Contents

List of Illustrations vii
Foreword by Margaret Drabble, DBE xi
Preface xv
List of Contributors xvii
Acknowledgements xxi
Introduction: Landscape and North-Eastern-ness
Thomas Faulkner and Jeremy Gregory 1

Part One: The Lie of the Land
1 The Prudhoe Landscape History Project: A Retrogressive Study of the Landscape History of Part of Southern Northumberland S.M. Cousins 25
2 The Landed Estate and the Making of the Northumberland Landscape, 1700–1914 A.W. Purdye 41
3 Agriculture in North-Eastern England, 1750–1914: Relic, Parasite or a Key Part of Development? S.A. Caunce 53

Part Two: Parks and Gardens
4 A Walk through Hardwick Gardens Steven Desmond 69
5 The Shadow in the Garden: Pleasure, Profit and Protection at Gibside, 1840–1860 Judith Beiny 83
6 The Walled Garden: A Northumberland Perspective Veronica Goulty 95
7 Impolite Landscapes: Making Private Parks Public Fiona Green 109

Part Three: Living in the Landscape
8 Houses and Landscape in Early Industrial County Durham Adrian Green 125
The ‘Raws’: Housing the Durham Pitman in the Nineteenth Century
Winifred Stokes

Crathorne Hall: The Making of an Edwardian Landscape
Hilary J. Grainger

Part Four: Urban Landscapes

From Defensive Moat to Romantic Landscape: The Riverbanks of the Durham Peninsula
Martin Roberts

The Darlington Landscape
Gillian Cookson

Urban Landscapes of Newcastle upon Tyne
Thomas Faulkner

To Hell, Utopia and Back Again: Reflections on the Urban Landscape of Middlesbrough
Linda Polley

Part Five: Perceptions and Representations

Landscape, Taste and National Identity: William Hutchinson’s View of Northumberland (1776–8)
Helen Berry

Thomas Bewick and the North-Eastern Landscape
Hugh Dixon

The ‘Haven’ and the ‘Grisly Rokkes’: Mary Linskill’s Dangerous Landscapes and the Making of Whitby
Jan Hewitt

Cullercoats: An Alternative North-Eastern Landscape?
Laura Newton

Index
Agriculture in North-Eastern England, 1750–1914: Relic, Parasite or a Key Part of Development?

S. A. CAUNCE

All modern landscapes are the product of many interacting factors, some fixed, but many contingent. Recognising this is particularly important for the region made up of Northumberland, Durham and Yorkshire north of the North York Moors, which displays highly differentiated human and economic geographies superimposed upon a jumble of widely varying geological and climatic zones.¹ Since 1750, some of England’s most industrialised districts have been found here, but also some of its most rural. Large areas are located at high altitudes by English standards, with the Cheviot reaching 2,681 feet, but substantial tracts also lie virtually at sea level. Some pockets of land are as good as any in the country for growing wheat, close by some of its most difficult hillscapes. In 1843 Sir F.H. Doyle reported to the Poor Law Commissioners that generalising about work available for women in Yorkshire rural districts was very difficult because it depended ‘mainly upon the nature of the soil, and the nature of the crops [which] fluctuates by the mile’, a remark that applies throughout the North East.²

Human activity was heavily conditioned, until recently, by this varied natural endowment, and the extraction and processing of minerals have obviously had a tremendous impact on the regional landscape. However, though coal and heavy engineering were certainly the most distinctive and productive sectors of the regional economy before the 1960s, their location and growth patterns are more complex than many realise. The existence of coal did not lead automatically to mining, for instance, since local demand was low before 1850, and proximity to navigable water, or the possibility of creating waggonways to convey coal to staithes, was therefore essential. In addition, while mining led to urbanisation in Northumberland, in Durham an extensive network of self-contained, specialised pit villages developed instead.³

¹ Boundaries of traditional counties are used throughout, since they are the basis on which statistics were collected and analyses of all types conducted before 1974. Above this level, as with all English regions, boundaries can never be precise.
Agriculture is generally assumed to have become distinctly secondary, with labour and capital priced out of reach by the more ‘modern’ sectors, though the general thesis on which such assumptions rest has rarely been subjected to critical examination. It interlocks with an equally unproven belief that eighteenth- and nineteenth-century England saw a progressive specialisation of its regions, with the south (outside London) improving its agriculture while the north concentrated on mining and manufacturing. However, in settings like the North East the evidence indicates that agriculture could increase both production and profitability even while forming a steadily shrinking percentage share of the regional economy, declining relatively but not absolutely, and finding a new role for itself. F.M.L. Thompson has confirmed the excellent performance of agriculture in the north and throughout much of Scotland, even when southern English counties were gripped by depression after 1870.

