers. For instance, the winter

* Mossman’s record for Edinburgh does not coincide with Singer’s date; the Edinburgh catalogue has nothing for 1794, but in 1795 ‘Great frost. January 20–27. Continued snowstorm. Mail coaches delayed’ [MOSSMAN, XXXIX (1896): 96]. Other sources corroborate the 1794 date, and it might be that Mossman’s 1795 is a typographical error.
of 1809 in Dumfriesshire was kindly, even mild, while reports from London spoke of water freezing in the houses. And conversely, some years before, when meadows on the south coast of England had been verdant, the grass of Dumfriesshire had been kept low by an extended frost.

Singer concludes that 'The true character of the climate is, that it is variable and uncertain. ...It is the spring that proves most uncertain, and sometimes most severe in this county, keeping back labour and vegetation, and cutting off blossoms which are too early. On this account, principally, is the climate later by a month or two than that of Kent and the south of England, ...Yet it cannot be stated as unpropitious in general either to plants or animals' (p. 17).

It is possible to offer actual figures for the region's climate, although there were no weather records kept within its borders. But a conscientious journal was kept in Carlisle, from 1801 to 1824; and extended observations, including our period, were made in both Edinburgh and Lancashire. By careful interpolation we can arrive at a valid measurement of the accuracy of the Carlisle data. It is relatively easy to provide temperature figures, because this aspect is predictable over wide areas from a single set of observations. But to establish the other critical figure - rainfall - is a particularly precarious proposition, and the direction of prevailing wind is also problematical. However, let us look at the information available. This chapter deals specifically with the years up to 1814, while 1815 and 1816 will be discussed in Section III of the thesis.

The monumental work on the climate of Edinburgh was compiled and validated by Mossman in the 1890s, and it embraces a period of 135 years [Mossman, 1894, 1896, 1900]. The record for the Lancashire plain covers nearly 200 years and was also compiled from a variety of sources, in this case by Gordon Manley (1946). Both these records suggest that the weather of Nithsdale-Annandale, in the first decade of the nineteenth century, was entering a phase markedly different from that of the preceding twenty to twenty-five years. The change involved all elements of the weather: the annual temperature was gradually decreasing
Although the maximum temperature during the twenty-four years of the Carlisle observations occurred on May 25th 1807, the precipitation was apparently doing the same (although the greatest fall in one month at Carlisle was in August 1804), the barometric pressure was lower, and, perhaps most significantly, there was a persistent tendency towards an increase of easterly and north-easterly winds. An item from a Liverpool newspaper in 1814 conclusively illustrates this point: 'It is a most extraordinary circumstance at this port, and we believe unexampled in the memory of man, that we have scarcely had a week of westerly winds during the last nine months' [reported in Courier, 7/6/1814]. What was actually happening to the temperature was that the summers (from 1802), and the autumns (from 1796), had been getting cooler, and the springs - if anything - were doing the same, while the winters were becoming warmer.

The statistics from Carlisle are applicable to the lowland parts of Nithsdale-Annandale. Manley refers to these data as a 'carefully-kept series of observations thrice daily, by what are declared to have been good instruments in a very fair garden situation in the suburbs of Carlisle' [MANLEY, 1946: 12]. He presumes Carlisle to have been quite close to the Lancashire plain in its temperature values (Dumfriesshire probably would have been slightly lower), and the Lancashire plain was .9 higher than Edinburgh during the first decade of the century. But Carlisle in turn showed the tendency to be slightly higher than the Lancashire plain in winter, and lower in summer, and this characteristic also applied to our region. Excerpts from the actual Carlisle observations, 1804 to 1814, follow.

The mean temperature of each month...

And the annual mean temperature of each year

<table>
<thead>
<tr>
<th>Year</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>June</th>
<th>July</th>
<th>Aug</th>
<th>Sept</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
</tr>
</thead>
<tbody>
<tr>
<td>1804</td>
<td>41.3</td>
<td>36.9</td>
<td>39.89</td>
<td>43.3</td>
<td>55.7</td>
<td>60.32</td>
<td>60.07</td>
<td>59.4</td>
<td>58.1</td>
<td>51.6</td>
<td>42.7</td>
<td>34.6</td>
</tr>
</tbody>
</table>
Mean Temperature of each year

<table>
<thead>
<tr>
<th>Year</th>
<th>Mean Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>1804</td>
<td>48.566</td>
</tr>
<tr>
<td>1805</td>
<td>47.965</td>
</tr>
<tr>
<td>1806</td>
<td>48.944</td>
</tr>
<tr>
<td>1807</td>
<td>46.464</td>
</tr>
<tr>
<td>1808</td>
<td>47.3406</td>
</tr>
<tr>
<td>1809</td>
<td>47.4075</td>
</tr>
<tr>
<td>1810</td>
<td>47.37</td>
</tr>
<tr>
<td>1811</td>
<td>49.00</td>
</tr>
<tr>
<td>1812</td>
<td>46.142</td>
</tr>
<tr>
<td>1813</td>
<td>47.00</td>
</tr>
<tr>
<td>1814</td>
<td>45.32</td>
</tr>
</tbody>
</table>

The average or mean temperature for the first six years, viz. 1801, 1802, 1803, 1804, 1805, 1806, . . . . . . . . . . . 48°, 1435

The mean temperature of the second six years, 1807, 1808, 1809, 1810, 1811, 1812 . . . . . . . . . . . . . . . . . . . 47, 3636

The Maximum Temperature that has taken place during twenty-four years, was at the noon observation of May 27, 1807; thermometer then stood at 85°. In the general remarks for this day, it is stated, the weather was intensely hot; there was distant thunder, and a continued flame of lightning all night.

The Minimum Temperature during twenty-four years, took place on the morning of January 17, 1814; the thermometer was then 2° below zero, -2°.

Among the general remarks, it is stated, that, at this time, there occurred the most severe frost on record. The thermometer was unusually low during the whole month, but particularly on the 4th, 8th, 13th, 17th, and 20th. On the morning of the 4th, the thermometer was at 10°, and in the evening at 11°.

On the morning of the 8th, it was 10°, and in the evening at 9°. On the 13th, morning at 15°, and at night 9°. On the 17th, 2° below zero, morning; 14° at noon; and 9° at night. On the 20th, it was 15° in the morning, and 10° at night.

The average temperature of the whole month, 24°, 47, is the lowest monthly mean temperature during the whole period of the journal [BARNES, (1830): 428, 427].

The thermometer was situated about forty-five feet above sea level, and was twelve miles from the sea in a suburb on the south-west side of the town.

As a comparison with this lowland
record it is useful to consider an upland series, made by the minister of Eskdalemuir parish, which was contiguous to the Annandale parishes of Moffat and Rutton & Corrie. The reading was taken at about 650 feet A.T., 'every morning at nine o'clock', as the minister reported, 'with a well-regulated Fahrenheit's thermometer at a northern exposure' [2nd S A: 399]. Although it is difficult to check the accuracy of this series, it seems to accord with its altitude and situation, being on the average about two degrees lower than Edinburgh. Part of the table follows, and includes the significant figure of average temperature during the growing season, March to October.

**ESKDALEMUIR TEMPERATURES**

<table>
<thead>
<tr>
<th>Year</th>
<th>Average heat from beginning of March till the end of October...</th>
<th>Average heat through the year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1804</td>
<td>49$^4$/8</td>
<td>44$^3$/12</td>
</tr>
<tr>
<td>1805</td>
<td>50$^6$/8</td>
<td>45$^2$/12</td>
</tr>
<tr>
<td>1806</td>
<td>50$^7$/8</td>
<td>45$^8$/12</td>
</tr>
<tr>
<td>1807</td>
<td>49$^6$/8</td>
<td>43$^2$/12</td>
</tr>
<tr>
<td>1808</td>
<td>51$^4$/8</td>
<td>45$^5$/12</td>
</tr>
<tr>
<td>1809</td>
<td>50$^7$/8</td>
<td>44$^{11}$/12</td>
</tr>
<tr>
<td>1810</td>
<td>50$^1$/8</td>
<td>44$^1$/12</td>
</tr>
</tbody>
</table>

The figures represent degrees Fahrenheit. Unfortunately the record ends in 1810; if continued it would have shown the growing season becoming cooler.

To interpolate rainfall statistics is, as has been said above, an unacceptable practice. But when we are provided with statistics for a station as close as Carlisle, it becomes much easier. This is presuming that the rain gauge used was competent, and, although the
observer's instruments were described as 'superior', we cannot be sure of this. The quantity of precipitation recorded was generally about ten inches less than the present-day figures. It is argued below, and in Section III, that there was a deficiency of west winds sufficient to cause a lowering of precipitation, but also it appears that the observation itself is slightly lower than it should be (it lost through evaporation because of the length of time between some readings). No explanation can be offered for the mistakes of addition in column three; the corrected sums, compiled from the monthly table, are in brackets.

EXHIBITING THE QUANTITY OF RAIN...OF EACH YEAR, AND THE

QUANTITIES OF RAIN DURING THE 6 SUMMER AND 6 WINTER MONTHS

<table>
<thead>
<tr>
<th>Year</th>
<th>Annual quantity of each year</th>
<th>From beginning of April to end of September</th>
<th>From beginning of October to end of March next following</th>
</tr>
</thead>
<tbody>
<tr>
<td>1804</td>
<td>35.845</td>
<td>17.575</td>
<td>15.245 (18.270)</td>
</tr>
<tr>
<td>1805</td>
<td>26.355</td>
<td>15.110</td>
<td>10.670 (11.245)</td>
</tr>
<tr>
<td>1806</td>
<td>31.54</td>
<td>15.900</td>
<td>14.240 (15.64)</td>
</tr>
<tr>
<td>1807</td>
<td>27.75</td>
<td>15.630</td>
<td>11.260 (12.12)</td>
</tr>
<tr>
<td>1808</td>
<td>27.766</td>
<td>15.100</td>
<td>15.650 (12.75)</td>
</tr>
<tr>
<td>1809</td>
<td>31.77</td>
<td>19.750</td>
<td>12.250 (11.99)</td>
</tr>
<tr>
<td>1810</td>
<td>29.73</td>
<td>11.900</td>
<td>17.870 (17.43)</td>
</tr>
<tr>
<td>1811</td>
<td>34.53 (? )</td>
<td>17.540</td>
<td>18.510 (17.03)</td>
</tr>
<tr>
<td>1812</td>
<td>26.87</td>
<td>12.740</td>
<td>11.650 (14.13)</td>
</tr>
<tr>
<td>1813</td>
<td>25.68</td>
<td>12.860</td>
<td>8.810 (12.82)</td>
</tr>
<tr>
<td>1814</td>
<td>27.56</td>
<td>12.980</td>
<td>18.500 (14.58)</td>
</tr>
</tbody>
</table>

The mean quantity of rain of the first six years, 1801-1806 . 30.205 inches
Mean " " " " " second " " , 1807-1812 . 29.585
The highest annual mean height of the barometer that has occurred is 29.903.
This was in the year 1813, and the quantity of rain during that year, 26.87
inches, was the least that has fallen in one year during the period of the
journals,... [correct quantity is 25.68 inches]
The greatest fall of rain in one month during 24 years, took place in
August 1804; mean barometric pressure of the month, 29.69 . 6.270 inches
The least fall of rain in one month during 24 years, was in March
1806, mean barometric pressure of the month 30.20 . 0.20
[BARNES, (1830): 431,432]
It should be added that over the twenty-four-year period the average rainiest month of the year was July (3.317 inches), slightly surpassing August (3.240) which was commonly considered to be the rainiest month.

From various intimations it appears that the prevailing westerly and south-westerly winds were losing their unquestioned ascendancy, although it had only been an unbroken ascendancy for the preceding fifteen years (according to Mosman on Edinburgh). The writers of the First Statistical Account commonly made the simple assertion that the prevailing winds were from these directions. From 1805 to 1819 the occurrence of the westerly wind was below the average (based on the years 1764 to 1890), and this undoubtedly affected the amount of precipitation which fell on the region, emphasizing the uncertainty of the growing seasons in 1812 and subsequent years. It is relevant that Sinclair, in his *General Report of the State of Scotland* (1814), estimates the wind to blow on the west coast 'from some point between E. and W. measuring by the northern semicircle of the horizon' during 139 days; and from some point between south and east during 29 days. On the east coast there were westerly winds for 232 days, easterly for 120 days, from due north on 10 days, and from due south on 3 days [SINCLAIR, 1814: 46].

Finally, let us consider the weather as it appeared to farmers, being recorded in general terms in the 'Agricultural Intelligence' columns of the *Farmer's Magazine*. In the autumn of 1812 there was an excess of rain throughout the region. The upper Annandale report, for example, complained that there had been heavy rain on the stocks in the fields, and even near Annan the weather was described as 'still rough and unsettled' (November 3rd). Lower Nithsdale, because of its dry soils, seemed to survive better the inclement conditions. The region experienced severe frosts in November and particularly at the end of December. The report from near Langholm, which can apply to all the higher land of the county, mentions considerable rain in November and the first week of December; about the middle of January a heavy snowfall, followed by a thaw, and then a greater snowfall on the 20th, was climaxed by frost for several days. At the end of January the weather turned mild. A general observation on the spring of 1813
was that it was wet until after March 20th (even severe in the uplands), then turned milder and dry. But wind with snow occurred on April 2nd, succeeded by warmth. Then again the uncertain conditions descended, and the last fortnight of April was cold and stormy, with a tempest from the north-east on April 26th, which brought sleet, rain, and drifting snow. The early summer was favourable, the weather being warm and seasonable with occasional showers. Towards the end of July it became more variable with thunder and heavy showers. There was a fine dry period at the end of August, then moderate rain in the succeeding fortnight. November and December of 1813 were remarkably fine, and the dry mild conditions allowed a successful harvest. The opening of 1814 appeared propitious, until a phenomenal snowstorm on January 9th stopped both the field work and the mail coaches. Nineteen inches of snow fell, and the Dumfries informant claimed it to be the heaviest fall since 1794 (and perhaps even heavier than that in places). Fortunately it was dry and drifted into the hollows so that the sheep were able to exist on the bared ridges. About January 20th the wind changed to southerly and brought light rain. The seeding season was amenable, although a little late, and at the end of April the weather was showery, and temperatures were almost up to those of summer. But the different parts of the region showed a meaningful contrast when the rains continued: the arable parts began to find that there was too much moisture, while the pastoral parts prospered on it. The early summer did not warm up as expected, and although it was dry there were cold and even frosty nights. The third week of July, however, turned warm and this was accompanied by rains. This favourable turn unfortunately did not last long, and it was reported from upper Annandale, on October 29th, that the harvest had been a disappointment because of 'the want of summer and heat'. The end of July and beginning of August had been wet and cold, and then a heavy rain occurred on the 23rd. Conditions cleared well during the harvest period, but in the slower high parts the stooks had been drenched in the fields since October 10th. Once again, however, the pastoral parts had benefitted from the rains, and from Langholm it was actually reported that 'Very few seasons have terminated so favourably for the interests of the [animal] husbandman'.

This was the climatic setting of the region, and, as will be shown in Section III, the uncertainties of it extended to extremes which, with the prevailing economic conditions, had almost unprecedented baleful effects.
4) **Hydrography**

The hydrography of the region has not changed a great deal since 1813. The chief river captures had already been effected (note the Crawick and Evan Waters, indicated by arrows on the map of hydrography), and much of the straightening and embanking of stream courses had been done. Although the western edge of the Lochmaben Castle Loch has been filled in, other lochs have been drained wholly or partially (e.g. Halleaths Loch on the east side of Lochmaben), or choked up by peat moss (Black Loch, on the northern boundary between Kirkmahoe and Tinwald parishes), and reservoirs have been formed, yet the most important characteristic of the hydrography - the threat of the streams at flood time - has varied little in its effects. The drainage of holmlands, their protection against marauding streams, or the use of the water to enrich meadows (more typical of pastoral Eskdale), were techniques well-developed by 1813.

The essay on Dumfriesshire in *The Land of Britain* points out the habit which the county's rivers have of flooding in the spring [McIVER, 1945: 244]. Even in the first two decades of the nineteenth century the habit was well established, and although there was a little less total precipitation, the heavy snowfalls which were common in winter and spring provided huge reservoirs for sudden melting. Floods were not as common in other seasons but were at most times a potential menace, particularly in the autumn. For example, on September 26th 1815 heavy rains in the uplands were responsible for 'sending down the rivers immensely swollen, and carrying away crops, trees, and bridges' [FM Mag, 1815: 490]. The peaks of flood potential occurred, of course, near the confluence of streams, and also, on the nith in particular, in the lower courses of the rivers. There were peaks, for instance, at Threewaterfoot, below Moffat, at the great interfluve of the Ae, Kinnel, Annan, and Dryfe, at the mouths of the Milk and Mein Waters; and, in Nithsdale, at the mouths of the Crawick, Buchan, Carron, and Scar Waters, and at the meandering confluence of the Cluden with the Nith just above Dumfries.
The reason for the flooding was principally the aggressiveness of the Dumfriesshire streams. As explained below, the streams reaching towards the north of the region in particular were eroding the watershed relatively rapidly. Their courses from the high uplands had a sharp descent, and when snow melted in the hills, or heavy rains fell, there was an accumulation of run-off which could not be contained by the stream-banks, and the holmlands suffered inundation such as in lower Penpont parish where 'six farm towns surrounded to the very doors' was the usual result [1st S A, 1: 204].
The following paragraphs on the drainage as a pattern are supplemented by the map of Hydrography (XXIX).

Nithsdale was tripartite, being composed of three basins spaced along the course of its river, like beads on a string. The upper course of the river extended through a narrow trough, below Corsencon Hill, into a fourth - and the highest - basin, which lay beyond the Uplands and the county, and focused on New Cumnock, Ayrshire. Within Dumfriesshire it ran for forty miles to the Solway. In the uppermost and smallest basin within the county - the Sanquhar - the Nith had four main tributaries, and at least half a dozen burns which entered it from their own marked valleys.* Two of the large tributaries were on the north side - Crawick Water and Mennock Water - and two on the south - Kello Water and Buchan Water. Each of these pairs characterized hydrographical contrasts which existed on the two sides of the basin. The tributaries on the north, eating back into the core of the Southern Uplands, were extremely vigorous streams, the Crawick having effected a major capture relatively recently, and the Mennock having breached the divide in progress toward a capture. This aggressiveness was and is typical of all the main left-bank tributaries of the Nith (and, indeed, generally of the streams draining the southern side of the Uplands), the explanation being that much of the Nith's course was through soft sandstones, and also that faults had occurred in the upper half of Nithsdale which had tended to drop the base level of the river to an anomalous depth.

In the Sanquhar basin the vale of the Nith was largely closed to the north by fault line scarps, and to reach the main river each north-side tributary flowed through a deep nick which it had cut into the upstanding rock crop. It has been suggested that the Nith had migrated across the Sanquhar basin from the south-west towards the north-east with each successive lowering of the basin floor. As a result of this the land surface had a more gradual slope in the direction of the migration, and the Kello and Buchan Waters,

* The term 'burn' is to be interpreted, as in common usage, to mean a stream smaller than a 'water', which in turn is smaller than a 'river' (not without exceptions).
as well as the burns on that side, had incised relatively uninterrupted and
deep valleys. The two streams flowed to the Nith through fairly direct courses
of 7 to 7½ miles. The tributaries coming into the Nith from the north-east
followed tortuous courses, the Mennock throughout its 7 miles, and the Crewick
in its middle and lower parts. The Crewick extended to the sources of two
captives, the Wanlock Water giving it a length of 15½ miles, the Spango a
length of 16½ miles.

The second basin of the Nith was known
as the Vale of Closeburn. It had three times as much vale land (i.e. relatively
flat land flanking the river, and rising outward to as much as three hundred
feet higher than it), but its hydrography, both in description and dynamics,
was a fairly faithful reflection of the Sanquhar. The principal stream on
the north-east side was the Carron Water. In eroding back into the Lowther
Hills it had effected a capture from the Clyde which descended only gradually
toward the north. In its 10-mile course the Carron Water was contained for
four miles by deep valleys in the hills; then, it entered rolling rich country
which formed the interfluve between itself and the Nith. Comparable to the
Carron was the Cample Water; it also pirouetted among the hills, then suddenly
left them through a six hundred-foot-deep break that it had carved for itself,
and flowed on to the Nith through lower land heavy with glacial drift. The
steep face of the hills on the north side of the basin was once again best
explained by postulating fault lines, one oriented north-west-south-east
across the course of the Cample, another oriented north-south to be paralleled
by the Carron through much of its length. On the other side of the vale there
were two copious rivers, similar to the Kello and Buchan Waters. They were
the Scar and Shinnel Waters, which took a fairly gradual descent, like the
general surface five hundred to six hundred feet above them, towards the
south-east. The Shinnel ran for twelve miles before it was deflected sharply
north to meet the Scar. The Scar traversed twenty miles to its mouth in the
Nith. Besides the streams mentioned, there were a number of burns flowing
directly into the Nith, most of them being right-bank tributaries.

