THE UNIVERSITY OF HULL

The Buildings of High Farming:

Lincolnshire Farm Buildings 1840-1910

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Abstract

This study examines the nature of farm building provision in Lincolnshire 1840-1910, posing the questions who built what, where, when and why. Consideration of these questions is undertaken within a framework which interprets the county's nineteenth-century farm buildings as an expression of the culture of high farming. An understanding of who was building and why is sought in an exploration of the social networks and information environment of Victorian Lincolnshire and in the pursuit of insights into the ideology which underpinned nineteenth-century agricultural improvement. The visitors' book for J. J. Mechi's experimental farm at Tiptree is used in an original manner for this investigation.

As a means of examining what form the buildings took, examples of steadings erected by various types of landowner, at different times and in locations representing the diversity of land types in the county, have been recorded. In addition to furthering our understanding of the nature of the buildings of high farming, the results of this fieldwork contribute to the record of this important, but ephemeral, aspect of the landscape of the county.

A major body of quantifiable evidence, 675 land improvement loan records, is examined. A. D. M. Phillips has interrogated this material and current findings are compared with Phillips' conclusions. The aim is to investigate further the temporal and spatial distribution of farm building activity in Lincolnshire and to identify who was investing. An attempt is also made to use these data to explore motives for building. A new source of information; the borrowing for agricultural buildings, by clergy, under the provisions of the Mortgages Under Gilbert's Acts, is also considered.

Farm building activity on the Turnor estate is examined as a case study which explores how improvement loan capital was invested in one particular instance. Borrowing continued until the early 20thC, suggesting that investment in farm buildings was not limited to the buoyant years of the mid-nineteenth century but was ongoing in depression. However, after 1880, the amounts borrowed and the nature of the works undertaken, changed significantly.

In order to investigate building activity in depression, a further body of evidence is considered. This is the cartographic record represented by the first and second editions of the 25 inch, County Series, Ordnance Survey. A methodology was devised for assessing the nature and extent of farm building activity between the two surveys. The results are examined in the context of Jonathan Brown's analysis of the June Returns 1875-1900. By this means, the nature of farm building activity and its variations across the different land-type zones of Lincolnshire, in the Great Depression, are identified.

Whereas the emphasis in Chapters 2-5 of the thesis is on the creation of a record of significant Lincolnshire steadings, seeking to understand them in their social, ideological and economic context, the focus in Chapter 6 is more specifically on the agricultural context of the buildings.

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Abbreviations

Ag.HR	Agricultural History Review
BAHS	British Agricultural History Society
BL	British Library
BPP	British Parliamentary Papers
Ec.HR	Economic History Review
HFBG	Historic Farm Buildings Group
JHFBG	Journal of the Historic Farm Buildings Group
JRASE	Journal of the Royal Agricultural Society of England
LA	Lincolnshire Archives (formerly Lincoln Archives Office)
LAS	Lincolnshire Agricultural Society
NA	National Archives (formerly Public Record Office (PRO))
NGR	National Grid Reference
OED	Oxford English Dictionary
OS	Ordnance Survey
RASE	Royal Agricultural Society of England
RCHME	Royal Commission on the Historical Monuments of England
SSRC	Social Science Research Council, the forerunner of the Economic and Social Research Council (ESRC)
VAG	Vernacular Architecture Group

Note

At the first mention of an author in the text his/her name is given in full; in subsequent references the surname only is used.

The first footnote cites a work in full; in subsequent references the details are abbreviated.

The place of publication of books is London unless otherwise stated.