Operating in and around an industrial zone obviously affected styles of farming intensely, both by altering the profitability of differing crop and livestock combinations and by modifying attitudes towards the use of labour. However, much of the landscape remained outside the direct influence of the new industries, and, in addition, a true global market in foodstuffs and agricultural raw materials developed only a little more than a century ago, and until it functioned reliably industrial development provided more opportunities for northern farmers than competition. Recent rhetoric of an inevitable and irretrievable divide between town and country rests on an emotional rather than a rational, evidential basis, and it should not determine our view of the past. If it applies anywhere it is in the southern half of England, with its very distinctive pattern of urbanisation, but even here East Anglia’s early modern agricultural pre-eminence developed under the stimulus of London as a massive centre of consumption, and also during its own earlier phase as a dynamic and successful textile manufacturing area. It is often forgotten that London always had first claim (as a highly accessible, well-organised and rich market) on the food production of the south, and its demand expanded on a massive scale after 1750.

We can thus acknowledge the primacy of the newer industries of the North East and unequivocally accord them the role of triggers of economic development while still having things to say about regional agricultural history which are important. The question considered here, then, is whether the rural North East in the nineteenth century was simply a poorly utilised residual area surrounding the vibrant new sectors, and essentially making do with whatever resources they did not need, or whether it was actually a vital part of the general growth. This is not about showing deviation from an accepted norm established by the existing research into southern English patterns, but asking whether this region estab-

---

4 C.H. Lee. 'Regional Growth and Structural Change in Victorian Britain', *Economic History Review*, 33 (1981), pp.438–52, is an attempt to establish regional economic types, but the methodology plays down diversity in order to bring clarity, and agriculture simply disappears in any industrial region.


lished its own successful path within a multi-stranded British agriculture that performed so well precisely because it was so different from region to region, and even from area to area within each region. Such a study will contribute to building a much more rounded picture of the reality of rural Britain than has been achieved in the past.

Certainly, the apocalyptic images conveyed by visitors to coalfields, ironworks and engineering plants did not reflect reality in the majority of the land area of the northern counties. C.W. Percy could still write in 1970 that ‘in spite of the dominance of industry in the local economy, the general appearance of Durham County is to a large extent agricultural’.7 Large parts of Northumberland have always been among the most lightly populated and least involved in non-agricultural pursuits of any in England. A.W. Fox noted that in 1892 Glendale in the far north was still ‘entirely agricultural’, with its population of 10,156 people in an area of 147,000 acres so thinly scattered that he noted a ‘scarcity of villages’ which remains striking today.8 This in turn had stunted the market towns: most never developed urban institutions, nor were regarded as urban by the census, nor functioned as local government urban districts. They had populations numbered in hundreds rather than thousands.9 In fact, in this region Fox’s enquiries for the Royal Commission on Labour took much longer than anywhere else because of the scattered nature of the population, while the public meetings routinely held elsewhere to get labourers’ views were regarded as impracticable here.10 South Northumberland was relatively densely populated, of course, for this coal-mining district was compact, but that also limited its environmental reach. Moreover, the Newcastle/Gateshead/Tyneside conurbation is the smallest in England, and though it has always formed the region’s main centre of population, administration and commerce, as a port and shipbuilding complex it had a natural tendency to focus on the river, and to spawn rivals along its banks rather than to expand over its hinterland, so its physical impact has always been very limited.