Between the vales of Sanquhar and
Closeburn (now called Thornhill) the river passed through a two-mile gorge
which barely afforded room for the main road. And between the vales of Closeburn and Dumfries there was another constriction for nearly two miles.

The lowest of the three basins of Nithadale, the Vale of Dumfries, was by far the largest, its vale land stretching twelve miles to the Solway while maintaining a width of approximately five miles. It must be noted, however, that a large segment of its eastern side was occupied by the waste land of Lochar Moss. Partially draining the moss, and following a course independent of the Nith, was the Lochar Water, a sluggish stream which originated in four burns coming off the low hills on the east and north-east of the basin. Its course along the foot of The Wald is believed to mark out the edge of a valley which preceded the present Nith valley but drained roughly the same area (see the subsequent paragraph). As for the tributaries of the Nith, they were markedly scarce, although this was the largest of the three basins. There was one large tributary, the Cluden Water, which entered on the right side less than two miles above Dumfries. This river followed a north-west-south-east course similar to the Nith, and it stretched back through the western marches of Dumfriesshire for a distance of 32 miles, becoming the Cairn Water and then the Dalwhat Water. The Nith received two other tributaries from the west, but both were south of Dumfries and in Kirkcudbrightshire.

An important negative aspect of the hydrography was the Lochar Moss and its stream. The moss itself was approximately eighteen square miles of water-logged land lying adjacent to the main county town, Dumfries. The Lochar Water, running diagonally across the moss, was unsuccessful in draining it, because it was small and only descended from the top of the moss to the Solway an average of $14\frac{2}{3}$ inches per mile, or a total of eleven feet. At the same time the Lochar was fed by burns which came close to violating the demesnes of both the Nith and the Annan. Through its longest tributary – Park Burn – which drained a higher muir (Gledenholm), it had a length of about 23 miles. Also, it received the multifarious drainage from the slopes of the Wald. It flowed on the east side in the upper part of the moss, then swung across to the west side through the lower five
miles, where its sluggish waters twisted back and forth, reticent to meet the Solway.

Annandale, apart from one arm flung back into the uplands to the Devil's Beef Tub, was for the most part a wide open valley similar particularly to the Vale of Dumfries. It maintained a width of about six miles in the north, reducing gradually to about three miles a little south of Lockerbie, and then it was suddenly blocked off by a massive remnant of lava flow which forced the river into a constricted course. This central portion of Annandale was ten miles long and notably shallow, its lowest levels lying variably between one hundred and two hundred feet below the break of slope recognizable at the foot of the enclosing hills.

Of the congregation of rivers which came together down the length of the dale to form the Annan, the Evan Water was the first sizeable one on the right side. It was a vigorous stream which reached fifteen miles into the Uplands, and it took its place beside the Crawick, Kennock, and Carron Waters in aggressiveness. It had effected a classical river capture, as was betrayed by the 'fish-hook' pattern of its upper reaches; the Clyde's Burn is now divided into two portions, one still flowing to the Clyde, the other upper part, with what were its tributaries, turning sharply eastward into the Evan. The Garpol Water was the largest tributary of the Evan, and entered it two miles above the Annan. A stream which paralleled the Garpol only three miles to the south, although of similar unpretentious beginnings, had considerably more significance. This was the Kinnel Water which, after flowing six miles east from the watershed, turned abruptly south into the lower land of the dale and pursued a rather haphazard course through 18 miles of heavy glacial deposit. The other right-bank tributary of the Annan was the Water of Ae, which drained the land around Queensberry, and then followed an easterly course. It had a length of 24 miles and entered the Kinnel Water only three miles from the Annan.

On its left bank the Annan received, first of all, the Moffat Water debouching from its 13-mile-long, straight U-valley just below the town of Moffat. The Wamphray Water, a little further south, was a smaller and less direct outlet for the drainage of the north-east
marches of the region. It flowed nine miles from the Ettrick Heights to the Annan. The largest tributary entering Annandale from the east was the Dryfe Water. It began its existence less than a mile from the source of the Black Esk and flowed near this river for a few miles; then it suddenly oriented itself towards the south-west. It was 20 miles long and through its last five miles flowed in a wide open entrance it had cut into Annandale. This entrance, like the more extended one of the Kinnel Water, was copiously cluttered with glacial deposits. The Water of Milk was the next tributary south of the Dryfe; it drained the relatively high moorland west of Lockerbie. It broke into the corner of Annandale, in its twelfth mile, but it was prevented from joining the Annan and took an exit from the central basin through a notch in the lava flow just a little higher than that of the main river. Two miles south of this exit it united with the Annan.

Below the basaltic lava bar, which marked the southern boundary of upper Annandale, the valley re-opened as rapidly as it had closed and merged with the larger entity called by Singer The Maritime Parishes. These maritime parishes constituted a broad belt of Solway-sloping land. One main stream in this part of the county was the Mein Water, a tributary of the Annan. It took an east-west course across the foot of the hills which separated Annandale from Eskdale, and it received a number of small tributaries from these hills. It wove its way for 10 miles from upper reaches scoured by ice, through lower reaches littered with glacial debris, to the Annan in the holas near Ecclefechan. The other main stream on the Solway slope was the Kirtle Water which was in part morphologically a continuation of the Mein. The first five miles of its course appeared to belong to the Mein, but it suddenly swung southward to take a route into which it originally had been deflected by an ice block, and continued for fifteen miles through a subdued drumlinoid landscape to the Solway [PALLISTER, 1936].

There were four principal locations at which the regional boundary did not coincide with the watershed. Firstly in the south-west corner the boundary followed the River Nith and its tributary the Cluden, rather than the Nith watershed which lay some miles further
west. Secondly, at the head of Nithsdale the river stretched into Ayrshire. Also, the Evan Water, in upper Annandale, through its captive Clyde's Burn extended into Lanarkshire. Finally, the eastern boundary followed the River Sark, into which small tributaries flowed both from areas considered to be in Annandale, and others considered to be in Eskdale.

Lochs. According to Crawford's map, Dumfriesshire had a sprinkling of natural lochs in 1813, but none of them could be considered large.

On the western boundary was Loch Urr, forming a source reservoir for the Urr Water (Kirkcudbrightshire). It was a relatively deep loch (42'\textsuperscript{*}), and it covered approximately 150 acres. At the head of the Dumfries basin there were two small shallow lochs, one on the east side of the river below Dalswinton, the other on the west side within the kame complex filling the valley of the Laggan Burn. As far as can be determined, they were a little more extensive than at present. The burgh of Dumfries was almost surrounded by water, which heightened its nodality as a river-crossing point. On the north-east side of the town were two lochs which appeared to have been located at the edge of the basin enclosing the Lochar Moss. They were both shallow and had outlets to the Nith about a mile above the town. The northern one was called Sand Loch, and had an expanse of close to ninety acres; its neighbour was Black Loch and covered seventy acres. One mile north of Sand Loch, on the opposite side of the main road to Moffat and Edinburgh, lay another small loch. There was a sizeable loch, covering 220 acres, on the west side of the Nith plain opposite Dumfries (in Kirkcudbrightshire). The direct road to New Bridge of Cluden (then spelled Clouden), passed closely along the edge of this loch (College Loch). A fourth loch lay on the east side of the burgh, once again on the edge of the Lochar Moss. It was called Gill Loch, and extended over about forty acres. A small expanse of water covering twenty acres, known as Black Loch, lay at the source of Park Burn.

\* The source for the depths of the lochs is Murray & Pullar, 1910, volume I.
overlooking the valley of the Ae. Another formed the source of the Lochaber Water's other main tributary - the Amsfield Burn - according to Crawford's map. It was later named Murder Loch, and was approximately the same size as Black Loch (Park Burn). Present-day maps, however, show it draining north-eastwards to the Water of Ae; this is a result of capture either natural or - more likely - man-induced. There were apparently no lochs in Nithdale north of the Dumfries basin, apart from small ones which were found particularly among the kame deposits.

The largest lochs in the county were to be found in Annandale. At the extreme north-east of the Annan network, being the source of the Moffat Water, lay Loch Skeen. It was a tarn at the foot of the arête of which White Coomb was the apex, partially dammed by moraine, and covering seventy-five acres. Crawford's map, although an honest piece of work, leaves something to be desired in some instances; the sizes of the lochs is one of these, and Loch Skeen is a particular example. It is virtually impossible that it was greater than seventy-five acres (there is no lacustrine border), but the map shows it as about 140 acres. It was just less than forty feet at its deepest. A kind of 'lake district' occurred around Lochmaben, consisting of six lochs, each within half a mile of another. The largest of the six (Castle Loch) lay immediately south of the burgh, and extended over 260 to 270 acres [1st S A, IX: 430]. Its maximum depth was about twenty feet. One half-mile south again was the sizeable mill loch for Eightae village. It was one-third the size of its expansive neighbour. On the south-west side of Lochmaben, Kirk Loch lay in the interstice among a group of drumlins. It was deeper than Castle Loch, descending to twenty-five feet, and about fifty acres. A contrast with its neighbours was Mill Loch of Lochmaben, on the northern edge of the burgh, which covered ninety acres and was over fifty feet deep. Only one-quarter-mile from its north-west corner was a smaller neighbour, about the size of Kirk Loch. The sixth component of this 'lake district' was on the east side. It was called Hall-eaths Loch, was 115 acres in extent, and has since been drained via an easy route to the Annan. To complete the loch complex of this part of the county
mention should be made of two ponds on a line north-west from Mill Loch (Loch-maben) and its upper loch, at a distance of 1½ miles from the burgh. And, a little distance further north, there was another small loch of about thirty acres, lying among drumlins in the Kinnel-Ae interfluve.

Moving eastward into the floodplain of the Annan, there was a minor loch (thirty-five acres) in Dryfesdale parish just south of the confluence with the Dryfe, and another on the southern fringe of Hightae village. Less than three miles from the Solway, on a small tributary of the Annan, was the southernmost loch in the dale. It was surrounded by a subdued drumlinoid landscape, and spread over sixty acres of land (it has since been thoroughly drained). Consult Crawford’s map for the locations of these lochs.

There were two areas of marked concentration of lochs: the environs of Lochmaben, and the environs of Dumfries, both of which, as a result, afforded suitable sites for the development of major local settlements. The total extent of lochs in the region was roughly 1550 acres.

The Coast. Broadening the heading ‘hydrography’ to include coastal phenomena, there are one of two characteristics of the region’s coastline which require elucidation.

The rivers of Nithsdale-Annandale were aggressive and had effected a number of captures relatively recently, but the coastline, by contrast, was more passive and was being dominated by coastal deposition. The vigour of the rivers no doubt was largely responsible for the silt that was steadily choking the Solway head and its adjoining estuaries. The ports had been experiencing difficulties in keeping passages clear, and government legislation in the first decade of the nineteenth century had instituted improvements of the facilities which continued into our period. Long before 1813 the silting up had reached the stage at which parts of the mud flats along the Caerlaverock and Ruthwell shores could
easily be reclaimed as meadowland. In 1812-1813 a tract of two hundred acres was reclaimed, opposite Comlongon, by the building of an embankment.

On the coast there were the lines of former beaches. The lowest occurred at approximately twenty-five feet and was fairly continuous from the Nith to the Sark in the form of low sandy hills such as those which deflected the Lochar Water eastward near its mouth. This beachline was in effect the 'backbone' of the existing coast. The second raised beach had an altitude of approximately fifty feet. In the western part of the maritime parishes it was fragmentary, but from Lochar Moss eastward it widened. The Priestwoodside flow moss, the Newby and Shawhill mosses, were enclosed between it and the twenty-five-foot beach. And the Righcad Moss lay on the lee slope of the fifty-foot beach near its eastern end. The existence of a higher beachline in Dumfrieshire (for example near one hundred feet), even for purposes of description, is not supported by enough conclusive evidence to be acceptable.

* It should be borne in mind, however, that recent research, based mainly on palaeontological evidence, is casting serious doubt on the concept of such a thing as a fifty- or one hundred-foot beach. It is claimed (for example by Sissons, Edinburgh) that the 'doming' which has gone on in central Scotland as a result of the removal of glacial ice has tilted the beachlines in all parts of Scotland, and earlier delineation (such as the 'one hundred-foot beach') has in fact confused beaches which were originally separated by many feet. The terms are used herein purely for description.
5) Markets, Scottish Conditions, and Prices

Markets. The most regular markets for the produce of the region were the internal weekly markets in the burghs, towns, and villages. But the most lucrative markets were those connected with the export trade, i.e. the huge fairs in Dumfries, Lockerbie, and Moffat, and the demanding cities outside the region. The chief external demand came from Carlisle, Edinburgh, Glasgow, and, indirectly, London, for articles transported by land. And seaborne articles were generally landed at Liverpool or Whitehaven, although in some seasons they went further south to offset local low production.

Carlisle was situated thirteen miles by road from the south-eastern corner of the region. Its weekly market drew large numbers of people from Gretna parish and environs, both to sell farm products and to enjoy the social contact with the crowds from the extensive hinterland of the city. Carlisle was the centre to which much of Annandale's famous bacon was sent; most of it continued from there to London, Newcastle, or the industrial cities to the south-west. Quantities of Dumfriesshire cattle and sheep also went to Carlisle for slaughter or re-sale, but far greater numbers passed the city on their way to fairs from Northumberland to Norfolk.

Delivery carts from at least two Carlisle companies went to Annan and Dumfries every Monday and Saturday; and a Dumfries carrier took the reverse journey on Friday, returning on Wednesday. These were distinct from the long-distance transports which traversed Cumberland and Wigtownshire—Annandale on the route to Glasgow or Edinburgh.

A healthy trade also existed between the region and Edinburgh. There was a regular carrying service from Dumfries to the capital: of four Dumfries companies, two did the journey twice a week, while the others went less often. From Edinburgh to Dumfries there were three carriers making weekly journeys, and also out of Edinburgh, leaving once a fortnight or more often, there were carts going to Annan (2), Lockerbie (2), Lochmaiden (1), Gretna Green (1), Moffat (3), Sanquhar (1), and Wanlockhead (1)
[Pigot, 1820: 48-9]. In 1814 the carriers would have been, if anything, more numerous than in this record for 1619. The connection with Glasgow was less regular, Pigot's Directory reporting only two weekly carts between the city and Dumfries, weekly ones to Moffat, Sanquhar, Thornhill, and Wanlockhead, and another once a fortnight to Lochmeben and Lockerbie [Pigot, 1820: 170-3]. The carriers were particularly busy when the seasonal produce was ready, such as garden vegetables in early summer and potatoes in late summer.

The trade with London usually went through some intermediate centre; bacon, for example, often went first to Carlisle. Another specialty for the London market was the packing of eggs in attractive small baskets. These were sent from the eastern part of the region across to Berwick-on-Tweed where they met long-distance carriers enroute for London.

A rough assessment of the relative importance of the movement of goods out of the region by land can be gained by comparing the amount of internal commerce of the same kind. This is indicated by the number of carriers plying between Dumfries and other centres in the region. There was delivery to Annan, Ecclefechan, Lockerbie, Moffat, Thornhill, Sanquhar, and also to towns in Kirkcudbright and Wigton counties, every Wednesday, which was the weekly market day in Dumfries. And there was a second delivery to Thornhill on Saturday. These professional carrying facilities, of course, were additional to the multitude of carts owned by farmers in the region, and to the coaches and long-distance transports which did some delivery within the region. But it is obvious that exporting dominated the economy.

The waterborne shipments were usually directed at Liverpool, and they involved different goods from those transported by land. The ships carried bulky or especially heavy goods, which in the case of the Dumfries ports were oats, a little barley, potatoes, lead bars from Wanlockhead, and small quantities of timber.
Scottish conditions. The decade leading up to 1814 was an outstandingly prosperous period for Britain. The country was at war through these years, and, because of massive government spending on the war effort (without a correlated rate of taxation), both the rural areas and the industrial towns profited. Prices rose rapidly and wages followed closely; even real wages became relatively better. A farm servant who received, with food and lodging, £8 to £10 per year at the First Statistical Account and £12 at the Second Statistical Account, was earning £18 per year in 1812 and 1813. Likewise female farm servants received £3.10.0 to £4.10.0 in 1794, £5 to £6 in 1832, and £8 in 1814. It was a period of economic buoyancy which benefitted the agricultural community, and it led to what was described by the Dumfries and Galloway Courier as 'The rage for farming' (February 27th 1816). Because leases extended over a period of years, most of the profits were not reaching the landlords, but were retained by the farmers and were largely responsible for the strides made in land improvement during the early part of the century. The farmers were paying rents and taxes at the low levels of the early years of the century, while in the prices they received for their agricultural products full allowance was made for the increased demand. They probably benefitted more than any other class. It was claimed in 1814 that during the preceding twenty years the landlord's share of the profits had been reduced from one-third to between one-fourth and one-fifth, while costs payable by him had doubled [BRITAIN, 1814: 4]. But the landlords began to catch up when the signing of new leases arose; in 1813-1814 many leases changed, and there were farmers who complained that, with the greatly increased rents and the tax on entering a new lease, by which the government hoped to retrieve some of the farmers' profits, they would not be able to continue despite the good times. These were mostly instances of 'crying wolf' (although prices had taken a rather sharp drop in 1813); but there is no doubt that the operating costs of a farm had risen steeply. One superior farmer in the region estimated that for a tenant to enter and bring to productivity a farm of somewhat exhausted light land, it would require the spending of £6.10.0 to £10 per acre before any profit were reaped. Another estimate, which would apply only to the richest land in the region,
made by a farmer in the Lothians and Tweeddale, was that the charges would amount to £8.13.3 per acre on a three hundred-acre grain farm in good heart. This detailed estimate is presented as Appendix VIII; in perusing it it should be remembered that Nithsdale-Annandale had very few farms (if any) totally devoted to grain, and costs in Dumfriesshire were lower than those of the Lothians. The ten percent clear profit made by the farmer is no doubt applicable to Dumfriesshire. At the same time, however, the landowners were having to pay, according to Singer's reckoning, 4/1 in every pound to public funds. These included parish burdens - such as educational, ecclesiastical, and 'poor' donations - county burdens - land and bridge tax, rogue money for policing, and an assessment for wives and children of men in the militia - and national burdens - the value of ten percent of taxable property after allowances. Through these burdens landowners paid out more than twenty percent of the sum that was collected as rents each year."

There were other items in the national economy of particular importance to the rural areas. One of these was the Corn Law which was meant to protect the farmer against cheaply-produced foreign grain. The Corn Law of 1804 was still in force in 1814. It set the following tariff on the importation of foreign wheat; when the British average was less than 63s a Winchester quarter a high duty of 24/3 was to be paid on each quarter imported; when the average was 63s up to 66s the first low duty - 2/6 per quarter - was charged; when the average was at 66s or higher a low duty of 6d per quarter was charged. Because of abnormal conditions the price had remained well above 66s throughout most of the decade subsequent to 1804; the average price per quarter from 1804 to 1812 was 88/11. Of greater importance to Nithdale-Annandale was the concomitant variation

* Poor relief was still on a voluntary basis in Scotland; in England, where it was based on an annual assessment, it tended to influence (in some cases supplement) labourers' wages, because it was expected that unskilled labourers would benefit from it in necessitous times. In Scotland, and particularly in an agricultural county like Dumfries, the voluntary system was able to adjust more quickly to emergencies and had less direct influence on wages.
in the prices of barley and oats. The law of 1804 had set a high duty on these when the British average was, respectively, less than 31/6 and 21s a Winchester quarter; a first low duty was applied when the average was between 31/6 to 33s and 21s to 23s; and the second low duty applied above these prices. This law also paid bounties on the exportation of grain when prices were low. But, in effect, the Corn Laws were almost inoperative not only from 1804 but even from 1796, the largest part of the Napoleonic Wars period. In any case, it was considered in Nithsdale-Annandale that any good intentions the Corn Law might have had for the agricultural community were offset by the ill effects of the malt duties which had greatly reduced the cultivation of barley, a grain apparently ideally-suited to the region and especially to its light soils.