Chapter 1

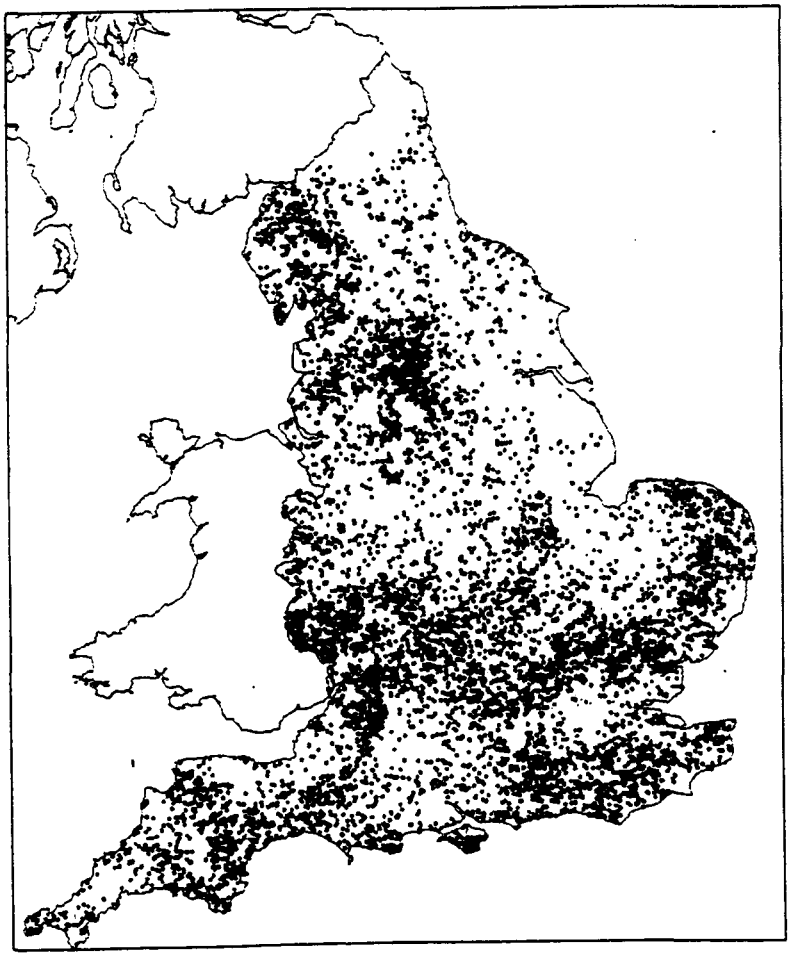
Introduction

Field observation of the farm buildings of Lincolnshire reveals a county whose stock of agricultural buildings is predominantly eighteenth and nineteenth century. Unlike East Anglia, with its sixteenth and seventeenth century timber-framed barns, or Wales and the West Country with their traditional linear ranges evolving from the longhouse (Plate 1, (Appendix 1)), Lincolnshire has little remaining evidence of early farm buildings.[1] This is clearly reflected in the sparsity of pre-1750 farm buildings in the county, on the distribution map of farm buildings on the English Heritage Statutory List of Buildings of Special Architectural or Historic Interest (Fig. 1).[2] The timber-framed wool barn at Greatford (Plate 2), another at Sotby, and mud and stud barns at Thimbleby and Bag Enderby constitute the few standing examples. The county does not boast any surviving medieval barns such as the Knights Templars' Barley Barn (c.1200-20) and Wheat Barn (c.1275-85) at Cressing Temple, Essex, or that at Great Coxwell, Oxfordshire, built between 1275 and 1375 for the Cistercian Monks of Beaulieu Abbey.[3] It is not possible to show students and visitors magnificent examples such as Frocester Court, Gloucestershire (Plate 3), constructed between 1284 and 1306 for Abbot John de Gamages of Gloucester or Court Lodge, Lenham, Kent (Plate 4), on the demesne of St Augustine's, Canterbury, carbon dated to 1330-45.[4]

There is also little evidence from archaeological excavations. This is noted by Paul

[1] All plates are contained in Appendix 1, pp. 326-433.
[2] Bob Edwards and Jeremy Lake, 'Historic Farmsteads in Hampshire: A Pilot Project', HFBG Review, 3 (Summer, 2005) p. 23.
[3] Jeremy Lake, Historic Farm Buildings, (1989) pp. 58-65.
[4] Field visit to Frocester Court, Frocester, Gloucestershire (SO 787 030) HFBG Conference, Cheltenham and Gloucester College of Higher Education, 17th-19th September, 1999; Field visit to Court Lodge, Lenham, Kent (TQ 061 505) HFBG Conference, Wye College, Kent, 22nd-24th September 1995.