The chronology of regional agricultural growth is also distinctive. The disturbed conditions created by the border and the lack of local commercial demand for produce together hindered both peasant cultivation and commercialisation for centuries. Brassley has shown that far from the spread of coal mining changing this, it actively stunted agriculture in the North East since the coastal coal trade encouraged the importation of grain as a return cargo into the heart of the densely populated area. It was carried very cheaply since no other cargo was available, and it could be picked up at many places along the return journey up the east coast.11 Internal communications, by contrast, were dreadful. The lack

9 The census shows that Coquetdale Ward (the equivalent of a southern hundred) had only 6.79 residents per hundred acres in 1871, Northumberland, vol. 1, table 4.
10 Even in 1871 Alnwick, for instance, was only an urban district with a population of 7,489. Most market towns were then civil parishes: Wooler had a population of 1,976, Rothbury 1,784, and Belford, 1,070.
of navigable rivers north of the Tyne left farmers unable to supply towns even a few miles away economically, and north Northumberland was in a hopelessly uncompetitive position. However, by the mid nineteenth century a threshold had been crossed as internal transportation systems were first improved and then transformed, largely to assist industry. Local demand soared, and southern England had less food to spare, not more. Northumberland, with crop yields as good as any in the country, was suddenly seen by informed contemporaries as the epitome of effective arable farming, alongside lowland Scotland. Durham and north Yorkshire had achieved similar status for their cattle-breeding, and Northumbrian sheep had a good reputation.\textsuperscript{12}

Farmers thus changed their methods of food production, and thereby changed the landscape, not as some abstract, intellectual game, but because there was money to be made as there had not been before. That, allied to the respect and status derived from running a thriving estate, encouraged landlords to invest a good share of their plentiful mineral royalties and profits, and to play an active role in shaping the new working methods in all types of setting.\textsuperscript{13} The result was not one uniform agricultural system or even several, but a widely differentiated response to the limits and opportunities of their situation. This was achieved initially by copying the best practices of other regions, but it was never slavish imitation. The variety of local conditions meant that several external models had to be adapted, and all very quickly became distinctively localised. The lack of a long tradition and the observation of so many different ways to farm successfully seem to have made and kept minds flexible.\textsuperscript{14} Farmers would plant or rear whatever made money for them, and if the mix that succeeded in one decade worked less well in another, adaptation occurred with no sense of betraying a sacred tradition. Landlords would spend, sometimes heavily, to provide farmsteads suited to high intensity, cost-effective operations.\textsuperscript{15}

Agriculture and the landscape were therefore transformed not according to a master plan, but through an evolutionary process where radical change combined with the preservation of aspects of the traditional North-Eastern system which still met farmers' needs. Thus, a combination of the very small initial rural population, competition from industries able to absorb large numbers of generically skilled manual labourers and immigration that focused on industrial jobs, not farms, drove rural wages to great heights in the early nineteenth century.


compared to most other regions. Far from needing to encourage a bloated rural sector to 'release' labour to the factories and mines, the issue that has driven so much debate in studies of true peasant economies, the question here was of just maintaining levels which were already far below those perceived as essential to intensive cultivation elsewhere. Hence Northumbrian farming sometimes most resembled that in Scotland, since the extent of the lack of local labour and of settlements resembled the situation across the border more than that prevailing even in other northern counties.

All North-Eastern farmers learned to use available labour with great care, whether their own or that of hired workers. Relying on family members was one solution, since the family that took pride in its independence might be the only operational unit capable of delivering labour near to the better-paid opportunities of industry. Public attention has always focused on farmers with large arable acreages, but many North-Eastern landscape types suited family operations, and northern experience generally showed that shaping farms of all types to family operations could be highly successful. This was never more than part of the solution, however, and yet far from moving towards casualisation, which Marxists and disciples of classical economists alike have seen as the future for the early-nineteenth-century farm labour force, the reverse happened.

Farm service became the basis of a large proportion of paid farm work. With its six-monthly and yearly hires, which were legally binding on both sides, and with wages that were agreed in advance and paid regardless of performance, service has generally been associated with pre-capitalist farming, but here we see it steadily adapting to modern needs. This was clearest north of the Tyne, where it became nearly universal and where married men enthusiastically hired out their entire families. As Doyle remarked in 1843, 'the Northumberland system ... is peculiar to itself and the south of Scotland; it has at any rate nothing in common with Yorkshire.' Thus, south of the Tyne, the picture of classic early modern English service, mostly involving single lads and young men, continued to flourish long after it was felt to have died, and with no hint of ossification. The North-Eastern region as a whole was, in fact, part of the majority of Britain where this method of employing labour continued, not an odd, peripheral region of England, as generally portrayed by English historians. Given recent Scottish willingness to investigate farm service without preconditions, there is much to be gained in the North East by investigating the system and by engaging with the rural literature from north of the border in preference to that from southern England.