Prices. Prices during the Napoleonic Wars marked out a steadily upward path with virtually no interruptions apart from seasonal variations. The nature of the war was such that while the fighting was being done in foreign lands the country generally was left unmolested and was able to turn the demands of the war period into prosperity. Temporary scarcity of certain goods could be turned into a boon, particularly for the agriculturalists. One subsidiary cause for scarcity was the increase of the British population by approximately twenty-two percent in the years 1801 to 1816. The main reason for the rise in prices was the above-mentioned spending by the government, and the borrowing of most of the money spent within Britain itself. This stimulated a number of other reactions in the economy. A capable summary of the situation has been provided by a contemporary:

What then were the causes of the unexampled rise of prices between 1793 and 1814?

The unusual number of bad or indifferent seasons, not less than six (1794, 1799, 1800, 1804, 1809, and 1811,) in the course of eighteen years.

The great demand of men for military service, in consequence of which the increase of the producers of corn by no means kept pace with the increase of the consumers.
The increase of taxation, and consequent rise in all farming charges.
The prevalence of all these causes on the Continent, and consequent limitation of import.
The depreciation of our currency, particularly after 1809
[Lowe, 1822: 133].

The increase in taxation cited was, in fact, rather small. The exceptional rise in prices and wages received too little check from government controls such as taxation. The 'depreciation of our currency' (the last point above) was wrongly invested with a primacy which should rather have been placed on the government spending and borrowing. The currency did depreciate in relation to fixed payments dating from the 1790s, but this was a phenomenon to be expected following the greater demand for goods and the printing of large quantities of paper notes.

Although on an upward trend, the prices of some goods in our region would fluctuate considerably within the period of a year. A Dumfries diary records the following prices for the best oatmeal during the year 1812: 3s per stone (17½ lb) early in March; then in one week rose to 3/9 per stone; by June it was 4/6; at the beginning of August, 6/6; and a week later 7s [Shirley, 1936: 371]. This was in a year of scarcity following the poor harvest of 1811. By the beginning of November, after the satisfactory harvest of 1812, the price had returned to 4s per stone (Annan) for common oatmeal. Through 1813 the price gradually decreased, because of the relative copiousness of supply, and by January of 1814 it was as low as 2/6 to 3s per stone (the higher when roads were blocked by snow) [Fm Mag, 1812-1814]. At the end of 1814 the price was still on the same level, and markets were almost stagnant; the economic problems of the peace had already made their début.

Other prices of direct importance both to the farmer and the consumer were those of meat. In February 1812 the cost of beef and mutton in upper Annandale (for example Moffat and Lockerbie) was 6d to 7d per pound; pork was 5s to 6s per stone (14 lb), i.e. 4½d to 5d per pound. In August of the same year lamb was selling at 6d and mutton at 7d per pound at Langholm. On November 4th, in Nithsdale, beef and mutton
were selling at 6d to 8d per pound, and this was a steady figure over the subsequent five months. During the winter pork underwent a rise in price which continued into the spring and summer, by which time it was selling at 8s and a little more per stone of fourteen pounds. Beef and mutton rose in the spring by 1d a pound, but returned to the winter rates by July. This applied into the early part of 1814, and then by the end of April beef and mutton stood at 9d per pound, while pork during the same period had gradually gone up to 10/3 per stone. Meat continued in demand through 1814, even though the prices obtained for fat cattle had fallen as much as thirty percent below the previous year. Grain prices generally followed the trend of oatmeal, ending 1814 in a rather depressed state. The prices paid at Liverpool for finest quality oats (45 lb) in the early years of the second decade were as follows: 1810, 4/6 to 4/9; 1811, 4/6 to 4/10; 1812, 7/6 to 8/6; 1813, 5/2 to 5/6; 1814, 4/2 to 4/6 [BRITAIN, 1836, 2nd, I: 37]. Prices in Dumfriesshire were at least ten percent lower than in midland and southern England. The returns on sheep for mutton kept fairly close to the movement of prices for meat in general, whereas the demand for fine wool was affected by the war with the United States, and remained low and uncertain until 1814. The cost of potatoes, a crucial product for the mass of the population, seemed to be free from major fluctuations during 1813-1814. Late in 1812 they were selling, near Annan, at 2s per cwt, while in 1813 they were being sold to Lancashire buyers (for feeding to horses) at 1/3 or 1/4 per cwt [Rm Mag, 1812-1814].

The reasons for the economic buoyancy that affected Nithsdale-Annandale much as it affected the rest of the country during the Napoleonic Wars, have been intimated in the foregoing paragraphs. Basically, the considerable spending by the government caused an increased demand for most products, including agricultural, both in Britain itself and abroad, and there were relatively fewer individuals to produce them. Of particular relevance to farmers was the reduction in the absolute value of money, so that the paying of rents dating from an earlier decade became much easier, and they accumulated far greater profits, exceeding the rise in costs.
The spirit and Practice of Improvement

The spirit of improvement, particularly in agriculture, was as widespread as the prosperity of the early years of the century, and indeed seems to have been positively related to the degree of the prosperity. As with the best of intentions, improvement was susceptible to extremes, and it was found in later years, for example, that too much land of the wrong kind had been brought into cultivation during the revolutionary period up to 1814. There were, of course, farmers of 'the old school' who remained aloof from improvement for various reasons usually based on ignorance. And there were landowners who, through lack of cognizance of the situation, and through small 'sins of omission' rather than overt opposition to the new methods, were hindering progress. But in general improvement was in vogue.

Improving farmers are now appearing in every district of the county. But, considering that some of these have been regularly going on with their operations for thirty or forty years, it seems unaccountable that others have been so slow in beginning. The ostensible apology has been the expense; and those gentlemen who were able to improve, and interested in doing it, have often felt inclined to ascribe the delay among tenants to ignorance or obstinacy, when they were slow in imitating superior examples. The truth is, that under a lease drawing to a close, prudential motives affect the tenant [SINGER, 1812: 106].

The spirit, it appears, was more widely accepted than the practice.

There were certain obstacles which served as valid excuses for the tardiness of improvement. As mentioned above, there was conservatism among tenants under restricting leases, and particularly among those whose leases were more than half expired (leases were commonly nineteen or twenty-one years in arable districts, and fifteen or less in pastoral districts). This conservatism among tenants was usually related to the number, and the closeness of the owners among whom the land of a parish was divided. At least if we are to judge from population increase as a reflection of improvement and prosperity in a parish, it appears that where there were numerous landowners many of them were holders of relatively small proper-
ties, lived on part of their land, and kept up with the changes in agriculture; but where there were few landlords they were usually far removed from the realities of farm life, and as a result the first major rise in the population figure in the nineteenth century was tardy and in response to the landlord's capital investments in new buildings and roads, rather than marked improvements in husbandry.

If a man has no motive to improve, how can he be expected to do it? Or if a landholder pay no attention to his estate, and make no distinction among his tenants [between good and bad], he has himself to blame if they do not improve.... Some of the landholders of Dumfriesshire are distinguished for equity, honour, and judgment, in regard to their tenants, and to the improvement of their lands. Others possess estates without improvements, and tenants without respect or attachment. Betwixt these a variety of shades of character exist [SINGER, 1812: 469, 470].

There were other obstacles, remnants of the old system, which were gaining a stigma as being out-dated and incongruous. Cases of unenclosed estates were to be found, and the difficulties and conflicts of interest which they engendered were generally condemned. And fully as antiquated was the thirlage of tenants to certain mills for the grinding of their grain; but this was daily decreasing because of an act of 1799 which allowed a jury to determine a fair settlement for buying out such rights. A payment to the landlord for the 'privilege' of entering a farm, called a 'grasum', was still extracted under some leases, although it was generally deplored because it depleted savings which might be put into the improvement of the land. Another weak link in the chain of progress was the improvident lay-out of some of the region's farms. There was an approved arrangement, encouraged by most of the treatises on agriculture, in which the farm house and offices were situated near the centre of the farm as far as was accordant with the nature of the land and husbandry, a plentiful water supply, and convenient access. Improvers were critical of the many cases in which the lay-out appeared to be by chance. Such inadequacies referred to individual farms, or to groups of farms in certain backward corners of the region, but in some parts even the public access facilities were suscep-
tible to the same criticism. Lochmaben, for instance, was a considerable burgh which could only be approached conveniently from the west, and the roads into it from the east and north were either interrupted by difficult fords or were only being constructed in 1813. And the upper reaches of the region were in most directions inaccessible to vehicles, and this included areas in parishes like Middlebie, Wemphray, Kirkpatrick-Juxta, Closeburn, and Sanquhar, which were less than three miles from a major turnpike road. There was a periodic claim in statistical accounts and other reports on the county that one overwhelming obstacle was the paucity and concomitant expensiveness of the coal supply throughout much of the region. But, of course, it could have been pointed out by a critic that Dumfriesshire was better off in this regard than most of Scotland. Finally, a practical opportunity for the poor inhabitants to improve their conditions was denied by the lack of proper wool stapling and flax heckling depots within the region. The only sources were a considerable distance away, and the cost of the supplies was prohibitive.

Despite the obstacles, however, the spirit of improvement was a dominating dynamic influence in the life of the region during the last years of the wars. In this Dumfriesshire was at one with the rest of lowland Scotland. The extent and degree of the participation in improvement is reflected in the following tables, the first listing articles by Dumfriesshire writers, the second showing other subjects which were being pressed on the attention of farmers. The articles were published in The Prize Essays and Transactions of the Highland Society of Scotland, First Series, and the volumes in which they appeared are represented by Roman numerals. The first volume of this series was published in 1799, the second in 1803, the third in 1807, the fourth in 1816, the fifth in 1820, and the sixth in 1824.
ARTICLES BY DUMFRIESSHIRE WRITERS

SINGER, Rev. Dr Wm., 'Report of a survey of watered meadows...', III
" " 'On the grasses and other native plants most deserving of culture in Scotland for hay or pasture', III
" " 'Principal improvements in agriculture in Scotland...', IV
" " 'On annual loss in sheep', III
" " 'Stapling of wool in Scotland', IV
" " 'On destroying noxious weeds', III

DIROM, Alexander, 'Remarks on Rennie's "Plan for an Inland Village" [and the plan of Brydekirk]', II
" " 'On experiments with Rock salt as given to live stock', VI

UDNEY, J., 'Sowing seeds of forest trees', VI

VARIOUS ARTICLES PUBLISHED BY THE HIGHLAND SOCIETY

BELL, B., 'Influence of frost on ripening of corn', III
LAWSON, J., 'Comparative experiments on sowing wheat by drilling and by broadcast', VI
WILSON, J., 'On inclosing farms', I
RICHARDSON, Dr, 'Instructions regarding the soil best suited to flowering grass, and the culture, management, and value of it', V
NAISMYTH, J., 'On properties and uses of peat', III
VEITCH, J., 'On improvements on Small's plough', IV
CHRISTIAN, P., 'On principles of constructing and repairing roads', IV
'Report on the bill for improvement of lands in Scotland subject to servitude of thirlage...', I & II
HAMILTON, G. J., 'The general advantages of woods and plantations', V
The process of improvement, however varying may have been its reception, was gradually transforming the countryside. This is probably best revealed in the retrospective passages at the end of many of the reports in the Second Statistical Account. In summing up the changes that had taken place since the First Statistical Account these reports had in general a similar story to tell; whereas at the First enclosure had barely begun, by the Second it was almost complete; at the First various unrewarding crops, such as bear, were grown, but by the Second crops had benefitted widely from scientific research, and valuable additions like the turnip had become common; adapted crop rotations had come into universal use; roads had been created or re-built; villages had sprung up; and superstition had given way to universal literacy and acceptance of medical practice.

That unprofitable mode of cultivation which prevailed in this parish forty years ago has, in a great measure, been abandoned, and a more extensive and liberal system of agriculture has been adopted in its stead. Many acres of moor-ground have been turned over with the plough, and rendered tolerably productive, and a considerable portion of flow-moss has been converted into verdant meadow or pasture by drainage and surface culture [2nd S A, Kirkpatrick-Fleming: 288].

Since the period when the last Statistical Account was written, very considerable and important changes have taken place. Stock of all kinds, but especially sheep and cattle, have been improved. A much greater extent of land is in cultivation, and that too cultivated in a more judicious manner. Such a quantity of grain and other kinds of produce is now raised in this district of country, as to be sufficient for the supply of the inhabitants. ...Manufactures have also been considerably increased during the last forty years... [2nd S A, Sanquhar: 314].

Property has been much divided, and the purchasers of the divisions have been emulously diligent in improving them. New and neat villas have arisen on every side; polished farms and thriving plantations adorn the prospect; and the eye is delighted with the most tasteful forms of sylvan decoration, and with all the signs of a highly improved style of rural economy [2nd S A, Kirkmahoe: 66].

By the 1830s lowland Scottish agriculture had reached a level which has hardly been surpassed even in the twentieth century. But the important emphasis
to be made is that the real fever of improvement occurred in the years 1800 to 1814. In fact the improvement in this period was carried to extremes, and as happens with revolutions, during the ensuing decade of soul-searching the system was secured on the sounder base of experience.

It was implicit in the structure of the society that such things as agricultural improvement should be inspired and led by the landowners. This sentiment is expressed repeatedly in Singer's volume (as one example), and his use of the term 'gentleman' carried strong over-tones of traditional patronage and leadership. But as far as Nithsdale-Annandale was concerned, the traditions had in general outlived their era. It was true that landlords like Menteath of Closeburn, Miller of Dalswinton, Rogerson of Dumcrieff, Tirom of Mt Annan, Murray of Murraythwaite, and Maxwell of Springkell, introduced the new agriculture into their lands even before their tenants were ready for it. Yet they were only a handful among the dozens of principal owners. One phenomenon reveals itself: only heritors who lived on a part of their lands in the region showed any avant-garde interests in the improvement there. Absentee owners of large portions of land were usually late in making improvements, although when the time came the work was done thoroughly. The smallholders and farmers, being more immediately concerned with efficient production, were usually more actively engaged in the practice of improvement, and such progressive farmers as Church of Hitchill and Stewart of Hillhead were well-known in Scotland and the neighbouring counties of England.
7) **Education and the Character of the People**

Enlightenment was by no means a monopoly of the landlords and better farmers. In fact it would be correct to say that the greatest amount of enlightenment, relatively speaking, had been gained at the other end of the social scale, among the labourers. It is true that Sir John Sinclair (who was one of the landlords) claimed that 'the common people, in general, have little time to spare for education. Their parents can scarce afford to maintain them, even in infancy'. But, he owned, the 'lower orders' should be offered education because it was 'the best means of softening their barbarism, checking their tendency to mis-rule', and 'The most essential parts of education...can be acquired at so early a period of life, that the greater part, even of those who are to be bred to the lowest occupations, have time to acquire them' [SINCLAIR, 1826, II: 72, 71]. There was a more sympathetic point of view (and one which Sinclair himself echoes in other places): '...the peasantry of Scotland...possess a degree of intelligence not generally found among the same class of men in other countries of Europe. ...under the disguise of their uncouth appearance, and of their peculiar manners and dialect, a stranger will discover that they possess a curiosity, and have obtained a degree of information, corresponding to these acquirements [of education]' [CURRIE, 1826: 2]. And in 1813 there was almost no one in Dumfriesshire, apart from the very young and some of the very old, and some Irish immigrants, who being of sufficient intelligence could not write, and even fewer who could not read. Universal education was the gilding on Scotland's Golden Age, and in the democracy and quality of its school education Scotland stood out above all nations at the time. This was not considered to be an unqualified blessing by all; one minister in Dumfriesshire, for example, was apprehensive because it allowed the labourers to delve into treatises on 'controversial religion'. But the general desirability of it was recognized, and the happy results were best described by appreciative visitors.

...the blessings of early education and religious instruction
that are extended to the lowest class of the community here [preserve] society in order.... There is a classical and commercial school at Annan for the better orders, and another for the children of the poor...under the management of...a man of substantial acquirements.... The parish schools [are] justly the boast of Scotland....

...I came to the village of Powhelin, which gave me a more complete idea of the utmost rudeness of the Scottish cottages.... It contained twelve mud huts.... Yet in those miserable hovels I found the people exceedingly decent in their manners, with their minds improved and refined by education.... There was not a man or woman in the village who could not read and write, nor a single hut without a book.... It is impossible for any man with any degree of observation and discrimination to pass through this country without perceiving the marked and happy effects produced on the character of the poor by education, without noting an evident distinction between them and people of the same rank in England [AYTON, 1815: 176-7, 180, 181].

The number of schools that existed, many of which came into being in the first part of the century, was remarkable. The following table records the schools listed for a variety of parishes in the region at the time of the Second Statistical Account. The burghs were all well-endowed with schools of different kinds, usually numbering more than half a dozen. Some of these, it is true, were 'finishing' schools for young ladies, and taught the rudiments of housewifery more than the classics. The parishes listed are mostly rural. The population of 1811 is included in brackets, and although there is not an exact correspondence with 1633, the general impression is a valid one.

NUMBER OF SCHOOLS IN SELECTED PARISHES (ca 1633)

Kirkconnel: one parochial and several private (1017)
Durnad: two parochial and two private (1429)
Closeburn: five schools, including one large endowed academy, and three small schools in isolated parts (1762)
Dunscore: three parochial (1325)
Kirkpatrick-Juxta: two parochial and two depending on fees (821)
Hutton & Corrie: two parochial, one in each section of this expansive parish (677)
Applegarth: two parochial and one boarding school for girls (858)
Dryfesdale: one parochial and six private unendowed ones (fairly typical of the rich midland parishes) (1893)
Middlebie: two parochial and four private (1683)
Gretna: two parochial and three private (1749)
Cumbersomes: one parochial, one endowed, and one unendowed (this small number of schools is in keeping with the parish's relative backwardness) (1633)

Apart from Minscore and Cumnertrees there was an average of one school for every 200 to 350 of population. If only parochial schools are considered there was one for every 700 of population, which is strikingly favourable compared with the general Scottish average of one for every 1900 of population. Of course the size of the region's schools varied, but most catered for thirty to sixty scholars. In addition to the schools, it was common for a young man to be engaged by a few families in isolated areas as a tutor to their children. This was a fairly satisfying form of employment for a lad waiting to go up to university or one of the apprenticing professions.

The subjects ordinarily taught in the schools were reading, writing, arithmetic, Latin, Greek, and geography. In the parochial schools students usually paid a small fee for each subject taken. The English educational system was even then exerting a strong influence north of the border, although Scotland was still the land of Latin and Science rather than Greek. The Scots were a people whose 'civility' was inspired by the Reformation and the Enlightenment, whose educational tradition emphasised equality of opportunity, whose higher education had been associated with the professions and their practice, and whose contemporary enthusiasm was for science as applied to a wide range of human affairs [SAUNDERS, Scottish Democracy, pp 358-9, quoted in DAVIE (1961): 203].

If there was one thing more remarkable than the facilities provided for education, it was the advantage taken of the facilities by all levels of the population. As Ayton described, at Annan he saw a room full of dirty urchins deeply engrossed in the acquisi-
tion of Latin and arithmetic. This combination of facilities and desire for knowledge produced the relatively large number of Scotsmen who went from their hard-pressed homeland to all parts of the world and built up empires in scholastics, technology, industry, and so on. It was said of the farmers of our region that it was possible to discuss with many of them both problems of philosophy and current events in knowledgeable terms. The character of the people was mollified by their acquired knowledge, although in some instances, as with 'controversial religion', reading led to radicalism. There were of course the usual elements of rural rowdiness, as exemplified in the references to the 'idleness, dissipation, and mischief' of some of the local markets and hiring fairs, and the mention by ministers in the Second Statistical Account of the 'inns and alehouses in the parish, which have the worst effects upon the morals of the people' [2nd SA: 370]. But on the whole the people were enlightened in most aspects of living, and education made them more adaptable to the changes of the agricultural revolution, thus reducing the conflicts and destitution which might have occurred.
III. THE CHANGING GEOGRAPHY. 1615 to 1816

In 1615 depression struck the country. The economic structure that had been buoyed up by the war effort collapsed after ominous rumblings during the winter of 1814-1815. As suggested by the plan of Section II, the geographical picture, or the actual geography, of Nithsdale-Annandale was intimately involved with a number of external 'explanatory' factors. Because of this symbiotic situation the depression of the economy immediately initiated changes in the geography, some of which were revealed more quickly than others. This section elucidates, first, the background of the change, i.e. the events which were shaking the economy, and the vital part played by climatic factors; second, the aspects of the geography which were undergoing change, and the extent of their transformation.