Figure 1
The National Distribution of Farmstead Buildings 1550-1750 on the English Heritage Statutory Lists
Source: Bob Edwards and Jeremy Lake. 'Historic Farmsteads in Hampshire: A Pilot Project', HFBG Review, 3 (Summer 2005) p. 23



Everson and Naomi Field in their archaeological resource assessments for the joint English Heritage/University of Leicester East Midland Archaeology Research Framework project.[5] Everson, in his *Resource Assessment of Medieval Lincolnshire*, found little relating to either monastic or secular farm buildings apart from Guy Beresford's work on the manorial settlement at Goltho. Work, as yet unpublished, by Glynn Coppack on the outer court at Thornholme Priory, which included a grain-drying kiln, and another volume in preparation by Everson, Richmond and Stocker on Barlings Abbey and its grange at Lings, may begin to cast light on the farm buildings associated

[5] Paul Everson, 'Resource Assessment of Medieval Lincolnshire'; Naomi Field, 'Resource Assessment of Post Medieval Lincolnshire'. These are two chapters of the forthcoming East Midlands Archaeology Research Framework being produced jointly by English Heritage and Leicester University. Available on line http://www.le.ac.uk/archaeology/east_midlands_research_framework.htm from 28/01/04, accessed 25/11/04.

with monastic agricultural activities in the county in the medieval period.[6] The early modern period has received even less attention; Field, in her *Resource Assessment of Post Medieval Lincolnshire*, states that 'few barns and ancillary buildings have been surveyed'.[7]

Given the scarcity of built evidence and the scant nature of the archaeological record for pre-1750 farm buildings in Lincolnshire, it is fortunate that there is tentative evidence of the county's agricultural buildings in the Middle Ages in two great medieval manuscripts. The Luttrell Psalter, produced for the Lincolnshire knight Sir Geoffrey Luttrell of Irnham sometime before his death in 1345, shows a tiled windmill of post construction and a timber and thatch watermill (Plates 5 & 6). Michael Camille, in his study of the psalter, states that historians of technology consider the watermill to be 'one of the most accurate representations of this type of machine of the pre-modern period'.[8] Although the place of creation of the psalter is unknown, Camille considers it quite possible that it was produced in Lincoln, or perhaps Stamford or neighbouring Peterborough.[9] If this is correct and if the buildings were drawn from first-hand experience, then in the psalter's illustrations we have representations of two types of agricultural building in use in Lincolnshire, or close to its border, in the early fourteenth century.

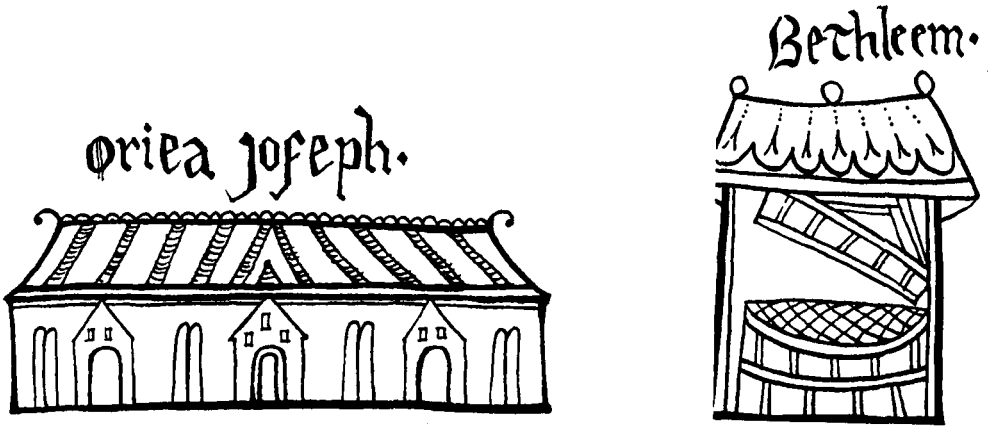
A second tentative source of evidence for Lincolnshire's medieval farm buildings is the Hereford Mappa Mundi. The creator of the late thirteenth-century Hereford map was 'Richard of Haldingham and Lafford who has made it and drawn it, that joy in heaven be