---


18 Doyle, Children and Women in Agriculture, p. 281.

The distinctive nature of the Northumbrian system was most visible at the end of a hiring term, when roads were full of families flitting from farm to farm. Elaborate codes regulated the handing over of gardens so that people could harvest what they had planted, thus ensuring that cultivation remained worthwhile even when a house was occupied only for one year at a time. Single servants moved with less fuss, but there was a regular, massive movement of both sexes at every term end throughout the whole region. Farmers could thus shape their workforce to their needs despite the apparent rigidity of long contracts. They also economised greatly on the need for cash to pay wages whether they hired single or married servants, since board and lodging made up at least half a single servant’s wage, and a substantial part even of the married men’s wages was paid in kind throughout the nineteenth century. Oatmeal remained the basis of the rural diet, so farmers and workers agreed that cutting out the wholesaler and retailer in the supply of this necessity made sense. There was also no need to create new villages for those employed on the expanding cultivated area; farmsteads capable of housing, in a utilitarian fashion, those workers seen as essential were all that was required. If conditions changed, then employment could be reduced without any great loss in terms of wasted investment in redundant infrastructure.

The traditional hiring fairs of the market centres therefore boomed to facilitate the operation of this system. At Hexham on 14 May 1892, for instance, it was reported in the local press that:

the Mayhirings for single men and women were held on Monday. The weather throughout the day was cold, but notwithstanding there was a large influx of visitors. Though masters and servants were strongly represented, engagements were only slowly made, servants holding out for higher wages. Men received from £13 to £16 for the half-year, strong lads from £5 to £12, women from £6 to £8.10s, and girls £3 to £5.21

All these payments were over and above board and lodging. Durhamhirings were busy in 1900, as were those at Newcastle a year later, where women field workers were hired alongside the lads and men for £14 for the half-year.22 In 1910, Stockton, Darlington, Bishop Auckland and Bedale all reported such large attendances of servants at the Martinmas hirings in November that wages fell, while Guisborough reported the reverse.23 Newcastle and Stockton were still busy in 1922, and innumerable further illustrations could be added for later dates, as well as for the region’s other fairs, held at Cornhill, Berwick, Lowick, Belford, Alnwick, Rothbury, Morpeth, Barnard Castle, Richmond and Northallerton.24 Dunbabin has showed how some workers used fairs both to increase

20 H.M. Neville, A Corner in the North: Yesterday and Today with Border Folk (Newcastle upon Tyne, 1909; new edn, Newcastle upon Tyne, 1980).
21 Hexham Courant, 14 May 1892, reprinted on 19 May 1917.
22 Yorkshire Post, 12 November 1900, and 5 November 1901.
23 Yorkshire Herald, 12 November (supplement), 16 November, 17 November, 18 November and 22 November 1910.
24 Yorkshire Post, 29 November 1922, for Newcastle and Stockton. Note that Cornhill and Lowick had 1971 populations of 401 and 666 respectively. Berwick held separate hirings for men seeking work on either side of the border: Hexham Courant, 13 March 1915.
wages and to press for changes to terms of employment. A trade union movement therefore briefly flourished around the Northumberland fairs, which did not resemble and had little connection with the mainstream that dominates the historical literature.