A. THE BACKGROUND OF THE CHANGE

1) The State of the Economy

General. Economic theory was still imperfect enough, especially in its application to the 'public sector', that the depression was neither predicted nor, when it came, was it fully recognized and confronted.

No period of our history affords an example of a change so sudden and so extreme as that which took place in the state of our productive industry after the peace of 1814. For the relinquishment of foreign colonies, and for an active rivalship in manufacture,
on the part of the Continent of Europe, the public were prepared; but they had, in a manner, lost sight of the great difference between government expenditure in peace and war; and the few calculators who took this difference into account, imagined that the diminution of home business would be balanced by the demand for newly opened markets in America and Asia [LOWE, 1822: 61].

Even when the depression extended well into 1815 it was generally believed that the difficulties were due principally to the deficient harvest of 1814, and would only be temporary as they had been in 1811-1812. But towards the end of 1815, when a good harvest had been taken in and the markets remained unresponsive, the situation began to take on a grimmer cast. Farmers who had gone into farms at the high rents of 1812 to 1814 gave notice that they would have to quit at the end of the half-year. The complaints about taxation were no longer referring to it merely as 'excessive' or 'unfair'. It was said, instead, that the 'farmer cannot live with the present taxes, if wheat is below 30s, barley 18s, and oats 11/3 per Carlisle bushel [i.e. three imperial bushels]'; these figures had been determined by a parliamentary report. But the actual prices in Dumfriesshire were wheat 13s, barley 7s, and oats 6s per bushel [Courier, 27/2/1816]. There was reference to 'the overpowering weight of taxation' [ibid]. Meetings were called by many groups to petition the government, especially when conditions became even worse in 1816, and crowds in industrial cities who were even closer to subsistence than the agricultural labourers of Dumfriesshire expressed their distress through a renewal and extension of the riots that had occurred in the 1811-1812 year of high food prices. At least one government agency inaugurated inquiries into the state of the country (by The Board of Agriculture), and by 1817 analytical articles were appearing in periodicals and as pamphlets. These were symptoms of the depth of distress that was afflicting both the agricultural and manufacturing communities, and in each of these communities it was the lowest class - the one that could least afford the hardship - which was most affected.

If 1815 was a year of depression, 1816 and the early part of 1817 was a year of calamity; and whereas in the average economic slump one group in the population (usually the agricultur-
al community, because of its overwhelming strength in Parliament) benefitted at the expense of the rest, during 1816 both agricultural prices and industrial wages moved steadily downward. The comment of the authors of The Growth and Fluctuation of the British Economy is that 'The coincidence of agriculture and industrial depression made 1815-16 one of the most difficult periods in the history of the British economy. ...unemployment can be shown to have existed in every branch of manufactures on which there is evidence. The Annual Register for 1816 is cluttered with accounts of riots, strikes, and arrests under the Combination Acts. The fall in the prices of foodstuffs in 1814 and 1815 had eased the position of labour somewhat; but the rise, in 1816, with heavy unemployment and falling money wages, was severely oppressive, as the rioters' anger against bakers and millers indicates' [GAYER, ROSTOW, SCHWARTZ, 1953: 136-7]. The edge was taken off the slump late in 1816 for the farmers, because the Corn Law of 1815 began to have effect at that time.

The farmers tried to re-gain the high prices of 1811-1813 through two principal devices; one was by holding back part of the grain crop of 1814 in order to force prices up; the other was by agitating for higher price bars on the importation of grains, which were made effectual by the new Corn Laws in 1814 and 1815. These laws excluded foreign grains from the British market when prices were below certain levels (wheat 80s; rye, peas, and beans 53s; barley 40s; and oats 27s). Above these prices grain could be imported duty free. It was permissible to bring grain into British warehouses, but it was not allowed on the market until the price barriers were surpassed. As Glover in his A History of the English Corn Laws says,

The act of 1814 abolished the bounty and made exportation at all times free; and the act of 1815 discarded the sliding scale of duties on importation for absolute prohibition up to a certain level - 80s in the case of wheat - and admission duty free above that point. Clearly this second law was a class measure passed to keep up rents, and its effect from almost every angle was disastrous [GLOVER (1930): 287].

These attempts by the farmers might have been condoned in the case of a relatively short-lived depression (as it was thought this one would be), but
when the demands and complaints of the agriculturalists were carried over a period of years, and through some of the most influential media, other sections of the population lost patience.

The attempt to keep up the price of corn [after the industrial population also had lived under deprivations for two years] indicated no less a harshness of heart than a perversity of judgement!!! [Dissertation, 1816: 39]

And an open letter to the secretary to the Board of Agriculture sharply denounced the activities of the agriculturalists, and argued for the welfare of the country as a whole:

Can you not, Sir, discover some mitigation for the evils of the importation of grain, though it be 'duty free'? Do you really imagine it all to be actual loss? How do you think those who bring it thither are paid? ...they return with such wares as their countrymen want; the wares of Manchester, Birmingham, Sheffield, etc. The corn alluded to as imported, must have sold for about £5,500,000. Now, Sir, reflect a little upon the effect of this sum being laid out amongst our manufacturers, would not the effect be to better their condition? [Brooughton, 1821: 440]

However, the farming community came to experience its share of the hardship; for example, even by 1820 the taxation affecting it had only been reduced by one-third, while the prices were standing at half the former rates. But it saw no excesses of suffering which were not equaled or surpassed by the cities and even the towns: from Perth came the grim record that the severity of the times was emphasized by the increased demand on the Kirk-session for coffins for the poor [Courier, 19/3/1816]. Distress had spread across the whole of north-west Europe; in Britain, at least, the degree of this distress had not been approached since the years of the American Revolution, and had not been equaled (it seems) since the Seven Ill Years, 1693 to 1700.

The reasons for the economic decline were suspected by contemporary analysts of the situation (of the quotation on p. 186). But their closeness to the event often resulted in a faulty allocation of importance to the reasons. The basic reason was the sudden
reduction by one-half of the large-scale government spending in the country. This caused panic resulting in the failure of demand and the fall in prices. The diminishing of foreign trade was another damaging blow to the economy. And the difficult situation was aggravated by the return of hundreds of thousands of servicemen from the war to the labour force in 1814-1815. The Growth and Fluctuation of the British Economy lists the 'real forces at work' as agricultural depression, the collapse of foreign trade, and the end of government spending (GAYER, etc., 1953: 135). Most of these were, of course, phenomena to be expected with the ending of a war; but what caused the greatest distress was the rapidity with which the events took place.

Dumfriesshire. In an agricultural district like Dumfriesshire the fortunes of the farming population were of primary importance. The populations of the towns in the region, of course, experienced many of the same privations as did those of the manufacturing towns in England. But, as might be expected, rural prosperity (or depression) was enjoyed by all or by none. The prices of agricultural products governed the wages paid to labourers, and the people in the countryside were not as dependant on markets for their food as were the town labourers.

The farmers had been the chief beneficiaries in the rise in prices, and, being in the economic vanguard, they were the first to recognize the reversal, through its effect on agricultural prices. The heights of the boom and the speed of the decline were extreme enough that within a year numbers of farmers were announcing their inability to continue. "Many farmers have been hypothecated and sold out, and many estates are now in the market, or likely to be so very soon, in this county [Dumfriesshire], to which no dread or suspicion attached, only two years ago" (Edinburgh Mag, 1815: 491). Most of the rents had been raised to high wartime levels by 1814. The seriousness of the change is exemplified by a Board of Agriculture statement that prior to this period 'giving notice to quit a farm, except for the purpose of hiring a better one, may be said to have been almost unknown in
the kingdom...' [BRITAIN, 1816: 4]. The newspapers carried numerous advertisements, which were repeated again and again, for the letting and selling of farms. Even the sale of 'respectable' farms at a thirty percent reduction from the 1814 price attracted few purchasers. And the conditions in Nithsdale-Annandale were not as sombre as in surrounding areas.

A Board of Agriculture publication, which was withdrawn from circulation after the printing of only a few copies, presents revealing details:

<table>
<thead>
<tr>
<th>Location</th>
<th>Unoccupied Farms</th>
<th>Notices to quit</th>
<th>Abatement of Rent</th>
<th>Labouring Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arbigrand, by Dumfries</td>
<td>A great many</td>
<td>Many</td>
<td>25 to 50%</td>
<td>Very badly off for want of employment</td>
</tr>
<tr>
<td>Hillhead, Dumfries-shire</td>
<td>Many</td>
<td>28</td>
<td>20 to 40%</td>
<td>Employment decreased</td>
</tr>
<tr>
<td>Hitchill, near Annan</td>
<td>None</td>
<td>5 from 50 to 200 acres each</td>
<td>30 to 40%</td>
<td>Idle for want of employment</td>
</tr>
</tbody>
</table>

[BRITAIN, 1816: 99]

D. H. Craik of Arbigrand (Kirkbean parish, Kirkcudbrightshire), stated that there were no farms in the immediate neighbourhood of Dumfries lacking occupants, but beginning about eight miles from the burgh vacancies became commonplace. William Stewart of Hillhead (Dryfesdale parish) reported that a thirty percent reduction on rents was not unusual. On one adjacent estate five farms had been let recently at fifty percent of the former rent. Another estate had twenty-two unlet farms. This spate of abandonments began a movement which had not settled down even by the 1830s in some localities, as indicated by the Second Statistical Account of Dalton. The urgency of the situation is shown by the petitions which were discussed in the county during 1815, and were presented to Parliament early in 1816. For example, the petition from the magistrates, town council, burgesses and other inhabitants of the royal burgh of Annan asked for relief from income tax because of 'all the evils which oppress the country' [Courier, 27/2/1816]. This was soon followed by a petition from the freeholders of Dumfries against the continu-
uation of the property tax. About the same time farmers and landowners in Wigton and Kirkcudbright counties were also sending petitions. Later in 1816 a meeting of Dumfriesshire freeholders, Justices of the Peace, and Commissioners of Land Tax, convened particularly to discuss the conditions of the wool growers, resolved to send a petition concerning the discrepancy between crop returns and taxes.

Tradesmen and agricultural labourers stood face to face with the unpleasant change - even before the farmers were seriously affected - because they had to choose between a reduction in wages and no employment. This applied first to the day labourers, but at the end of the half-year hiring period it was a choice that had to be made by the farm servants as well, and some of them decided to refuse employment until wages had been re-instated. There was suffering in the towns and villages among the people whose standard of living at the best of times was raised only a little above subsistence. In Lockerbie, and no doubt in other centres, a broth kitchen was opened for the poor. In January 1817 a list was published of about 210 names subscribing for 'Relief of the Industrious Poor in Town of Dumfries' [Courier, 7/1/1817].

Some of the prices, it was claimed, had fallen as much as fifty percent since the peace. This applied to pork, for instance, as reported by John Church of Ritchill: 'The arable farms in this district are small, on which the occupiers rear a number of pigs, with which they have paid half, and sometimes their whole rent, but pork having declined about 50%... has added another misfortune to the general calamities which the farmer endures this year' [BRITAIN, 1816: 142]. The prices for black cattle in the major selling month (October) in 1815 were thirty to thirty-five percent below those of 1811 to 1813, and this was a common reduction for agricultural produce. We can gain an inkling of the true conditions of the sheep farmer in relation to the arable farmer by a comparison of the prices being paid for their respective products. The demand for wool, and indirectly for sheep, was maintained strongly through 1815 largely because of the sale in the United States following the conclusion of hostilities
with that country in 1814. The agricultural report from upper Annandale, in January 1815, said that 'The only encouragement for farm produce has of late been for sheep and wool' (Ann. Mag., 1815: 100). Good quality fat sheep were selling at thirty-six shillings each, and fine Cheviot wool at nearly forty shillings per stone of twenty-four pounds. In July sheep prices were 'as high, if not higher, than ever before' (ibid, p. 368), and those for wool continued to rise (p. 377). But at the end of the year a major fluctuation finally occurred and the price of sheep dropped twenty percent and more; 'Sheep well fed...have not brought, in the best markets in Scotland, more than they were bought in for in July and August last' (BRITAIN, 1816: 124). This directly affected the lowland 'fattening' farmers, but was quickly passed on to the uplands. On the other hand wool, which depended on the foreign market, more than maintained its value. Cheviot wool surpassed forty shillings, and the short wool from the Blackface brought twenty shillings per stone (Ann. Mag, 1815: 490). The price for draft ewes was an exception to the general trend for sheep, and, rather than falling, it maintained a level slightly above that of a year earlier. It was because of the persistent success of this branch of husbandry, within the general gloomy picture, that grazing was 'rapidly spreading over the cultivated districts' in the upland parts in particular (ibid: 502). The reports of 1816 show that wool remained in demand until as late as July. But then the reversal struck suddenly, and at the beginning of November only half the price of the preceding season could be expected for draft ewes and wool. At this point the county meeting was called to consider the straits of the wool growers. The sheep farmers joined the despondent ranks of the rest of the agricultural community.

The prices for field crops provide a different story. As was shown in Section II, they had begun a downward trend by the spring of 1814. But that was only the beginning of the trend, and in 1815 the price of wheat slipped more than a shilling per Winchester bushel below the previous year's level, which had been considered 'uncommonly low', to between 7s and 7/8. The new Corn Laws of 1814-1815 did not come into effect until 1816, but they solved the problem of neither the agricul-
turalists nor their consuming public. Because of a lack of demand with falling wages no one would pay as much as eighty shillings for wheat; the importation 'minima' became, rather, maxima, and as a result no foreign grains could be imported and the working classes were at the mercy of the British grain producers. The fall in wages made the basic wheat products prohibitively expensive for a large segment of the population. The Corn Laws were soon criticized for the hardship they brought to the non-agricultural population, and it was pointed out that the price of wheat in Britain was almost twice as much as on the Continent (in 1817).

Partly because of the decline in demand, partly because of the sufficiency of the supply, oatmeal sold lower than it had in 1814, from as low as 2s in the early months of 1815 to 2/6 per stone in the late summer. There was a small recovery of the price in 1816 because of the usual increased demand of the spring and early summer. But this situation soon deteriorated into one of higher prices and a serious dearth of meal. A visitor to Dumfries early in 1817 discovered that 'in the town and for a considerable way round, things are very dear, the quarter loaf one shilling and 5d, the meal 4 shillings and 6d per stone, and what is still worse, oatmeal and potatoes cannot be got' [Glover, 1818: 64]. Towards the end of 1816 the price began its upward climb to the higher level of the subsequent spring; on October 23rd 1816 the Dumfries and Galloway Courier reported it to be selling at 2/10 per stone.

The grains followed such the same pattern as oatmeal. Prices at the beginning of 1815 were abyssmal and rallied only slightly in early summer. Even then it was claimed that oats and barley showed hardly any sale. Grain prices also went through an increase because of the speed with which supplies were used up in the first part of 1816 leaving an uncommonly small reserve on the eve of the 'irretrievably ruined' crop of that year. At the end of the year the bushel (imperial) prices settled at about 10s for new wheat, 3/6 for barley, and 3/3 for oats. The average prices paid in Liverpool for the finest quality grains during 1815 and 1816, respectively, were as follows; wheat (70 lb), 9s to 9/6, 19/6 to
21s; oats (45 lb), 3s to 3/2, 6/9 to 7/6; barley (Winchester quarter, i.e. 7.75 imperial bushels), 29s to 32 s, 70s to 76s [BRITAIN, 1836, 2nd, I: 37].

The descent of cattle prices, which began early in 1815 after a sharp drop and partial recovery in 1814, were twenty to thirty percent down by October, and continued downwards until, at the end of 1816, young beasts were bringing little more than one-third of what had been expected a year-and-a-half earlier. Apart from pork, however, meat prices pursued a course somewhat independent of those being gained for livestock. The career of the pork market, which was particularly important to Annandale, was in the doldrums at the beginning of 1815: pork, 'a main article with our small farmers, is low, and the sale dull' [EM Mag, 1815: 105]. At this time it was selling at 5s to 5/4 per stone of fourteen pounds. But the price decreased even further to 3/6 at the outset of 1816, and was less than 4/6 by the end of the year. Beef and mutton were selling for 4d to 5d a pound early in 1815, and became gradually more expensive through the summer, to be selling in October 'higher than the prices of lean stock warrant. This, however, can only be of short duration' [EM Mag, 1815: 495]. From this high level of 5d to 6d a pound there was a decrease, until in February 1816 beef was selling at 4d to 5d and mutton at 5d to 5½d a pound. But by May both prices were back to 5d to 6d. This untypical upward fluctuation, almost continuous from the early months of 1815, came to an end in the autumn of 1816 when beef was selling at 3½d to 5d and mutton 4d to 5d a pound, and these prices continued into 1817.

The crop of potatoes in 1815 was an average on the low dry land and rather deficient on the upper land. The demand proved insufficient to raise the price noticeably, and during the winter farmers found it more profitable to feed their potatoes to cattle. The 1816 crop looked promising, but the price remained impassive. A little later, frosty autumn weather damaged the crop, and in the higher parts this 'food of all classes' was generally a failure. As a result the price began to climb, and early in 1817 this 'necessity', having become a 'luxury' through scarcity, was selling at 3/6 per cwt.
In the spring of 1816 Parliament repealed the Property Tax, the War Tax on Malt, and abated the tax on farm horses. These were enactments for which the agricultural community in particular had clamoured. But unfortunately this relief could not solve the problem; the 'deplorable state of the National Agriculture' had settled on the economy [BRITAIN, 1816: 5], and farmers had lost heart and almost hope. The causes were too numerous for one therapeutic step to stem the tide, and they seemed to have produced others adventitiously. Another major factor, outside the province of economics and generally unsuspected, was the unusual climate of the decade. The next chapter is devoted to a clarification of its role.
2) The Climatic Inclemency

In his massive publication on the meteorology of Edinburgh, Mossman discusses, under the heading 'Does the Weather Move in Cycles?', the prominent weather conditions of various portions of the period of his study. One of his divisions extends from 1601 to 1620, and of it he says,

The weather of this period was characterised by a low barometer, a low mean temperature, a deficiency of rainfall, and a marked deficiency of westerly winds. Warm summers continued to prevail till about 1608, but thereafter the depression of temperature manifested itself in a prominent degree throughout the months and the seasons. In the heart of this great cold [i.e. about 1611 to 1616] occurred some of the worst harvests of the century. The outstanding feature of the meteorology of the period under review was, however, the frequency of hyperborean storms of the first order, these snowstorms being of a severity, extent, and duration which have not been equalled since. Hail was above, but thunderstorms on the whole below, the average. Gales were greatly above the normal, while fogs were rare, except from 1605 to 1611 [Mossman, XXXIX (1896): 91].