[6] Everson, 'Resource Assessment of Medieval Lincolnshire' passim; G Beresford, 'Goltho Manor, Lincolnshire: the buildings and their surrounding defences c.850-1150' Proceedings of the Battle Abbey Conference in Anglo Norman Studies 1981, 4 (1982) 13-36; G. Beresford, Goltho, the development of an early medieval manor c.850-1150, English Heritage Archaeology Report 4 (1987).
[7] Field, 'Resource Assessment of Post Medieval Lincolnshire', p.5
[8] Michael Camille, Mirror in Parchment: The Luttrell Psalter and the Making of Medieval England, (1998) pp. 212-3.
[9] ibid. p.318.

granted him'.[10] Haldingham and Lafford are the medieval names for the parishes of Holdingham and neighbouring Sleaford, suggesting that the map's creator was a native of Lincolnshire. If this is so, it may be that his depictions of Joseph's great barn with its three porches and tiled roof, where the harvests of the seven years of plenty were stored, and the more humble stable at Bethlehem, apparently constructed of wood and thatch with a ladder to a first floor hay loft (Fig. 2), may have been drawn from direct observation of such buildings in his own county.

Figure 2
Joseph's Great Barn and the Stable at Bethlehem
Mappa Mundi

Source: Gabriel Alington, The Hereford Mappa Mundi: A Medieval View of the World, (Hereford, 1996) pp. 38-9



Apart from this very limited evidence from earlier times, our understanding of the form and construction of the buildings which served the enterprises of Lincolnshire farmers in past generations begins in the second half of the eighteenth century. Late eighteenth and nineteenth-century farm buildings dominate the rural buildings stock of the county and are a major element in the characterisation of the Lincolnshire landscape. The principle of 'Historic Landscape Characterisation', involving statements about landscape features which typify and define a particular region, is currently an important factor in planning

[10] Inscription in the lower left-hand corner of the Mappa Mundi, Hereford Cathedral, visited July 1999.

and policy-making .[11] There is a growing awareness of the importance of historic farm buildings as an element of regional distinctiveness and, as a result, work is now in progress to pilot methods of collecting and presenting information about historic farm buildings to inform land management, planning and heritage management policy.[12]

In some cases Lincolnshire's eighteenth and nineteenth-century agricultural buildings serve the county's current farming businesses, although this is increasingly less so as farms are amalgamated, machinery becomes ever larger and farming regimes more specialised. If we are to understand and retain any evidence of these buildings, which have their origins in the extensification and intensification of agriculture in the county since 1750, and are such an important element of its identity, it is vital that recording and interpretation are undertaken swiftly, before the evidence the buildings represent is lost to reorganisation, conversion or disintegration.

An awareness of the ephemeral nature of the evidence gives urgency to the study of historic farm buildings. The origins of such study can be traced back to the School of Architecture in the University of Manchester in the late 1940s. Here, in 1946, Professor R. A. Cordingly initiated the postgraduate study of vernacular architecture. Developing separately and independently, the Vernacular Architecture Group was formed in 1954. These two initiatives came together in 1966 when R. W. Brunskill, a former student of Cordingley, and J. E. C. Peters, a recent postgraduate student at Manchester, gave papers at the Winter Conference of the VAG. Brunskill's paper was entitled 'Recording the buildings of the farmstead' and Peters spoke on 'Farm buildings: a case study in

[11] Jeremy Lake, English Heritage, report on regional characterisation, HFBG Committee Meeting, University of Exeter, 19th September 2003; Sam Turner, Devon County Council, 'Historic Landscape Characterisation', HFBG Conference, University of Exeter, Devon, 19th-21st September 2003; Stephen Rippon, Historic Landscape Analysis: Deciphering the Countryside, (York, 2004) pp. 53-5; Jeremy Lake and Stephen Trow, 'New Approaches to Historic Farmsteads', HFBG Review, 3 (Summer, 2005) pp. 3-4.