Women remained an essential part of the labour force. Some were hired as part of a hiring package, notably the controversial 'bondagers', the terms of whose inclusion caused much negotiation at fairs, some of it bitter, while others used fairs in their own right, as shown above. Migrant workers, mostly Irish, helped manage the harvest peaks in the North East long after the south ceased to make much use of them. This allowed a core labour force hired as servants to be employed fully outside peak periods like harvest, and that in turn helped farmers to pay higher wages, to pay all year round, and still to make good returns on their capital. The newspapers also show that wages at the hiring fairs altered year by year according to demand and supply. The system preserved the self-respect of workers and avoided much of the social tension that soured class relations in the areas upon which historians have mostly concentrated. To some scholars a lack of conflict was in itself a hindrance to a move to a fully capitalistic mode of production, but for those not constrained by a pre-existing vision of how development 'ought' to proceed, it is a fascinating alternative outcome which enables us to gain comparative perspectives from within English agriculture. However, its very success has rendered it virtually invisible to historians, and that obscures how contingent and how localised patterns of labour management really were on British farms.

The social system that resulted both reflected and helped to maintain a distinctive landscape that at the extreme almost managed without either villages or scattered small farms. High cash wages might have encouraged inward migration, but they were combined with a continued acceptance of a traditional diet and single-storey housing of very modest dimensions which, alongside obvious cultural and linguistic barriers, largely ruled out such movement despite the desperate conditions southern English agricultural labourers frequently endured. The difficulties were reinforced by the much higher expectations of all northern employers in terms of effort by labourers. Neo-classical economics has no explanation for the lack of significant northward migration, and it is baffling why economic historians have given so little thought to explaining how wages that were sometimes double those paid in East Anglia could persist for most of

28 T.M. Devine, 'Social Stability and Agrarian Change in the Eastern Lowlands of Scotland, 1810-40', Social History, 3 (1978), pp.331-46, is a rare attempt to investigate this contrast within a hiring system like that of North-Eastern England, and shows the sense that serious social conflict had somehow been avoided rather than accepting that it did not arise.
the century before the First World War in an industry characterised at a national level by its huge surplus of workers.\textsuperscript{30}

Given this picture, the general belief that it was a southern shortage of labour developing in the second half of the nineteenth century that provoked the main surge of mechanisation in Britain seems a particularly odd aspect of the accepted narrative of agricultural history.\textsuperscript{31} The overwhelming availability of labour seen there in the middle decades of the nineteenth century at all seasons, except at the very peak of intensity of work, may have diminished, but numbers of workers per acre and wage levels in the south still did not then compare with those experienced in the North East decades before, and as the southern workforce declined, moreover, so did that of the North East.\textsuperscript{32} The southern case seems to rest entirely on expectations of a desire for excellence for its own sake despite a social imperative to use more labour than necessary, coupled to an


\textsuperscript{32} Caunce, ‘Golden Age’, table 4.2, p. 51; Prothero, \textit{English Farming}, appendix IX. The census shows that North-Eastern counties all saw a reduction of around a third in numbers of male farm-workers, 1861–91.
implicit thesis that in industrial areas all available engineering capacity would be absorbed by industrial demand. Neither seems convincing.

During the pioneering era of agricultural mechanisation, in fact, the lack of extra labour whatever the wage and the manifestly superior availability of coal, iron, engineering expertise and manufacturing facilities in the north made it a more likely leader. Tradition clearly did not block general innovation there and the rapid increase in the general intensity of operations was an ideal inducement to such innovation. Thus, threshing machines developed north of the border and were welcomed, rather than wrecked and burned, in the early nineteenth century in the North East. Especially for very large farms whose farmsteads were provided by large estates, the power to drive them might be provided by waterwheels, while some on the coalfields acquired steam engines. A cheaper alternative was simply to add extensions behind the farmstead to house a horse wheel. Though they often pre-date more elaborate installations, they were not primitive devices but a cost-effective way of using a labour-saving power source already available to the farmer, and which did not need either coal or a suitable stream. Horses were already paid for, whereas a waterwheel required heavy initial investment and a steam engine was all expense. The wheelhouses and the steam engine chimneys (see Fig. 3.1) remain distinctive features of the region today. A survey of nineteenth-century farm sales conducted for the Beamish Museum, County Durham, offers a unique opportunity to observe a real mechanisation process in operation. It showed that we must be careful of assuming either that the traditional equipment of farms before 1850 was seriously deficient, or that the logic of machinery, especially steam-powered machinery, as a solution to labour shortages or other production problems applied throughout the economy. Farm machinery is used for such short periods during the year that only massive real savings can justify its own cost, and few machines actually did jobs significantly better than people. Thus, though the processing of crops and animal feed at the farmstead provided an opportunity to develop simple stationary machinery which could operate under cover, starting an engine up simply to break some cattle cake, say, was unlikely to make operational sense, whereas a simple hand-powered device could provide work for a man temporarily at a loose end no matter how short a time was involved. Therefore, while estate farmsteads did become carefully planned and had extensive ranges of specialised buildings, no tendency to create steam-powered food processing