This general description is applicable also to the weather of Nithsdale-Annandale. The trends which had begun in the first decade of the century were continued and, if anything, deepened in the years 1615 and 1616: the annual temperatures, and particularly those of the summer season, were in a decline; precipitation remained low and unseasonable; barometric pressure was low; and easterly and north-easterly winds were unusually common, particularly in association with storms. The phenomenon affecting the temperatures has received some corroboration from a source other than meteorological records. The director of the Edinburgh Botanical Gardens suggested, in 1873, that on the evidence supplied by plants certain temperature changes could be deduced. He claimed that, beginning in the first decade of the century, deterioration in Scotland's climate had taken place, because, for example, even in the 1810s fig trees were ripening in open situations near Edinburgh. Asparagus and tomatoes had also been grown out of doors; and competitions
such as that of growing peaches without the aid of artificial heat gradually died out in the second and third decades, because of a lack of entrants. His discovery was that these plants were failing not because of the severity of winter cold, as some had claimed, but because of a lack of summer heat sufficient to ripen the new wood which was then killed by the ensuing cold weather [McNAB, (1873)]. From Lancashire data covering the period 1760 to 1950, the following relevant generalizations were extracted; the lowest decadal June mean occurred in 1812-1821 (55.7°F; the highest, in 1772-1781, was 58.5); the next to lowest July mean occurred in 1809-1818 (56.4°F; the highest, in 1772-1781, was 62.0); the lowest August mean coincided with the lowest for July, in 1809-1818 (57.3°F; the highest, once again in 1772-1781, was 61.7). The years in which the maximum temperature for the November-December-January quarter occurred were 1759, 1796, 1818, and 1834 [MANLEY, 1949]. There is a feasible explanation for this important fluctuation in the climate, and it is probably the only one which concurs with the three factors that must be resolved; i.e. the lowness of barometric pressure, the increase in easterly and north-easterly winds, and the claim that our period was the beginning of a fresh re-advance of glacial ice in arctic Europe. Scheve makes this latter claim - on the strength of a rather diminutive amount of evidence, it should be said - describing the years 1801 to 1890 as the Little Ice Age, Stage III [1949: 176]. The important aspect of his theory, for our purpose, is his support for the transitional character of the first two decades of the century; as he demonstrates elsewhere, this period was composed of irregular alternating seasons [SCHOVE, 1950]. The explanation into which the three factors can be fitted is that a strongly-developed low pressure area took up a fairly permanent position not far off the west coast of Britain. The low pressure area (perhaps the Icelandic Low) may have been forced southward to this position because of the strengthening of high pressure areas over northern Scandinavia and Greenland, drawing their vitality from an increased extent of glacial ice. The low pressure area would not only direct the paths of depressions across the British Isles during the summer, but would encourage the incursion of weather from the North Sea and Scandinavia particularly
during the winter, when continental influences would have stretched westward bringing coldness and storminess.

In the series of abnormal years embracing our period 1815 was a relatively kindly year, but 1816 was one of the worst years of the century: 'There has never been a season like the present in some respects – having neither spring, nor summer, nor harvest' [J. M. Mac, 1816: 483]. For actual data on these years we turn once again to the Carlisle record. It should be repeated that these data are applicable to lowland Dumfriesshire; for the upland parts one can introduce a quick adjustment in the light of the comparison drawn in Section II.C.3.

THE MEAN TEMPERATURE OF EACH MONTH...

AND THE ANNUAL MEAN TEMPERATURE OF EACH YEAR

<table>
<thead>
<tr>
<th>Year</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>June</th>
<th>July</th>
<th>Aug</th>
<th>Sept</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
</tr>
</thead>
<tbody>
<tr>
<td>1815</td>
<td>32.95</td>
<td>42.71</td>
<td>43.6</td>
<td>46.8</td>
<td>53.7</td>
<td>57.0</td>
<td>58.0</td>
<td>58.0</td>
<td>55.3</td>
<td>50.0</td>
<td>38.06</td>
<td>34.08</td>
</tr>
<tr>
<td>1816</td>
<td>36.4</td>
<td>35.6</td>
<td>37.4</td>
<td>42.4</td>
<td>48.87</td>
<td>53.68</td>
<td>55.3</td>
<td>55.7</td>
<td>51.4</td>
<td>48.86</td>
<td>38.6</td>
<td>36.8</td>
</tr>
<tr>
<td>1817</td>
<td>40.0</td>
<td>41.8</td>
<td>40.43</td>
<td>48.1</td>
<td>47.0</td>
<td>57.8</td>
<td>56.6</td>
<td>55.0</td>
<td>55.0</td>
<td>41.3</td>
<td>47.33</td>
<td>35.0</td>
</tr>
</tbody>
</table>

Mean Temperature of each year

1815 47.4
1816 45.065
1817 47.12

The mean temperature of the third six years, viz. 1813, 1814, 1815, 1816, 1817, 1818 46.7995

Mean temperature of the twenty-four years [i.e. 1801 to 1824] 47.4537
EXHIBITING THE QUANTITY OF RAIN...OF EACH YEAR,
AND THE QUANTITIES OF RAIN
DURING THE 6 SUMMER MONTHS AND 6 WINTER MONTHS

<table>
<thead>
<tr>
<th>Year</th>
<th>Annual quantity of each year</th>
<th>From beginning of April to end of September</th>
<th>From beginning of October to end of March next following</th>
</tr>
</thead>
<tbody>
<tr>
<td>1815</td>
<td>31.76</td>
<td>15.430</td>
<td>14.430 (16.33)</td>
</tr>
<tr>
<td>1816</td>
<td>25.77</td>
<td>14.420</td>
<td>13.740 (11.35)</td>
</tr>
<tr>
<td>1817</td>
<td>30.51</td>
<td>16.890</td>
<td>16.000 (13.62)</td>
</tr>
</tbody>
</table>

[corrections of addition in round brackets]

Mean quantity of rain of the third six years, 1813-1818, . . 29.33 inches
Mean of twenty-four years, 1801-1824, . . . . . . 30.571

[BARNES (1830): 428, 431, 432]

The farmer's account of the weather, as published in the Farmer's Magazine, was painted, like other environmental aspects, in a rather surrealistic fashion. But it is a very meaningful record.

The winter of 1814-1815 was dampened on a number of occasions by heavy rains and storms, particularly in November and December. In January there were some minor snowfalls and a frosty termination of the month, but this did not last, and rains through February and March brought the pastures to an excellent condition. April turned dry and relatively mild, so that seeding proceeded satisfactorily. The season continued fine and in July there was general elation over the appearance of the crops, probably in the hope that this would correct the economic crisis. May and June had been rather wet, but July was remarkably fine. The harvest weather showed up the contrast between the upland and lowland parts. In the uplands, although the first portions of both August and September were dry, torrential rain and an ensuing flood on September 26th played havoc with the crops which were largely planted in areas susceptible to flooding. The weather was
occasionally good in October, the second week being fine harvest weather, but the latter part of the month had almost constant showers, leaving the land soaked. The harvest period was variable with a few fine days interspersed among rainy ones, but at the crucial time there were eight to ten good days. Then November and December proved severely variable throughout. Early December was rainy, and heavy snow fell on high land on the 15th and the 20th. A rapid thaw on the 29th, followed by flooding, led into a mild January concluded by more snow. The spring was little better, being described as 'always inclement, and variable' (Rex, 1816: 252), and the lambing season commenced 'most disastrously' (page 240). The summer was a disappointment: there were wintry conditions in May and early June, so that at mid-summer the crops were as much as four weeks later than usual in the higher parts. A general description of the weather said that 'So cold, cloudy, and wet a summer, with so few intervals of clear, genial weather, has very rarely occurred, even in this northern and most unsteady climate' (p. 356). The pastoral parts, however, found it a little different from this, reporting too much drought, with rain and warmth in July (dryness was probably more characteristic of our region); a severe thunderstorm from the south-east on the 9th brought hail which was damaging. The harvest season concluded this story of failure by being entirely 'in character'. At the end of October it was realized that wheat had been stricken by disease, and oats had not ripened properly. The harvest was both late and inferior; quantity and quality were below average. The cutting could not begin until September 20th, and there were, in effect, only two days with a strong, dry heat; they were October 20th and 21st. The year continued variable to the end, and into 1817, but the frosts were light and the winter turned out to be more 'open' and warm than usual. The spring of 1817 looked likely to be a season of rewarded hope.

What was the crucial arbitrament governed by the climate? The scene in 1815 was one of depression, as
described in earlier pages of this work. But previously, the number of slightly deficient or failure harvests occurring from about 1809 up to our period (especially 1811) had combined with other economic aspects to push prices rapidly upward, because it was still possible for expansion to take place in the economy. These events endowed the farming community in particular with a raised standard of living. As a result of the economic slump the harvests of 1815 and 1816 were critical. The 1815 harvest had provided satisfactory yields, and the prices farmers charged were within the reach of consumers whose wages had not yet been reduced. But in many ways the farmers were still living in the war era: most of them were paying high rents, and their taxes and general costs had not been adapted to depression conditions. There were none of the economic safeguards that have been introduced in the subsequent century and a half. The farmers found it impossible to employ their accustomed number of labourers. And, paradoxically, there were some agricultural labourers who, thinking the economic fall to be only short-lived, had refused to take work because wages had been reduced. Thus the situation at the outset of 1816 was precarious, particularly for workers who had been unemployed for the preceding year or more. During 1815 much paper currency had been withdrawn, and in Dumfriesshire this had caused both a marked scarcity and some panic. In any case, poor relief had been largely exhausted.

A good harvest in 1816, although it would not have solved the problems, which were mainly out of the hands of both farmers and consumers, could at least have prevented starvation. But the miserable harvest granted by that 'seasonless' year was the worst in a decade of uncertain harvests. No one could benefit when there was little crop and few buyers. The result was that the suffering of the years 1816 and 1817 was perhaps unparalleled in Scotland's modern history. Near-starvation was widespread, and death
by starvation was known. Soup kitchens were opened, and all possible sources of sustenance were tapped. Not only local but national resources were expended, and the inclemency of 1816 can be said to have extended the depressed period as much as two to three years longer than would have been the case if a copious harvest had been reaped.
B. THE CHANGED ASPECTS OF THE GEOGRAPHY

1) Introduction

Not all aspects of the geography came under the spell of change immediately. It is apparent that flexible aspects like prices, crop area, the urge for improvement, and the standard of living would respond quickly (these are discussed below). But other less flexible aspects of the geography, which are elucidated in Section II, took years to show the effects of the depression. The tripartite division of the parishes was, of course, general enough to allow considerable re-adjustment within it before requiring any re-classification. Rough land on which improvement was halted took some time to sink back to its former conditions, and changes in vegetation were even longer in coming into effect. Capital investments, such as roads, were the most permanent aspects in the man-made landscape. The actual geographical picture would have changed little. In the upper parts of the dales there was a marked diminution in the area of cultivated crops, between the spring of 1814 and that of 1816, in favour of pasture for sheep and the fattening of cattle. But apart from this there would have been little difference to have been discerned, except by the meticulous observer who would have picked out various negative aspects, such as the more forlorn appearance of the peasantry, the large number obviously out of work, the newly-erected soup kitchens, even, perhaps, the increased number of burials.
2) The Role of Dumfries

The economic sclerosis seriously affected Dumfries' influence as the regional centre. Although it still maintained its role, and there was no threat of competition from other large centres, yet the sharpness was taken off even intra-regional transactions. The dominant effect of the depression was the pervading of the region with caution and, perhaps, introspection.

The commercial vitality of Dumfries suffered, with that of the region, because of the 'almost total want of demand' [Ed Mag, 1816: 112]. The failure of the demand meant that the movement of goods to Dumfries from all parts of the region, and vice versa, was greatly reduced; for example, after farmers had brought animals to Dumfries for sale and on more than one occasion had taken them home again because the price offered was as low as that originally paid, they usually decided to keep them a little longer until the price rose. Thus Dumfries' status as a commercial focus lost some of its significance.

The burgh largely made up for this loss, however, in other ways. As hardship descended on the countryside and rural villages in particular, the people began to migrate, and Dumfries was their principal destination. This phenomenon is discussed in perspective in the chapter on Population (below). To a considerable degree Dumfries exchanged its central commercial importance for a greater human importance, i.e. as the focus - even though temporary in some cases - for crowds of 'rural refugees'. Of a different kind of 'human importance' were the meetings of creditors in Dumfries. They became more numerous after 1814 (some, of course, were simply the settling of accounts following decease) and concerned themselves with property and businesses in various parts of the region as well as the burgh itself. In Dumfries there occurred the dissolution of a number of partnerships and the closing down of some businesses, although these are not necessarily direct testimonials to the severity of the depression. In the newspapers there was an increase in advertisements of property to let and to sell. But the significant feature is not so much this increase
as the number of times the advertisements were repeated, and the embellishment and variation of the inducements which seemed necessary to make the propositions attractive to buyers. By the end of 1815 Dumfries was becoming a centre for meetings of a more serious intent than the regular ones of the horticultural, agricultural, hunting, and other societies. There were the meetings for the purpose of discussing the conditions of various sections of the rural community, and they led to petitions, mainly concerning heavy taxes, which were sent to Parliament. Dumfries had been traditionally the headquarters for the Incorporated Trades in the county, and with the deepening difficulty of the times their strength became greater. This was partly due to their considerable financial reserves, and partly to the enlivened concern for the welfare of their members. In any case the incidents in which the Fleshers and the Squaremen successfully prosecuted two unaffiliated parties who had been operating some miles from Dumfries, indicate that the spheres of influence of the Trades had not diminished [TRADES, Minutes, specifically for the trades cited].
3) **Agriculture**

At no period within...remembrance was the agricultural interest so critically situate as at the present moment, because at no other time was the means of defraying ground rent, charges of cultivation, and public burdens so inadequate to these objects. Every one of these articles of expense (with the exception of a trifling reduction of labourers' wages), remains at a war price, whilst every article of farm produce...has fallen considerably [Letter in Journal, 26/12/1815: 1].

This situation has been detailed above, in The State of the Economy. The question to be resolved at this juncture is what were the actual effects on agriculture and its related activities?

A perceptive observer would have seen significant differences in the countryside of Nithsdale-Annandale between 1813 and 1816. On the peripheries in particular there was the expansion of grassland at the expense of cultivated land, and this occurred to a lesser degree on the low land. The improvements that had become characteristic of the war years were halted, many of them before completion; when a farmer was unable to afford the labourers his farm required, he could easily reason that improvements with an element of experimentation in them should be postponed. In one way this was a blessing because it allowed an assessment of the 'improvements', some of which, it transpired, had been inaugurated more through extravagance than good sense. Concomitantly, there were fewer workers to be seen in the fields, and more, having little or no employment with which to busy themselves, around the cottages and villages. The movement of produce from the farms to the markets became a less and less common sight, and even the autumn droving season displayed relatively few animals on the southward trek.

The details of the agricultural dilemma can be shown in a season to season report, as described by the farmers themselves; the following paragraphs are a continuation of The Nithsdale-Annandale Agricultural Report for 1813-1814, in Section II.B, chapter 2.
The Fithsdale-Annandale Agricultural Report for 1815-1816. The prices in the early weeks of 1815 gave little encouragement to the grain farmers: 'The Corn-farmers are thus brought to a state of despondency' declared the Farmer's Magazine [1815: 105]. Fat cattle, on the other hand, continued to sell briskly, thus stimulating the trend from cultivated to grass land, and fat sheep and especially wool were also catalysts for this trend. But lean cattle were exciting little interest, and the pork of the maritime parishes was in a serious decline. The winter weather had been favourable to husbandry, and none of the crops had been injured by frost. The succeeding three months, to the end of April, were even more favourable, and pastures, hay, and autumn-sown grain were in promising condition. Seeding had proceeded unhindered from the beginning of April, at least on the lower dry land, although the heavy land of the uplands took a week or two longer to dry out after rains in February and March. The optimism of the season spread to the consumers, and prices showed a slight rise. The warmth of the early summer enriched the optimism into elation by the end of July: 'The crops have seldom appeared more promising than they do at present in this quarter...' [Im Mag, 1815: 364]. But it was difficult for this elation to spread to customers who simply did not have the money with which to purchase the produce, and as a result prices remained unredeemed. Cattle prices were low despite a healthy demand, and oats and barley were hardly saleable. Sheep and wool, however, were maintaining a favourable trade. The ideal conditions did not continue uninterrupted. On September 26th torrential rains in the uplands swelled the rivers to flooding, and parts of the crops were swept away. The weather of the succeeding month seriously threatened the harvest, and held back field work. But a fine dry spell at the critical time permitted the grains to be almost entirely saved. The differences within the region stand out strongly in this instance: in the uplands, where the rain had been heavier and the soil was more retentive, the harvest was described as 'about an average' (p. 490); in the midland basins and the maritime slope, however, where the rains had been less persistent and the soil was largely the better-drained sandy loams on glacial deposits, the harvest was abundant. Potatoes also showed the contrast; the
uplands were only able to raise part of the crop, whereas the lowlands managed an almost complete harvest that was described as a full crop. But supply and demand were to a considerable degree divorced from one another at this time, and despite a generally satisfactory harvest markets remained unresponsive. The paragraphs on prices (p. 19 ff) supplement this report.

The winter of 1815-1816 was a fitting prelude to the catastrophic year which followed; the winter weather had been changeable and commonly stormy. Field labour was delayed, and the flocks suffered from the climatic extremes. The upland areas were despairing. The turnip crop was generally destroyed by rot, and although the grains were plentiful this plenty allowed prices to sink slightly. The spring carried wintry conditions on a few months longer, and although it had been possible to plant the grains, the inclemency had prevented growth. A similar problem existed in the pastures where, even by the end of April, there was not enough sward to be suitable for lambing and many lambs and ewes died of exposure. Grain prices advanced as the 1815 stock decreased, wintry conditions plagued even the early summer months, and by the end of July crops were retarded two weeks in the best farming areas to four weeks along the upper limit of cultivation. In upper Annandale the wheat, barley, and early oats did not come into ear until mid-July, and it was only because of warmth in the early part of the month that they had reached this stage. On good land the potatoes were promising, and turnips were satisfactory, but the sown grasses were generally light. It was said that sheep had never suffered so much in any one year (p. 358), and in the higher farms it was necessary to buy in replacements for lost stock. The prices of grain had once again risen slightly, there was demand for fat sheep, and the upper Annandale correspondent reported that wool was still selling well. But this was only the short pause before the blow. Even on the early land of the maritime parishes the harvest was 'of the worst description' (p. 439). The cutting of the barley, which was the earliest of the grains, did not begin until September 20th! It was below average but more abundant than wheat or oats. The oats displayed as much straw as the average, but the
heads were small; and wheat suffered much destruction from disease so that it was unfit for baking or seeding. A revealing comment appeared in the *Dumfries and Galloway Courier*:

As the wheat crop in this district seems irretrievably ruined, the bakers of Dumfries have... resolved to import 500 bushels of fine old wheat from London, at 12/- a bushel [22/10/1816].

The oats had been beaten down by rains, and in some parts were still green. Potatoes had been damaged by frost in leaves and stems, and they and turnips had yielded only small thin tubers and roots. It was claimed that there had been only two days suitable for harvesting (October 20th and 21st), and as a result grain had been sprouting in the sheaves. The response of the market was once again very discouraging for the farmers who, despite tax relief which had come in the early months of the year, were convinced that their revenue would be far from equal to their costs. The grain prices took a slight upward turn after the harvest, but then reverted, and all livestock markets languished under a lack of demand; 'the agricultural livestock of Britain has sunk in its money price, to not more than the half of what it would have been valued at in 1813, and for some years before...' (p. 482). The situation at the end of 1816 was dismal: there was virtually no harvest, the Corn Laws prevented the importation of grain while the prices remained below 80s (which was high compared with the falling wages), and in any case there was a serious lack of money with which to purchase foodstuffs.
4) Population

The dominant demographic aspect of the second half of our period was that of migration. Whereas Section II concerned itself principally with clarifying the distribution and rate of increase of the population, this chapter deals with the upheaval that was caused by the economic changes. The conditions in the years 1815 to 1822 inaugurated, or at least heightened, a number of phenomena which were to perpetuate themselves in the region's demography during the ensuing decades and - in some cases - generations.

To see the phenomena clearly it is necessary to follow the population changes over a much more extended period than that of our immediate study. Having analysed the six decades 1790 to 1850, it transpires that the migration was composed of three stages. The first was a step taken by many of those forced to migrate; it was the abandonment of the land and a total dependence on agricultural labouring as a livelihood, in favour of a local village and a more diversified, if impermanent, occupational pattern. The second stage was the movement both from the land and the local villages to the larger, progressive villages and burghs, and to Dumfries. These two stages formed the internal migration. The third stage was emigration. In the sense given to the term by Dumfriesshire reporters, emigration involved only a move overseas. But this chapter expands the application to any migrant who left the region. Many of them went to Edinburgh and Glasgow, but through the years there was a considerable host which went south into England, as indicated by the brief biographies of 'Eminent Men' included in the parish Statistical Accounts.

Internal migration. The internal migration was facilitated by the mobility of the agricultural labourer in the region; '... all that portion of the population consisting of farm servants is a shifting population, - most of them being at the healthiest period of life, and hardly any of them remaining in the parish during life' [2nd SA: 185]. This had been carried to an ex-
treme degree with the gradual acquisition of legal independence by the labourers during the eighteenth century, and by 1815 many labourers exercised their freedom by insisting on changing employers at least once a year (cf. Macintosh, 1942, as cited in the bibliography of Geddes, 1949). The crowded hiring fairs were a testimony to this nomadism. But there was a latent advantage in this, both for the individuals and for the society: a relatively minor change of mind was required for the person (or family) to move to a village or town where employment was to be found, rather than search fruitlessly for rural employment that no longer existed.

The movement into the local villages and small burghs, by people bred to the countryside but no longer able to find work there, was widespread in the region during the early decades of the nineteenth century. There are no specific statistics on this phenomenon, but unmistakable traces of it can be found. In the parish of Dryfesdale, for example, the rural population decreased slightly between 1793 and 1833, from 900 to about 870, while that in the town of Lockerbie doubled (700 to 1414). If we accept thirteen per thousand (i.e. from ten improving to fourteen) as a suitable figure for the annual rate of reproduction during the forty years, then the crude increase for the parish should have been about 1000, or closer to 900 considering the town to have had a lower rate. The town's own reproduction (at ten or eleven per thousand) would have added 400 to its 1793 total, indicating that the rural or 'landward' part of the parish provided 500 to the increase of the town, and at least 200 who must have emigrated from the parish [cf. 1st S A, IX: 420-1; and 2nd S A: 454-5].

The number of emigrants might have been higher than that suggested, because as with most parts of south-west Scotland this parish received small groups of immigrant labourers, mainly Irish. The minister of Gretna parish cited as one of the 'most remarkable variations between the present [1834] state of this parish and that which existed at the date of the late Statistical Account...a diminution of houses in country places, and a rapid extension of villages' [2nd S A: 272]. And about the same time the minister of Penpont wrote,
There is a tendency in the village population somewhat to increase its relative proportion to the country part of it.... Some cottages...that had become ruinous, have not been rebuilt; and of course, their former occupants have found their way into the villages [2nd S A: 506].

There was no parish in our region that was free from this aspect of the internal migration, although the maximum attraction of the nucleated settlements occurred at different times in different parts of the region.

The logical sequel to the movement into local villages was the more formidable decision to seek employment in one of the large centres. This solution was usually chosen only when the opportunities in the smaller places had withered away. The principal recipient in this migration was Dumfries, with Annan, Carlisle, and the other burghs and sizeable villages in the region benefitting by lesser amounts. Between 1813 and 1821 Dumfries acquired about fifteen hundred inhabitants, and Annan appears to have gained nearly one thousand. The migrants came not only from the minor villages but also directly from the countryside.

Emigration. Emigration from the region had been occurring for decades previous to our study and was to continue consistently in the future. But it was a desperate decision to make, especially when it involved crossing the ocean, and as a result it was always numerically a minor movement when compared with the internal migration. There were two exceptions to this statement in periods not far removed from our study. The chief of these was during the years 1816 to 1822, when the extended depression drove many people away. The suddenness and severity of this economic decline, following years of prosperity which had rapidly raised the standard of living, left many people with no other apparent choice than to attempt a new start overseas. The accompanying map shows which parishes registered decreases in the decade ending at 1821, and maps for the First Statistical Account and 1841 are included as cross-references. The second period in which emigration grew to major proportions was in the cholera and depression decade of the 1830s. The records for 1841 indicate that a majority of the
parishes in the region returned decreased figures at that census, and the worsening of the picture might have been attributable to a greater ease of mobility with road and transport improvements. The years 1813-1816, then, formed a watershed in population statistics as in many other aspects. Up to 1814 the population was vigorously increasing in all parts of Nithsdale—Annandale, except for two peripheral parishes which were undergoing peculiar changes. But from 1815 — and particularly after 1816, because of the time taken by population to respond — there was a turn in the opposite direction, so that rates of increase became much slower, and some were even reversed.

MAPS OF POPULATION DECREASE (XXX, XXXI, XXXII)
To secure specific statistics on emigration is virtually impossible. However, it is known, chiefly from newspaper advertisements, that throughout our period there were a half-dozen to a dozen ships each season which offered to take passengers to North America from Dumfries quays. Most of the ships were engaged in bringing timber from the British North American colonies back to the Mother Country, and they usually took on passengers at Glencaple (sometimes at Kirkcudbright) for the return journey. There was widespread opposition to overseas migration from those who did not have to face such a drastic decision, and most of the newspaper accounts were unfavourable. But the traffic seems to have continued regardless. For instance, a commonplace book which was kept during these years, in Dumfries, records on March 13th 1817 that 'no fewer than 60 emigrants are to sail...for St John's, North America [St John, New Brunswick]...' [SHIRLEY, 1936: 378]. This is probably a representative figure for a timber ship, but unfortunately it is not possible to tell exactly what percentage of the passengers came from Nithsdale-Annandale, although it must have been high.

The causes of the population movement. The causes of both the internal migration and the emigration were of the same root. Throughout the period, and continuing after it, the economic attraction of other places was encouraging people to move. However, this was the positive side of what was in essence a negative phenomenon: people only move when they are forced to do so. Thus, the real causes of the migration that took place in Dumfriesshire are to be numbered among the following.

a) Over-population was a menace which overtook the country in the early decades of the nineteenth century, despite at least one confident denial of it: 'Excess of population is not indicated either by any complaints or any appearances: on the contrary, the real value of, and demand for labour, become greater' [SINGER, 1812: 445]. But the appearance of it took shape quickly when a minor reversion of the prosperity occurred, such as in 1811-
1812, or in a more serious way in 1815 and the worsening years succeeding it. The irregularity of the appearances, however, suggests that it was circumstantial, or, in a sense, what has been called 'psychological' - rather than absolute - over-population. The region was far enough above subsistence that in times of emergency resources were usually available to preserve the poorer part of the population from death from starvation. People moved from this kind of over-population not so much because they could not manage to survive under it, but because the not-too-distant fields of Glasgow, Edinburgh, and parts of England looked unmistakably greener to them. A remarkable increase in population had begun in Scotland after the troubles of 1745-1746 had died down. Dumfriesshire generally partook of this increase. At the same time medical practice began to modernise, so that the life span became longer, and the large infirmary at Dumfries was an important centre of this aspect of the progress. The birth-rate remained as high as it had been, or even rose higher. In many Nithsdale-Annandale parishes in the first half of the century it was common for labourers to have five to seven children, so that the average family size was six to eight. The crucial factor was that the majority of these families was living for a longer time. Often the discrepancy between deaths and births was a clear twelve to fifteen in favour of births per thousand of population.

b) The re-organization of the land resulted in a recurring redundancy of labourers as the various parts of the region experienced this improvement. It had no violent repercussions, however, such as had accompanied the first enclosures in south-west Scotland a century earlier, because the labourers had ceased to be tied as closely to the lairds. The labourers' new legal freedom was not unqualified; it gave freedom to move, but it also gave the landlords the freedom to reduce the number of their workers as modernization allowed it. Mechanization was part of the agricultural revolution, and the improved ploughs, harrows, threshing machines, and seed drills were usurping the labourer's birth-right.

c) It is possible that a factor which abetted the decision to emigrate was
the excellent universal education received by Scots. Educational facili-
ties were particularly plentiful in Dumfriesshire. All classes of the pop-
ulation were able to read, and libraries existed in most of the towns and
even in some of the villages. A vital factor was that people could read
for themselves the exciting letters sent from overseas telling of the life
and the progress.

d) The abandonment of small villages was often associated with the welfare
of one of the crafts. Many places in Dumfriesshire suffered with most of
rural Britain when the mechanization of the fabric industries caused them
to be centralized in the towns and cities; and specialized weaving and knitting, cotton spinning, and the preparation of flax, all died out in the country areas except as they were applied to the local needs for plaid, blankets, stockings, and other related articles.

The stages of migration. The three stages of migration followed somewhat
different careers in each of the parish categories. In general terms, the
maritime parishes were almost into the third and last stage of the migration
when many of the upland parishes were still in the first. The areas close
to Dumfries, for example, having experienced the full force of agricultural
and related changes, had passed through the first stage and were well
into the second by our period. The vigorous growth of Torthorwald and
Roucan villages was largely based on their being close enough to Dumfries
to be dormitory satellites. This area entered the third stage, that of
emigration, during the 1830s. Meanwhile, Kirkcudlie parish at the head
of Nithsdale was embroiled in the first stage. Land re-organization in the
early years of the century had displaced a considerable number of people,
and these migrants went not only to Kirkcudlie village but also a little
further to Sanquhar, resulting in a parish decrease at 1811. In the sub-
sequent four decades the parish added to its total, principally on the
strength of the village's development. At 1813 the majority of upland par-
ishes, excluding the exceptions where the local village was a sizeable
settlement, were deep in the first stage—the movement from the land to
the rudimentary urban settlements. At the same time most of the midland
parishes, and some of the less-advanced maritime parishes, had entered the
second stage, while the advanced areas surrounding Dumfries and Annan,
and perhaps Gretna, were thoroughly familiar with the habit of seeking out
the large towns for reliable employment.

The basic population changes that
were occurring in the region during the decade 1811-1821 are indicated in
the adjacent map and table. The greatest percentage increases were recorded
in parishes where there was a vigorous urban nucleus, and in contiguous
parishes close enough to the nucleus to benefit from its growth. These
also would have been the parishes which received displaced persons in the
years 1816 to 1821. It is notable that areas near thriving nuclei, but
not near enough to act as suburbs, were in fact sacrificing population to
them. Tynron, Keir, and Closeburn in Wigtown, had apparently halted their
agricultural improvement, and they had lost people to Moniaive, Thornhill,
and Dumfries. The Closeburn lime works probably suffered a setback during
the depression, and this would lead to a rapid evacuation of population.
In Annandale there was a similar halo of parishes which had suffered emi-
gration to Lockerbie, Ecclefechan, and, most noticeably, to Annan. There
were a few parishes, however, which did not comply with this generalization.
Johnstone, for instance, with a 30.4% increase probably owed most of this
to the reclamation of muirland on the slopes of the west side, and to the
building of cottages for artisans along the main road. Other peripheral
parishes, notably Hutton & Corrie, Wamphray, and Kirkmichael, were prosper-
ing on agricultural improvements, chiefly the reclamation of muirland. The
population table presents the absolute numbers and the percentages for each
of the parishes. Compare the table in Section II.B.5.
### Ruthsdale-Annandale Population, 1821

<table>
<thead>
<tr>
<th>Parish</th>
<th>1821 Population</th>
<th>Percentage Increase, 1811-1821</th>
</tr>
</thead>
<tbody>
<tr>
<td>THE REGION</td>
<td>63,753</td>
<td>10.1</td>
</tr>
<tr>
<td>Annan</td>
<td>4,486</td>
<td>34.2</td>
</tr>
<tr>
<td>Applegarth</td>
<td>943</td>
<td>9.9</td>
</tr>
<tr>
<td>Caerleverock</td>
<td>1,206</td>
<td>3.1</td>
</tr>
<tr>
<td>Closeburn</td>
<td>1,682</td>
<td>-4.5</td>
</tr>
<tr>
<td>Cummaertrees</td>
<td>1,561</td>
<td>-4.4</td>
</tr>
<tr>
<td>Dalton</td>
<td>767</td>
<td>11.0</td>
</tr>
<tr>
<td>Dornock</td>
<td>743</td>
<td>-5.7</td>
</tr>
<tr>
<td>Dryfesdale</td>
<td>2,251</td>
<td>18.9</td>
</tr>
<tr>
<td>Dumfries</td>
<td>11,052</td>
<td>19.3</td>
</tr>
<tr>
<td>Dunscaroe</td>
<td>1,491</td>
<td>12.5</td>
</tr>
<tr>
<td>Darisdeer</td>
<td>1,601</td>
<td>12.0</td>
</tr>
<tr>
<td>Glencairn</td>
<td>1,861</td>
<td>12.9</td>
</tr>
<tr>
<td>Gretna</td>
<td>1,945</td>
<td>11.2</td>
</tr>
<tr>
<td>Halfmorton</td>
<td>553</td>
<td>ca 9.5</td>
</tr>
<tr>
<td>Nodden</td>
<td>1,640</td>
<td>14.8</td>
</tr>
<tr>
<td>Holywood</td>
<td>1,004</td>
<td>21.0</td>
</tr>
<tr>
<td>Hutton &amp; Corrie</td>
<td>804</td>
<td>18.8</td>
</tr>
<tr>
<td>Johnstone</td>
<td>1,179</td>
<td>30.4</td>
</tr>
<tr>
<td>Keir</td>
<td>987</td>
<td>-6.6</td>
</tr>
<tr>
<td>Kirkconnel</td>
<td>1,075</td>
<td>5.7</td>
</tr>
<tr>
<td>Kirkmahoe</td>
<td>1,608</td>
<td>9.6</td>
</tr>
<tr>
<td>Kirkmichael</td>
<td>1,202</td>
<td>16.1</td>
</tr>
<tr>
<td>Kirkpatrick-Fleming</td>
<td>1,696</td>
<td>1.9</td>
</tr>
<tr>
<td>Kirkpatrick-Juxta</td>
<td>912</td>
<td>11.1</td>
</tr>
<tr>
<td>Lochmaben</td>
<td>2,651</td>
<td>10.8</td>
</tr>
<tr>
<td>Middlebie</td>
<td>1,874</td>
<td>11.3</td>
</tr>
<tr>
<td>Moffat</td>
<td>2,218</td>
<td>5.2</td>
</tr>
<tr>
<td>Morton</td>
<td>1,806</td>
<td>15.0</td>
</tr>
<tr>
<td>Mouswald</td>
<td>795</td>
<td>3.5</td>
</tr>
<tr>
<td>Penpont</td>
<td>1,082</td>
<td>9.6</td>
</tr>
<tr>
<td>Ruthwell</td>
<td>1,285</td>
<td>8.5</td>
</tr>
<tr>
<td>St Mungo</td>
<td>709</td>
<td>-2.5</td>
</tr>
<tr>
<td>Sanquhar</td>
<td>3,038</td>
<td>11.7</td>
</tr>
<tr>
<td>Tinwald</td>
<td>1,248</td>
<td>3.7</td>
</tr>
<tr>
<td>Location</td>
<td>Population</td>
<td>Change</td>
</tr>
<tr>
<td>---------------</td>
<td>------------</td>
<td>--------</td>
</tr>
<tr>
<td>Torthorwald</td>
<td>1,205</td>
<td>29.3</td>
</tr>
<tr>
<td>Tundergarth</td>
<td>518</td>
<td>-0.8</td>
</tr>
<tr>
<td>Tynron</td>
<td>513</td>
<td>-10.6</td>
</tr>
<tr>
<td>Wamphray</td>
<td>672</td>
<td>-3.7</td>
</tr>
</tbody>
</table>

[Source: BRITAIN, 1831: 379]
5) **Living Standards**

It is unnecessary to discuss exhaustively the changes in living standards, because of the numerous intimations on this topic in preceding chapters. There are, however, some unstated aspects which are used in the subsequent paragraphs to fill out the picture of the living conditions, and also to conclude the account of the geography of Nithsdale-Annandale in the years 1813 to 1816.

There were two general factors which affected the living standard; the first of these affected the living standard of the farmers in particular, the second affected the standard of every person in the region. The farmers suffered a setback—apart from their high rents and costs—when buyers of their products refused to respond to the market, largely because of the pessimism of the depression and the hope of imminent better times. This applies principally to the year 1815. There was a temporary enlivening of sales in the late spring of that year, which appears to have been an annual characteristic of the market, but through most of the other months sales were described as stagnant. The second factor applies to 1816 and even more to 1817: by this time buyers were few and money was not circulating normally, and, what was worse, the staple oatmeal and potatoes were difficult to secure at any price in some of the towns of Nithsdale-Annandale. A visitor to Ecclefechan early in 1817 commented that 'there was not a pound weight of meal to be got', and the situation was the same even around Dumfries [GLOVER, 1818: 75, 64]. The Nithsdale agricultural reporter in the Farmer's Magazine, after having declared the precariousness of the agricultural community for two years, stated in January 1817 that the poor of the towns and villages were in an especially pitiful condition [Far Mag, 1817: 102]. The distress was not restricted to the unskilled farm labourers; even established artisans in the towns were affected. A symptom of this was the borrowing of money by the Dumfries Incorporation of Tailors, early in 1817, for the purpose of buying five hundred stones of oatmeal.
which it re-sold to its members at sixpence less than the prevailing price (i.e. at 3/2 per stone). One reason for this purchase was the paucity and uncertainty of the oatmeal supply [TAILORS, 1817].

An irritant in the decline of living standard in 1815-1816 was the affluence to which all levels of society had attained in the last years of the war: a contemporary pointed out that 'the habits of the lower ranks are so changed...' [Journal, 26/12/1815: 1]. Because of this the reversion was more widely effective and more painful. Real wages and standards generally had reached a level that was not to be re-attained until the eve of the Golden Age of British Agriculture (i.e. about 1850).* During the years 1810 to 1814 the wage of a country day labourer in the Lowland counties, including Nithsdale-Annandale, was about 2/6 a day, or 15s a week (without board), taken over the whole year. But it was pointed out in an analytical essay of 1822 that the wage by that time had sunk to 10s a week, and the price of commodities had not been reduced in proportion. 'The truth seems to be...that the great body of labourers consume less of bread-corn, and meat, and more of potatoes, and other inferior descriptions of food, now than formerly'; this was the only way in which account could be made for the glut of grains when the country had supposedly not been able to produce enough for its own use [CLEGHORN, 1822: 7, 9, 37]. It has been mentioned in a previous chapter that when labouring wages began to decline in late 1814 there were labourers who refused to accept employment. These suffered more than those who were less independant. By 1816, as suggested by Cleghorn, their diet was probably restricted to oatmeal or potatoes, perhaps with another vegetable, and periodically a poached fish or hare; and in many cases there was very little of this meagre fare. The agricultural report for lower Nithsdale in September 1816 remarked that 'Many

* Real wages of agricultural labourers reacted, in practice, differently from real wages of town labourers. Whereas the real wages of town labourers went down when food prices rose, those of agricultural labourers tended to rise because of an increase in their money wages. In Nithsdale-Annandale, too, the freedom from an assessed poor rate allowed agricultural wages to respond more to fluctuations in prices of agricultural produce.
labourers remain in great distress for want of work, and those employed have 1/6 per day, without board' [Courier, 20/8/1816]. A vital factor was that there were no safeguards, apart from poor relief, for the incomes of this class of the population. At the same time labourers (particularly industrial and other town labourers) were paying more than their share of taxes through indirect taxation on various necessities.

A final comment on the living standards of the peasantry at the close of our study is extracted from the Second Statistical Account of Kirkconnel; it is given almost in full because of its revealing detail.

In the year 1817, when markets were very high and provisions scarce - and when many of the labouring class, from the rate of wages, were unable to procure support for themselves and families, a parochial subscription was voluntarily entered into, aided by the resident and non-resident heritors; by means of which, a fund was raised to a considerable amount, with which provisions were purchased, at a considerable distance, by farmers in the parish, and brought by them free of expense. Much of them as had any stock of meal or potatoes for sale, reserved the same for the behoof of the parish. By this means, a store of provisions was formed; and a committee of management was appointed, who met weekly to consider the cases of the applicants; and from the representations laid before them, instructed their store-keeper to give out a certain quantity of provisions gratis, to the most necessitous; to others at reduced prices, according to their circumstances; and such as could afford to pay received the article at prime cost. The quantity of meal served out and sold, as above stated, amounted to 1950 stones, (besides potatoes and pot barley,) within the space of six months, the time required [2nd S A: 321-2].

This excerpt not only depicts the rural conditions at the time, but also indicates that the poor in the countryside found more relief during the difficult seasons than did those in the towns and villages. And the difficulty of living - for labourers of town and country and many of the farmers in our region - during 1815-1816 and three or four succeeding years, was outstanding for its severity.
IV. RESUME

1) **Comment**

It is not entirely satisfying to conclude this study in the turmoil of the depression. But inasmuch as this is a feeling that inevitably arises from the nature of historical research, it is to be expected and accepted. And in a study in historical geography it may be considered a proper point at which to stop. The study carries its description and analysis from the heights of the wartime boom, through the months of uneasy equilibrium, and then to the nadir of the post-war depression. The four years embrace wide swings of change and seem particularly suited to a geographical study which attempts to draw out principles of the man-environment interaction.