36 Farm Equipment Database, 1850–1914, compiled by S. Caunce for the Beamish Museum, Co. Durham, in 1999. Roughly a thousand sales advertised in newspapers were analysed by type of implement and by decade. A much more detailed summary and analysis of the results can be found in S. Caunce, ‘Mechanisation in English Agriculture: the Experience of the North-East, 1850–1914’, Rural History, 17 (2006), pp.23–45. The full database can be consulted at the Beamish Museum.
factories along the lines suggested by propagandists or the literature issued by machinery manufacturers actually emerged.\textsuperscript{37}

The general adoption pattern revealed for all machinery, in fact, was that the region's farmers started and finished with a remarkably similar and extremely heavy dependence on ploughs, harrows and carts.\textsuperscript{38} There were some changes to the design of these implements, and new, specialised types were introduced, but nothing transformed them and the basic designs always predominated. Even the automatic assumptions of the superiority of iron over wood as a construction material only prevailed clearly in cultivation implements for light soils. Elsewhere, local conditions might leave a more traditional design superior in performance, and wood was always seen as the best material for vehicles. Even apparently archaic devices like field rollers made of stone could remain common because they worked well and did not wear out. In this context, the late-nineteenth-century adoption of grass- and grain-harvesting machinery stands out as driven by its own narrow logic, like the mechanisation of threshing decades earlier, rather than by a general urge to use machines for all operations. Other devices which have received much attention because of favourable reviews by contemporaries, notably Crosskill's elod crusher, had a limited success, but it was transitory.\textsuperscript{39} Perhaps the most surprising local failure was of corn drills, often cited as the epitome of improved grain farming and as one of the few cases where hand operations were seen as inferior. North-Eastern farmers took to drilling turnips very early, but they preferred to broadcast grain over a field carefully ploughed into narrow ridges, which produced the same effect but apparently was more economical.\textsuperscript{40}

Particularly significant was the regional success of two-wheeled carts, which replaced the four-wheeled waggons on all types of North-Eastern farms despite being smaller and apparently less sophisticated. The light construction of carts and the fact that loads balanced over the single axle meant that fewer horses were needed for any given load, and a farm with only carts could more readily meet the needs of several jobs.\textsuperscript{41} Carts were especially suited to moving small loads more economically, but extending the sides with light frames allowed surprisingly large quantities to be carried at harvest. When heavy loads had to be moved, the use of waggon might seem more appropriate, but the carts that all farms possessed would then stand idle, no small matter since vehicles were probably the most expensive items on most farms. That carts were not so


\textsuperscript{38} Brassley, \textit{Agricultural Economy}, and S. Macdonald, 'The Development of Agriculture and the Diffusion of Agricultural Innovation in Northumberland, 1750–1850' (unpublished PhD thesis, University of Newcastle upon Tyne, 1974) together suggest that this pattern was of long standing.

\textsuperscript{39} See Goddard, \textit{Harvests}, pp.51 and 54.

\textsuperscript{40} Caird, \textit{English Agriculture}, p.337, describes the North-Eastern system. For the conventional view see Brown, \textit{Farm Machinery}, p.18; see also Rowe, 'Culleys'.

\textsuperscript{41} This is analogous to the leverage built into wheelbarrow design, though less pronounced, and it is striking today that farm vehicles are almost all two-wheeled.
impressive evidently cut no ice, and if they wore out more quickly, that could be an advantage as long as the price was right.\textsuperscript{42} Even more clearly, a significant innovation which was not seen elsewhere in England, the hay bogie, was adopted widely though it was a pragmatic, fairly crude device (see Fig. 3.2). A flat bed was mounted on very small wheels, making it very low-slung, and a simple winch mounted behind the shafts meant that a haycock could be winched directly onto the bogie in its entirety.\textsuperscript{43} For small farmers the need for extra labour to load harvested crops, which was actually made worse once cutting was mechanised, was thus addressed economically.