This emphasis on change is a familiar one in historical geography. The American school of 'sequent occupancy' holds this as a basic tenet. And, the numerous studies that have been done by geographers in both Britain and America on historical 'problems', have the search for changes implicit in their approach. More than most historical geographical studies this thesis has purposely chosen a period of extremes through which it attempts to depict in essence the nature of the relation between the geography and its multifarious background.

2) **The Accent of this Thesis**

The thesis presents the material as a regional study. Although no statistical support can be given for this decision, the writer has been convinced - as argued in the Introduction - that Southdale-Annandale was a region in
the sense in which geographers ordinarily use this concept. The lives of the people in the region, insofar as they looked outside of their own small neighbourhood, were focused on the burgh of Dumfries; it was their Mecca. This stance can be criticized on the grounds that the passage of over a century has lessened the differences and made it seem as though a region existed. But the counter-claim can be presented that because of the oscillation of influencing factors a valid regional study can only be constructed in retrospect (though it be only five years into the past); i.e. a regional study is necessarily an historical study.

The regional framework, with its tripartite division conforming to the physique of the two dales, was also valuable in the organization and presentation of the material. The region proved to be both a theoretical and practical entity.

3) The Thesis Arguments and the Evidence

Apart from the historical account of the period, the thesis claims to have demonstrated two major hypotheses. The first of these is that Ruthdale-Annandale was a functional region; the second, that the climatic vagaries of the period were unusual enough and inclement enough to have added considerable momentum to the decline of the economy in 1815 and 1816. The evidence that has been marshalled in support of the first hypothesis, though lacking in detailed statistics, embraces most of the standard criteria expected in such a contention. Dumfries is shown fairly conclusively to have been a commercial, service, administrative, and social centre, and through these functions to have been the regional hub. In validating the second hypothesis, the climate of the first part of the nineteenth century was reconstructed from relevant observations, and shown to have reached an extreme-
ly untypical state in 1816. Through descriptions by farmers in particular the dire effects of that year's weather were traced to the conclusion that it played a hitherto unheralded role in the concomitant distress.

4) The Methodology

The method was designed to best utilize the available material; i.e. it was not acquired from some other prototype study. But the individual features of it are not particularly unique, although the importance bestowed on some of them may be. For instance the season to season reports on the weather, agriculture, and markets, and the composite contemporary description of the geographical picture (i.e. The Picture Described), are not plagiarisms. The separation of what is considered to be the geography itself from its background, is thought to be the most satisfactory treatment of geographical material of this type. Through this the attempt has been made to contribute not only to an understanding but to a visualizing of a very crucial period in the development of modern Scotland.
APPENDIX I

ACTUAL ACRES OF CULTIVATION IN THE PARISHES

(in imperial acres)

<table>
<thead>
<tr>
<th>Parish</th>
<th>ca 1794</th>
<th>ca 1833</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annan</td>
<td>-</td>
<td>9,087 (not including permanent pasture)</td>
</tr>
<tr>
<td>Applegarth</td>
<td>-</td>
<td>7,392</td>
</tr>
<tr>
<td>Caerlaverock</td>
<td>5,525</td>
<td>5,323 (?)</td>
</tr>
<tr>
<td>Closeburn</td>
<td>1,900</td>
<td>5,683</td>
</tr>
<tr>
<td>Cummertrees</td>
<td>-</td>
<td>6,000</td>
</tr>
<tr>
<td>Dalton</td>
<td>-</td>
<td>6,753</td>
</tr>
<tr>
<td>Dornock</td>
<td>1,200</td>
<td>2,890</td>
</tr>
<tr>
<td>Dryfesdale</td>
<td>-</td>
<td>10,000</td>
</tr>
<tr>
<td>Dumfries</td>
<td>-</td>
<td>7,930</td>
</tr>
<tr>
<td>Dunscore</td>
<td>-</td>
<td>5,300</td>
</tr>
<tr>
<td>Durisdeer</td>
<td>1,717</td>
<td>7,896</td>
</tr>
<tr>
<td>Glencairn</td>
<td>-</td>
<td>7,000</td>
</tr>
<tr>
<td>Gretna</td>
<td>3,090</td>
<td>10,000</td>
</tr>
<tr>
<td>Halfmorton</td>
<td>no statistics</td>
<td>no statistics</td>
</tr>
<tr>
<td>Hoddom</td>
<td>-</td>
<td>6,429</td>
</tr>
<tr>
<td>Holywood</td>
<td>2,812</td>
<td>7,580</td>
</tr>
<tr>
<td>Hutton &amp; Corrie</td>
<td>875</td>
<td>3,000</td>
</tr>
<tr>
<td>Johnstone</td>
<td>1,062</td>
<td>5,500</td>
</tr>
<tr>
<td>Keir</td>
<td>-</td>
<td>3,375</td>
</tr>
<tr>
<td>Kirkconnel</td>
<td>780</td>
<td>6,400</td>
</tr>
<tr>
<td>Kirkmahoe</td>
<td>-</td>
<td>8,200 (10,000 ca 1826)</td>
</tr>
<tr>
<td>Kirkmichael</td>
<td>-</td>
<td>5,500</td>
</tr>
<tr>
<td>Kirkpatrick-Fleming</td>
<td>2,576</td>
<td>8,061</td>
</tr>
<tr>
<td>Kirkpatrick-Juxta</td>
<td>547</td>
<td>7,000</td>
</tr>
<tr>
<td>Lochmaben</td>
<td>-</td>
<td>5,500 ('under the plough')</td>
</tr>
<tr>
<td>Middlebie</td>
<td>-</td>
<td>5,387</td>
</tr>
<tr>
<td>Moffat</td>
<td>ca 400 (in crops)</td>
<td>3,750 (in crops and rotations)</td>
</tr>
<tr>
<td>Morton</td>
<td>2,250</td>
<td>2,480</td>
</tr>
<tr>
<td>Mouswald</td>
<td>-</td>
<td>4,146</td>
</tr>
<tr>
<td>Penpont</td>
<td>ca 2,500</td>
<td>ca 2,500</td>
</tr>
</tbody>
</table>

(continued...)
<table>
<thead>
<tr>
<th>Parish</th>
<th>1st</th>
<th>2nd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ruthwell</td>
<td>1,302</td>
<td>5,500</td>
</tr>
<tr>
<td>St Mungo</td>
<td></td>
<td>4,300</td>
</tr>
<tr>
<td>Sanquhar</td>
<td>812</td>
<td>5,583</td>
</tr>
<tr>
<td>Tinwald</td>
<td></td>
<td>ca 7,000</td>
</tr>
<tr>
<td>Torthorwald</td>
<td></td>
<td>2,676</td>
</tr>
<tr>
<td>Tundergarth</td>
<td></td>
<td>2,829</td>
</tr>
<tr>
<td>Tynron</td>
<td></td>
<td>3,069</td>
</tr>
<tr>
<td>Wamphray</td>
<td>600</td>
<td>3,000</td>
</tr>
</tbody>
</table>

(Source, The First and Second Statistical Accounts)

Note: The changing of Scots acres to imperial acres was by the approximate method of multiplying by $\frac{5}{4}$.

Notes on the graphs of area under cultivation

Parishes not having First Statistical Account statistics: Annan, Applegarth, Cummertrees, Dalton, Dryfesdale, Dumfries, Dunscro, Glencairn, Hoddon, Keir (but 'arable land doubled' by Second), Kirkmahoe, Kirkmichael, Lochmaben, Middlebie, Mouswald, St Mungo, Tinwald, Torthorwald, Tundergarth, Tynron, Halfmorton provided no statistics. Other qualifications on the information from the Statistical Accounts: Annan (2nd), the cultivated land included permanent pasture, and beginning in 1802 over two thousand imperial acres of the Annan common was divided and improved; in Closetburn there was confusion as to the number of acres in the parish, but it appears that the 2nd listed 690 more than the First; for Dornock the figure in the 1st is nearly two hundred Scots acres lower than the 2nd (parish acreage); the use of the term 'cultivated' in the Dryfesdale account (2nd) is particularly ambiguous; the parish acreage in the 1st, for Holywood, seems to total about four hundred imperial acres more than in the 2nd; concerning Moffat, in the 1st the acreage is not measured but an estimate is made (i.e. 'arable' land, 3,750 acres), while in the 2nd the figure for arable is the same but the description is 'land in cultivation'; the acreage from the 1st for Penpont is an estimate made on the basis of a known acreage of wheat and barley and their usual relation to the acreage of oats, and the 2nd is simply an estimate; Tinwald provides only an estimate for the 2nd.
APPENDIX II

ACREAGES (IMPERIAL) OF TREE COVER IN PARISHES

(at Second Statistical Account)

<table>
<thead>
<tr>
<th>Parish</th>
<th>Acreage</th>
<th>Relevant Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annan</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Applegarth</td>
<td>331</td>
<td></td>
</tr>
<tr>
<td>Caerlaverock</td>
<td>126</td>
<td></td>
</tr>
<tr>
<td>Closeburn</td>
<td>1,500</td>
<td>Mostly plantation</td>
</tr>
<tr>
<td>Cummertrees</td>
<td>1,000</td>
<td></td>
</tr>
<tr>
<td>Dalton</td>
<td>517</td>
<td>190 natural</td>
</tr>
<tr>
<td>Dornock</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Dryfesdale</td>
<td>ca 100</td>
<td>'Few woods...'; on cleuch-sides</td>
</tr>
<tr>
<td>Dumfries</td>
<td>315</td>
<td>74 natural</td>
</tr>
<tr>
<td>Dunsecore</td>
<td>440</td>
<td>60 natural; most planting done since 1805</td>
</tr>
<tr>
<td>Durisdeer</td>
<td>2,000</td>
<td>500 natural</td>
</tr>
<tr>
<td>Glencairn</td>
<td>800</td>
<td></td>
</tr>
<tr>
<td>Gretna</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Halfmorton</td>
<td>-</td>
<td>'large and thriving plantations' (1st S A)</td>
</tr>
<tr>
<td>Hoddon</td>
<td>62</td>
<td></td>
</tr>
<tr>
<td>Holywood</td>
<td>540</td>
<td></td>
</tr>
<tr>
<td>Hutton &amp; Corrie</td>
<td>ca 100</td>
<td>None natural; plantations recent</td>
</tr>
<tr>
<td>Johnstone</td>
<td>1,500</td>
<td>Mostly plantations</td>
</tr>
<tr>
<td>Keir</td>
<td>672</td>
<td>'chiefly of brush and sproutings of trees formerly cut down'</td>
</tr>
<tr>
<td>Kirkconnel</td>
<td>178</td>
<td>400 on Dalswinton estate</td>
</tr>
<tr>
<td>Kirkmahaee</td>
<td>550</td>
<td>5% of area</td>
</tr>
<tr>
<td>Kirksmichael</td>
<td>350</td>
<td></td>
</tr>
<tr>
<td>Kirkpatrick-Fleming</td>
<td>605</td>
<td></td>
</tr>
<tr>
<td>Kirkpatrick-Juxta</td>
<td>230</td>
<td></td>
</tr>
<tr>
<td>Lochmaben</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td>Middlebie</td>
<td>282</td>
<td>200 natural</td>
</tr>
<tr>
<td>Moffat</td>
<td>450</td>
<td>90 natural</td>
</tr>
<tr>
<td>Morton</td>
<td>480</td>
<td></td>
</tr>
<tr>
<td>Mouswald</td>
<td>167</td>
<td></td>
</tr>
<tr>
<td>Penpont</td>
<td>-</td>
<td>Extensive plantations have been and are being made</td>
</tr>
</tbody>
</table>

(continued...)
<table>
<thead>
<tr>
<th>Location</th>
<th>Size (acres)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ruthwell</td>
<td>520</td>
<td>203 planted since 1612</td>
</tr>
<tr>
<td>St Kungo</td>
<td>300</td>
<td></td>
</tr>
<tr>
<td>Sanquhar</td>
<td>735</td>
<td></td>
</tr>
<tr>
<td>Tinwald</td>
<td>119</td>
<td></td>
</tr>
<tr>
<td>Torthorwald</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Tundergarth</td>
<td>159</td>
<td>62 natural</td>
</tr>
<tr>
<td>Tynron</td>
<td>506</td>
<td>Mostly thriving natural wood</td>
</tr>
<tr>
<td>Wamphray</td>
<td>ca 250</td>
<td>Almost all plantation on Wamphray estate</td>
</tr>
</tbody>
</table>
APPENDIX III

TREES IN WUMPRIESSHIRE - INDIGENOUS AND INTRODUCED SPECIES

INDIGENOUS:

**Quercus robur**, common oak
**Fraxinus excelsior**, ash
**Ulmus montana**, broad-leaved elm
**Betula alba**, common birch
**Betula alba**, alder
**Ilex aquifolium**, holly tree

**Populus tremula**, aspen
**Corylus avellana**, hazel
**Pyrus aucuparia**, rowan tree, mountain ash, or quicken tree
**Hepalis oxyacantha**, hawthorn, white thorn

INTRODUCED (for plantations):

**Pinus sylvestris**, the Scottish pine or fir
**Pinus larix**, larch
**Pinus abies**, the Norway spruce fir
**Pinus latifolius**, pineaster
**Picea sylvestris**, beech
**Tilia europaea**, the linden or lime tree
**Populus balsamifera**, balsam poplar
**Populus alba**, white poplar
**Acer pseudoplatanus**, greater maple, sycamore, or plane

And, many species of **salix**, the willow

[Source, SINGER, 1812: 268-9]
APPENDIX IV

VARIOUS OCCUPATIONS

AND NUMBERS OF HEADS OF FAMILIES ENGAGED IN EACH, 1811

<table>
<thead>
<tr>
<th>Parish</th>
<th>Agriculture</th>
<th>Trade, manufactures, crafts</th>
<th>Unspecified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annan</td>
<td>90</td>
<td>243</td>
<td>363</td>
</tr>
<tr>
<td>Applegarth</td>
<td>58</td>
<td>36</td>
<td>61</td>
</tr>
<tr>
<td>Caerlaverock</td>
<td>42</td>
<td>112</td>
<td>87</td>
</tr>
<tr>
<td>Closeburn</td>
<td>95</td>
<td>48</td>
<td>204</td>
</tr>
<tr>
<td>Cummertrees</td>
<td>172</td>
<td>44</td>
<td>93</td>
</tr>
<tr>
<td>Dalton</td>
<td>62</td>
<td>58</td>
<td>4</td>
</tr>
<tr>
<td>Dornock</td>
<td>101</td>
<td>32</td>
<td>44</td>
</tr>
<tr>
<td>Dryfesdale</td>
<td>193</td>
<td>115</td>
<td>110</td>
</tr>
<tr>
<td>Dumfries</td>
<td>111</td>
<td>1391</td>
<td>386</td>
</tr>
<tr>
<td>Dunscore</td>
<td>104</td>
<td>150</td>
<td>8</td>
</tr>
<tr>
<td>Durisdeer</td>
<td>78</td>
<td>34</td>
<td>124</td>
</tr>
<tr>
<td>Glencairn</td>
<td>112</td>
<td>67</td>
<td>187</td>
</tr>
<tr>
<td>Gretna</td>
<td>65</td>
<td>77</td>
<td>220</td>
</tr>
<tr>
<td>Halfmorton</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Hoddam</td>
<td>75</td>
<td>85</td>
<td>85</td>
</tr>
<tr>
<td>Holywood</td>
<td>60</td>
<td>29</td>
<td>72</td>
</tr>
<tr>
<td>Hutton &amp; Corrie</td>
<td>86</td>
<td>17</td>
<td>27</td>
</tr>
<tr>
<td>Johnstone</td>
<td>57</td>
<td>27</td>
<td>89</td>
</tr>
<tr>
<td>Keir</td>
<td>67</td>
<td>30</td>
<td>83</td>
</tr>
<tr>
<td>Kirkconnel</td>
<td>75</td>
<td>43</td>
<td>120</td>
</tr>
<tr>
<td>Kirkmahoe</td>
<td>100</td>
<td>53</td>
<td>115</td>
</tr>
<tr>
<td>Kirkmichael</td>
<td>64</td>
<td>39</td>
<td>121</td>
</tr>
<tr>
<td>Kirkpatrick-Fleming</td>
<td>80</td>
<td>77</td>
<td>176</td>
</tr>
<tr>
<td>Kirkpatrick-Juxta</td>
<td>68</td>
<td>43</td>
<td>45</td>
</tr>
<tr>
<td>Lochmaben</td>
<td>227</td>
<td>256</td>
<td>70</td>
</tr>
<tr>
<td>Middlebie</td>
<td>95</td>
<td>62</td>
<td>176</td>
</tr>
<tr>
<td>Moffat</td>
<td>72</td>
<td>120</td>
<td>214</td>
</tr>
<tr>
<td>Morton</td>
<td>46</td>
<td>93</td>
<td>222</td>
</tr>
<tr>
<td>Mouswald</td>
<td>60</td>
<td>93</td>
<td>3</td>
</tr>
<tr>
<td>Penpont</td>
<td>111</td>
<td>37</td>
<td>52</td>
</tr>
<tr>
<td>Ruthwell</td>
<td>183</td>
<td>35</td>
<td>7</td>
</tr>
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(continued...)
<table>
<thead>
<tr>
<th>Location</th>
<th>Number</th>
<th>Year</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>St Mungo</td>
<td>68</td>
<td>54</td>
<td>2</td>
</tr>
<tr>
<td>Sanquhar</td>
<td>89</td>
<td>119</td>
<td>438</td>
</tr>
<tr>
<td>Tinwald</td>
<td>118</td>
<td>57</td>
<td>59</td>
</tr>
<tr>
<td>Torthorwald</td>
<td>83</td>
<td>54</td>
<td>78</td>
</tr>
<tr>
<td>Tundergerth</td>
<td>71</td>
<td>17</td>
<td>11</td>
</tr>
<tr>
<td>Tyronon</td>
<td>71</td>
<td>17</td>
<td>19</td>
</tr>
<tr>
<td>Wamphray</td>
<td>34</td>
<td>62</td>
<td>5</td>
</tr>
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</table>

[Source, BRITAIN, 1812: 483]
APPENDIX V

VARIOUS OCCUPATIONS

AND NUMBERS OF HEADS OF FAMILIES ENGAGED IN EACH, ca 1833

<table>
<thead>
<tr>
<th>Parish</th>
<th>Agriculture</th>
<th>Trade, manufactures, crafts</th>
<th>Profession</th>
<th>Unspecified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annan</td>
<td>64</td>
<td>580</td>
<td>498</td>
<td></td>
</tr>
<tr>
<td>Applegarth</td>
<td>69</td>
<td>37</td>
<td>55</td>
<td></td>
</tr>
<tr>
<td>Caerlaverock</td>
<td>90</td>
<td>76</td>
<td>106</td>
<td></td>
</tr>
<tr>
<td>Closeburn</td>
<td>89</td>
<td>48</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>Cummertrees</td>
<td>83</td>
<td>63</td>
<td>14</td>
<td>108 (?)</td>
</tr>
<tr>
<td>Dalton</td>
<td>56</td>
<td>26</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>Dornock</td>
<td>72</td>
<td>55</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Dryfesdale</td>
<td>119</td>
<td>145</td>
<td>154</td>
<td></td>
</tr>
<tr>
<td>Dumfries</td>
<td>248</td>
<td>1170</td>
<td>1181</td>
<td></td>
</tr>
<tr>
<td>Dunsecore</td>
<td>168</td>
<td>58</td>
<td>65</td>
<td></td>
</tr>
<tr>
<td>Durisdeer</td>
<td>164</td>
<td>60</td>
<td>10</td>
<td>57</td>
</tr>
<tr>
<td>Glencairn</td>
<td>173</td>
<td>113</td>
<td>135</td>
<td></td>
</tr>
<tr>
<td>Gretna</td>
<td>141</td>
<td>112</td>
<td>107</td>
<td></td>
</tr>
<tr>
<td>Halfmorton</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Hoddam</td>
<td>85</td>
<td>108</td>
<td>133</td>
<td></td>
</tr>
<tr>
<td>Holywood</td>
<td>85</td>
<td>43</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>Hutton &amp; Corrie</td>
<td>104 (but only 24 farmers)</td>
<td>40 farmers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Johnstone</td>
<td>109</td>
<td>44</td>
<td>49</td>
<td></td>
</tr>
<tr>
<td>Keir</td>
<td>?</td>
<td>?</td>
<td>212</td>
<td></td>
</tr>
<tr>
<td>Kirkconnel</td>
<td>?</td>
<td>53</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>Kirkmahoe</td>
<td>152</td>
<td>102</td>
<td>84</td>
<td></td>
</tr>
<tr>
<td>Kirkmichael</td>
<td>126</td>
<td>44</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>Kirkpatrick-Fleming</td>
<td>149</td>
<td>78</td>
<td>77</td>
<td></td>
</tr>
<tr>
<td>Kirkpatrick-Juxta</td>
<td>73</td>
<td>40</td>
<td>56</td>
<td></td>
</tr>
<tr>
<td>Lochmaben</td>
<td>216</td>
<td>17</td>
<td>250</td>
<td></td>
</tr>
<tr>
<td>Middlebie</td>
<td>102</td>
<td>112</td>
<td>209</td>
<td></td>
</tr>
<tr>
<td>Moffat</td>
<td>62</td>
<td>151</td>
<td>235</td>
<td></td>
</tr>
<tr>
<td>Morton</td>
<td>41</td>
<td>170</td>
<td>272</td>
<td></td>
</tr>
<tr>
<td>Mouswald</td>
<td>65</td>
<td>26</td>
<td>153</td>
<td></td>
</tr>
<tr>
<td>Penpont</td>
<td>?</td>
<td>?</td>
<td>258 (heads of households)</td>
<td></td>
</tr>
</tbody>
</table>

(continued...)
Ruthwell (see additional details) 231
St Mungo 77 30 40
Sanquhar 166 (as occupiers or labourers) 24 235 (5 proprietors, 230 non-agricultural labourers)

<table>
<thead>
<tr>
<th>Place</th>
<th>231</th>
<th>235</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tinwald</td>
<td>128</td>
<td>52</td>
</tr>
<tr>
<td>Torthorwald</td>
<td>48</td>
<td>153</td>
</tr>
<tr>
<td>Tundergarth</td>
<td>47</td>
<td>27</td>
</tr>
<tr>
<td>Tynron</td>
<td>59</td>
<td>33</td>
</tr>
<tr>
<td>Wamphray</td>
<td>50</td>
<td>27</td>
</tr>
</tbody>
</table>

Note: 'Agriculture' appears to refer to the tenant farmer families, not farm labourers or servants. But there was misunderstanding among correspondents, witness Hutton & Corrie, Sanquhar, Dryfesdale.

Additional details

In Kirkconnel there were two masons, six tailors, four shoemakers, fifteen weavers, eight stone-dyers, ten blacksmiths, four house-carpenters, one corn-miller, five innkeepers, one fleshers, one merchant, and one cooper; the 1831 population numbered 1111. Ruthwell (in 1825) had one proprietor of land, one minister, one preacher, one tutor in a family, three schoolmasters, forty-four farmers, fifty-eight labourers, four smiths, five shoemakers, six carpenters, two innkeepers, one nailer, five masons, eleven weavers, four tailors, two shopkeepers, one miller, nine farm servants living with families, two gardeners, sixty-six cottage day-labourers, two carriers, two slaters, one toll-keeper, ninety-eight servants boarding with employers. In Dryfesdale, at the Second Statistical Account, there were twenty grocers, one hardware, four cloth-shops, five surgeons with two apothecaries shops, two midwives, five writers, four messengers, eight weavers, thirteen tailors, seven joiners, two wheelwrights, nine smiths, four nailers, three watch-makers, four bakers, three fleshers, one barber, three cloggers, two saddlers, two tanners, four stocking-framers, one cabinet-maker, eight shoemakers, twelve stone-masons, four millers, fifty farmers, and nearly one hundred ploughmen.

[Source, The Second Statistical Account]

Apart from the last four items this list refers almost exclusively to Lockeroie.
[Muirhouse was a farm probably of 150 to 200 acres, in Applegarth parish, lying near the foot of the slope which terminated the interstice between the Brye and Annan rivers. It was relatively rich, slightly rolling land, having the main Glasgow-Carlisle road passing alongside it. Hutchison died on October 16th 1613. The list below separates the items for clarity.]

- an old black Mare worth Sixteen pounds
- a brown five year old Mare worth Forty two pounds
- a brown three year old Mare, worth Thirty pounds
- a bay Mare and Foal, worth Forty two pounds
- a black Poney worth Five pounds
- two black Colts worth Twenty seven pounds
- five Cows with their Calves, worth Ten pounds, ten shillings, each Cow and Calf, inde Fifty two pounds, ten shillings
- three Cows without Calves, worth Eight pounds each, inde Twenty four pounds
- a black Bull, worth Ten pounds, ten shillings
- three Queys, worth Six pounds, ten shillings each, inde Nineteen pounds, ten shillings
- three Quey stirks, worth Three pounds, twelve shillings each, Inde, Ten pounds, Sixteen shillings
- two ox stirks, worth Four pounds each, inde Eight pounds
- a Wheat Rick in the Barnyard, worth Twenty pounds
- a Ryegrass Rick, and part of another, in the Barnyard, worth Twenty three pounds
- some Corn in the Barn, worth Nine pounds
- some Barley, in the Barn, worth Four pounds
- Forty nine Winchester bushels of Potetoe Oats, sown, worth Three shillings and fourpence the bushel, inde Eight pounds, three shillings and fourpence
- One hundred and thirty six Winchester bushels, Common Oats, sown, worth Three shillings the bushel, inde Twenty pounds, eight shillings
- Eighteen Winchester bushels of Barley, worth Four shillings and fourpence the bushel, inde Three pounds, eighteen shillings
- Twenty four Winchester Bushels of Wheat, worth Nine shillings the Bushel, inde Ten pounds, sixteen shillings
- Twenty Sacks, good and bad, worth Two shillings and sixpence each, inde, Two pounds, ten shillings
a pair of Fenners worth Two pounds
three Pitchforks, Five Riddles, a Range, and four Rakes, all worth Twelve shillings
a Threshing machine, worth Twenty five pounds
an old Corn Chest, worth Five shillings
two Carts with Iron Backbands and Shelbands, No 1 & 2, worth Six pounds each, inde Twelve pounds
two Carts with Shelbands No 3 & 4, worth Eight pounds
a Wheel Barrow, worth Ten shillings and sixpence
an old Plough with Irons, worth One pound
four Grapes, two Dyre Clats, and a Dung Drug [or 'drag'] worth Ten shillings and sixpence
a Lothian Plough, irons and Trees, worth Five pounds
two Spades, a Shovle, a Pick and Hand Barrow, worth Six shillings
two pairs of Double harrows and one single harrow, with Chains, etc, worth Two pounds
about Six Cartloads of Potatoes, worth Two pounds, two shillings
three old Chests and an old Bedstead, worth Ten shillings	two old Meal Chests, worth one pound, ten shillings
a Barrel Churn, worth Eighteen shillings
a Turnic Drill, worth Ten shillings and sixpence
six old Tube, a Boat, and four Weights, worth Ten shillings and sixpence
an Axe, two Saws, two Hammers, and various other articles of Joinertools, all worth Ten shillings
a Riding Saddle worth Ten shillings
two Cartridges and Breschings worth one pound, one shilling
two Neck Collars, and four Cart Hems worth one pound
Six pairs of Plowing and Harrowing Hems, and two Pairs of Plowing Chains, all worth one pound, Ten shillings
One Blinders Bridle and Head-Collar worth Ten shillings
Three old Saddles worth Six shillings
various articles of Wood and Lumber worth Two pounds, ten shillings
a Peat Spade worth Two shillings
a Peat Stack worth Six pounds
Poultry worth Sixteen shillings
an old Pomp Tree and Trough, worth one pound five shillings
a Wooden Bedstead in North end of the House, with Blue Hangings, two pairs of Blankets, three Coverings, a Chalfbed and Bolster, all worth Three pounds
an old Oak Chest worth Seven shillings and sixpence
a square Table, six wooden Chairs, and an arm Chair, all worth one pound six shillings
three pairs of Blankets, a Chalfbed, Bolster and Covering, worth Five pounds
corner Cupboard worth Three shillings and sixpence
a Meal Bucket, Boards and Beam, worth Seven shillings and sixpence
a Bedstead in the Kitchen; a pair and half a pair of Blankets, two Coverings, a Chalfbed and Bolster, all worth Two pounds, five shillings
a Bedstead in Middle Room, three pairs of Blankets, a Chalfbed, Bolster and Covering, all worth one pound
- a Mealchest and Boat in Middle room, worth Thirteen shillings
- four Boats, on Loft, and two Wheels, worth one pound, one shilling
- three Chests in the kitchen, worth Nine shillings
- four old Chairs and five Stools, worth Twelve shillings and sixpence
- a resting Chair, and Kitchen Table, and a Mound Table, all worth Fourteen shillings
- a Dresser and Earthen ware on it, worth Three pounds three shillings
- five Potts, two Ovens, two Girdles, two Frying-pans with their Lids and a Bakeboard, all worth one pound, four shillings
- Cross Cleps and Tongs worth Seven shillings and sixpence
- two Salt boxes, and two Smoothing Irons, worth Two shillings and sixpence
- one Strop and three Handies, worth Three shillings
- a Spoonbox and spoons worth Five shillings
- Twenty seven Volumes of Books, on various subjects, all worth Two pounds
- a pair of Bellows and Candlesticks, worth Two shillings
- two Butter Pitchers worth Three shillings
- an old Churn, worth Two shillings and sixpence
- Nine Milk Bowls, worth Four shillings and sixpence
- four Little Pails, and two Bowles, worth Three shillings
- two old Barrels worth Four shillings
- a Dozen & half Bottles, worth Three shillings
- four pairs Blankets, worth Two pounds
- two Table Cloths, and seven Hand Towels, worth One pound five shillings
- two pairs of Sheets, worth Twelve shillings
- about One hundred square yards of Dung, worth four shillings the yard, inde Twenty pounds
- Forty five pecks of Seed potatoes, worth a shilling the peck, inde Two pounds, five shillings
- a Grate worth Two shillings and sixpence
- Six knives and forks, worth Three shillings
- the Defuncts wearing Apparel, worth Five pounds
- a Salt Boiler, and a Grate, worth One pound, ten shillings
- a Grind stone worth Three shillings and sixpence
- Seventy stones of Oatmeal, worth Two shillings and sixpence the stone, inde Eight pounds, fifteen shillings
- four Peat barrows worth Two shillings and sixpence each, inde Ten shillings
- amounting in whole to Six hundred and eight pounds, fifteen shillings and fivepence halfpenny sterling.

[The list of debts due the defunct followed at this point]

[Source, Dumfriesshire Sheriff Court Commissary Office, Testaments, volume 19 (Nov. 1808 to June 1819), in Scottish Records Office]
APPENDIX VII

SOIL DESCRIPTIONS

Lingham Series (Ettrick Association), Generalised Profile Description:

SLOPE  short, steep
ASPECT  south
ALTITUDE 1,000 feet
VEGETATION  Agrostis spp (abundant), Festuca spp (abundant), Pteridium aquilinum (frequent), Hypnaceae mosses (frequent)
DRAINAGE CLASS  free

<table>
<thead>
<tr>
<th>Horizon</th>
<th>Depth of Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>¼&quot;</td>
</tr>
<tr>
<td>F</td>
<td>¾&quot;</td>
</tr>
<tr>
<td>H</td>
<td>1&quot;</td>
</tr>
<tr>
<td>A</td>
<td>0-10&quot;</td>
</tr>
<tr>
<td>B₂</td>
<td>10-14&quot;</td>
</tr>
<tr>
<td>B₃</td>
<td>14-17&quot;</td>
</tr>
<tr>
<td>C</td>
<td>17-36&quot;...</td>
</tr>
</tbody>
</table>

Litter
Partially decomposed litter; dark brown humus; live roots penetrate
Yellowish brown (10YR: 5/4) loam; weak, medium crumb structure; very friable; low organic matter; stony; roots abundant; no mottling; merging into
Yellowish brown (10YR: 5/6) clay loam; weak, medium crumb; very friable; low organic matter; roots frequent; no mottling. Sharp change into
Yellowish brown (10YR: 5/4) clay loam; weak, medium blocky; friable; no organic matter; roots frequent; no mottling. Sharp change into
Light olive (2.5Y: 5/3) brown clay loam; very stony with fine material in the interstices; no organic matter; roots rare; no mottling.

Dod Series (Ettrick Association), Generalised Profile Description:

SLOPE  moderate
ASPECT  north
ALTITUDE 1,100 feet
VEGETATION  Molinia Caerulea (abundant and dominant), Calluna vulgaris (abundant and dominant), Polytrichum commune (abundant), Hypnaceae mosses (frequent)
DRAINAGE CLASS  Poor above pan, imperfect below

<table>
<thead>
<tr>
<th>Horizon</th>
<th>Depth of Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>½&quot;</td>
</tr>
</tbody>
</table>

Litter
(continued...
<table>
<thead>
<tr>
<th>Horizon</th>
<th>Thickness</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>0-3&quot;</td>
<td>Partially decomposed litter; live roots penetrate.</td>
</tr>
<tr>
<td>H</td>
<td>6&quot;</td>
<td>Very dark brown greasy humus; live roots penetrate.</td>
</tr>
<tr>
<td>A1-A2</td>
<td>0-3&quot;</td>
<td>Dark grey-brown (10YR: 4/2) clay loam; weak medium blocky; friable; brown patches of organic staining; some stones present; roots frequent, forming a mat just above iron pan which is not often penetrated; no mottling. Sharp change into.</td>
</tr>
<tr>
<td>B1</td>
<td>at 3&quot;</td>
<td>1/4&quot; iron pan, hard and well defined; continuous.</td>
</tr>
<tr>
<td>B2</td>
<td>3-10&quot;</td>
<td>Pale brown (10YR: 6/3) clay loam; weak medium blocky; friable; no organic matter; stony; roots rare; frequent medium distinct ochreous and grey mottles; few fine distinct black mottles: merging into.</td>
</tr>
<tr>
<td>B3</td>
<td>10-18&quot;</td>
<td>Gritty reddish brown (5YR: 5/4) clay loam; moderate medium blocky; weakly indurated; very stony; roots very rare; few medium distinct ochreous mottles; frequent fine distinct black mottles.</td>
</tr>
</tbody>
</table>

**Ettrick Series (Ettrick Association), Generalised Profile Description:**

**Slope:** gentle  
**Aspect:** north  
**Altitude:** 975 feet  
**Vegetation:** *Calluna vulgaris* (abundant), *Mardus stricta* (abundant), *Kolinia Caerulea* (occasional), Hypnaceae mosses  
**Drainage Class:** Poor

<table>
<thead>
<tr>
<th>Depth or Thickness</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>Litter</td>
</tr>
<tr>
<td>F</td>
<td>Trace</td>
</tr>
<tr>
<td>H</td>
<td>1&quot;</td>
</tr>
<tr>
<td>A1</td>
<td>0-3&quot;</td>
</tr>
<tr>
<td>A2</td>
<td>3-8&quot;</td>
</tr>
<tr>
<td>B2 (? )</td>
<td>0-13&quot;</td>
</tr>
</tbody>
</table>
Yarrow Series (Yarrow Association), Profile Description:

**Slope**: moderately steep  
**Aspect**: north  
**Altitude**: 450 feet  
**Annual Precipitation**: 33 inches  
**Vegetation**: Quercus retraea (dominant), Holcus mollis (abundant and dominant), Pteridium aquilinum (locally abundant), Lonicera periclymenum (locally abundant), Oxalis acetosella (abundant), Rhytidadelphus triquetrus (abundant)  
**Drainage Class**: free

<table>
<thead>
<tr>
<th>Horizon</th>
<th>Depth</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>1½&quot;-1&quot;</td>
<td>Leaf and grass litter</td>
</tr>
<tr>
<td>F</td>
<td>½-0&quot;</td>
<td>Partly decomposed litter</td>
</tr>
<tr>
<td>A</td>
<td>0-14&quot;</td>
<td>Dark brown (7.5YR3/2) loam; medium crumb; friable; moderate organic content; frequent rounded pebbles; abundant roots; no mottling; clear change into</td>
</tr>
<tr>
<td>B₂</td>
<td>14-27&quot;</td>
<td>Strong brown (7.5YR5/7) sandy loam; medium crumb; friable; low organic content; abundant cobbles and pebbles of greywacke; roots abundant; no mottling; gradual change into</td>
</tr>
<tr>
<td>B₃</td>
<td>27-32&quot;</td>
<td>Yellowish brown (10YR5/4) sandy loam; single grain structure; friable; weakly indurated; no organic matter; abundant cobbles and pebbles; tree roots occasional; no mottles; gradual change into</td>
</tr>
<tr>
<td>C</td>
<td>32&quot;...</td>
<td>Brown (10YR5/3) sandy loam; single grain; loose; no organic matter; abundant greywacke cobbles; occasional tree roots; no mottling.</td>
</tr>
</tbody>
</table>

[Source, BRITAIN, 1956b: 47, 48, 49]
APPENDIX VIII

ESTIMATE OF THE EXPENSES OF CULTIVATING GRAIN IN SCOTLAND

UNDER A ROTATION OF 6 YEARS, ON A FARM OF 300 ENGLISH ACRES

(Evidence given by Wm. Aitchison, Jr, farmer of East and Mid-Lothian and Tweeddale, and distiller)

<table>
<thead>
<tr>
<th>Item</th>
<th>£</th>
</tr>
</thead>
<tbody>
<tr>
<td>One overseer, 6 ploughmen, 2 labourers</td>
<td>310.0</td>
</tr>
<tr>
<td>Occasional labourers, weeder, hoers, etc</td>
<td>60.0</td>
</tr>
<tr>
<td>Tradesmen's accounts</td>
<td>60.0</td>
</tr>
<tr>
<td>Expense of feeding 13 horses</td>
<td>420.</td>
</tr>
<tr>
<td>Seed for 200 acres, at 25/- per acre</td>
<td>250.</td>
</tr>
<tr>
<td>50 acres clover and rye-grass</td>
<td>50.</td>
</tr>
<tr>
<td>Reaping and carrying hay 200 acres at 15/-</td>
<td>150.</td>
</tr>
<tr>
<td>Making 25 acres hay</td>
<td>18.15.0</td>
</tr>
<tr>
<td>Expenses at market, delivering</td>
<td>20.</td>
</tr>
<tr>
<td>Repairs of houses, fences, insurance etc</td>
<td>50.</td>
</tr>
<tr>
<td>Tear and wear...at 10%</td>
<td>100.</td>
</tr>
<tr>
<td>Interest of capital employed...at 5%</td>
<td>150.</td>
</tr>
</tbody>
</table>

**Total:** £1638.15.0

Rent £3 per acre, taxes 4/-

Suppose farmer's profit 10% on capital of £3000

<table>
<thead>
<tr>
<th>£</th>
</tr>
</thead>
<tbody>
<tr>
<td>300.</td>
</tr>
<tr>
<td>£2998.15.0</td>
</tr>
</tbody>
</table>

According to above statement, the charges attending the cultivation, exclusive of farmer's profits, are £8.13.3 per acre; the charges, deducting rent and taxes, are £5.9.3 per acre.

ESTIMATE OF PRODUCE OF A FARM OF 300 ACRES OF LAND IN SCOTLAND, WORTH £3 PER ACRE

<table>
<thead>
<tr>
<th>Item</th>
<th>£</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 acres summer fallow</td>
<td></td>
</tr>
<tr>
<td>50 acres wheat after fallow at 30 bushels per acre...</td>
<td></td>
</tr>
<tr>
<td>at 11/- per bushel</td>
<td>825.0</td>
</tr>
<tr>
<td>50 acres clover and rye-grass, after wheat, at £6 per acre</td>
<td>300.</td>
</tr>
<tr>
<td>50 acres oats, after clover and rye-grass, 43 bushels per acre...</td>
<td></td>
</tr>
<tr>
<td>at 4/6 per bushel</td>
<td>540.</td>
</tr>
<tr>
<td>50 acres beans, after oats, 26 bushels per acre...</td>
<td></td>
</tr>
<tr>
<td>at 11/- per bushel</td>
<td>770.</td>
</tr>
</tbody>
</table>

Average amount of produce of a farm of 300 acres, £9.12.6 per acre.

[Source, BRITAIN, 1814: 103]
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Number of words in text: ca 81,000