As late as 1914 really new implements found on North-Eastern farms, other than those associated with harvesting and feed processing, were counted in their tens and very occasionally in their hundreds, whereas the traditional types were present in thousands. Even successful new types did not rival the old ones numerically, though sufficient threshers, mowers and reapers were bought for all the appropriate work. Reaper-binders apart, agricultural machinery remained simple: it had few moving parts and little need for extreme precision, and the hostile conditions in which it was used militated against sophistication (see Fig. 3.3). Names that historians have made famous over the last century, notably

\textsuperscript{42} See G. Sturt, \textit{The Wheelwright's Shop} (Cambridge, 1923).

Ransome's of Ipswich as plough manufacturers, are rarely to be met in these farm sale lists, whereas local ones recur.44 Grass-cutting machinery became a northern speciality, understandably. Most corn-harvesting machinery was of American design, and dealing in such implements supplemented the income from the traditional implements that small northern firms carried on making. Thus, far from dwindling away in the face of competition from specialist agricultural engineers further south, many small and medium-sized firms flourished through meeting the region's needs. However, they did not stand out within the regional economy as their southern counterparts did owing to operating in industrial deserts.

The avoidance of dependence on specialised, expensive machinery and the extensive trading of older machinery at relatively low prices were both a consequence and a reinforcement of the mixed farming characteristic of Britain in general, since this mix of equipment placed no barriers in the way of regular

---

44 Grace, 'Agricultural Engineering Industry', uses evidence entirely drawn from the south, for instance. Collins, 'Age of Machinery', pp.203–4, lists many firms which were also general and railway engineers, which has inflated their importance.
changes of cropping. That such a pattern was observed in this high-wage manufacturing area helps to explain why Britain did not develop machinery in as dynamic a fashion as the USA and colonial countries, where extensive monocropping for long-distance sales produced very different attitudes, which Bogue has described as 'a whirl of technological change' starting after 1840 but beginning from the same sort of implement mix in the 1830s.\(^\text{45}\) Even so, the farmers of North-East England generally emerge as very pragmatic and aware. Very small or extensive farms, a distinctive type found on the barren hill pastures, both married a general avoidance of expenditure on equipment of even basic types to a willingness to invest in the hay harvest and the dairy, because there the monetary gains were clear and significant for the enterprise as a whole. All this suggests that our present understanding of the mechanisation process is deeply flawed.

Overall, the geologist's cliché that Britain is a very varied and variable place is fully borne out when North-Eastern agriculture is examined in detail. The North-Eastern landscape must, therefore, be studied in several dimensions, not just as a natural or modified environment. It had a human dimension and an economic dimension that spilled over both into the hiring of labour and agricultural mechanisation, which then influenced types of farming and the fields, farmsteads and labourers' accommodation created by the landlords and farmers. It is often rural in a way that nowhere in southern England was, and yet it was located in a region generally classed as dominated by heavy, polluting industry. Only when we look at all these dimensions together do we understand what we see.

The patterns that emerge challenge the accepted national picture of agriculture and its contribution to economic development, suggesting that in the north it formed a vital and effective partnership with the industrial towns. It was not a residual sector, and it had ready access to appropriate, affordable technology that suited its operations. In the North East farming had been backward and limited in the early modern period, yet by 1850 crops were being grown wherever they could be, poor grazing was fully utilised and remote moors could be exploited for shooting. Agricultural technology was developed and tweaked, and if it was only transformed for a few operations it was because the apparent advantages of aping manufacturing industry could not yet be realised economically. National and international factors increasingly set the parameters within which the North-Eastern agricultural system operated, but the response was regional and local, and was all the more effective for that. Thus, the Great Depression could not be ignored, but it led to no substantial retreat. This may be at variance with conventional economic modernisation theory, but it reflects northern English reality, which was where so much of the industrialised economic patterns first emerged. Appreciating what Britain is today means examining and understanding all its parts, and the legacy of many aspects is still all around us in the shape of the landscape.