[12] Jeremy Lake, 'Historic Farmsteads and Landscape Character in Hampshire', pilot project update and summary conclusions, 22nd October 2004; Edwards and Lake, 'Historic Farmsteads in Hampshire', HFBG Review, 3 (2005) 22-33.

Staffordshire'. Peters' doctoral study, published as *The Development of Farm Buildings in Western Lowland Staffordshire up to 1880*, became the first full-length volume on historic farm buildings.[13]

Peters' study was significant in that it constituted a comprehensive survey of the form of historic farm buildings in a given area whilst, at the same time, placing them in their agricultural context. These two elements, the architectural and the agricultural, considering both form and function, have underpinned the subsequent development of the study of historic farm buildings as an academic discipline. Just as the architectural dimension of the study had grown out of post-war interest in vernacular architecture, so the agricultural dimension grew out of increasing interest in agricultural history, identified in and promoted by the foundation of the British Agricultural History Society in 1953. Both spheres of interest were stimulated by rapid changes in the countryside after 1945, with new regimes and increasing profitability in farming resulting in the abandonment of traditional agricultural practices and their associated buildings and with an increase in the standard of living threatening the integrity of many vernacular dwellings.[14]

Richard Trow-Smith in *The History of British Livestock Husbandry 1700-1900*, published in 1959, noted that a detailed history of farm buildings had yet to be written.[15] This was remedied by Nigel Harvey's narrative account, *A History of Farm Buildings in England and Wales*, first published in 1970. A second edition, which paid homage to a much greater number of publications on the subject, appeared in 1984 at the time of Harvey's appointment by the Council for British Archaeology to undertake a study of historic farm buildings on behalf of the Ministry of Agriculture Fisheries and Food. The

[13] Nigel Harvey, 'The first conference concerned solely with HFBs' Letter to the editor JHFBG, 3 (1989) p.74; J. E. C. Peters, The Development of Farm Buildings in Western Lowland Staffordshire up to 1880, (1969).

[14] Nigel Harvey, 'Historic Farm Buildings in England and Wales: The Development of a Subject', JHFBG, 1 (1987) pp.4-15.

[15] R. Trow-Smith, A History of British Livestock Husbandry 1700-1900, (1959) p.312.

following year the Historic Farm Buildings Group was formed and Harvey, a trained historian who had served as a farm buildings' officer for a War Agricultural Executive Committee and had spent his working life with the Ministry of Agriculture and Fisheries and the Agricultural Research Council, became its first Chairman.[16] From 1987 to 2003 the group produced an annual journal which enabled publication of the findings of individuals and groups recording historic farm buildings in their own regions. In 2004 this was replaced by a biannual Review and it is also intended that there should be occasional papers to allow publication of more substantial pieces of research. In addition to an annual conference examining agriculture and farmsteads in a different national or international location each time, the group has organised a number of prestigious one-day conferences on the subject of historic farm buildings, the proceedings of which have been published.[17]

The last quarter century has seen a steady flow of publications on historic farm buildings; some are general studies, some are reports on the findings of regional or national surveys, and some have been written to promote a more general interest in the subject, linking it to public concern regarding conservation of the historic landscape. Brunskill followed up his early conference paper with a chapter on farm buildings in his *Illustrated Handbook of Vernacular Architecture* and a paper for the Ancient Monuments Society entitled 'Recording the Buildings of the Farmstead'. He subsequently published *Traditional Farm Buildings of Britain,* an authoritative work with many helpful line drawings and photographs providing a good general introduction

[16] N. Harvey, A History of Farm Buildings in England and Wales, (Newton Abbot, 1970); 2nd edn. (Newton Abbot, 1984).

[17] Susanna Wade Martins ed., Old farm Buildings in a New Countryside: Redundancy, Conversion and Conservation in the 1990s, (Reading, 1991), Proceedings of a one-day Conference held on November 29th 1990 at the RICS Westminster Centre; Colum Giles and Susanna Wade Martins eds., Recording Historic Farm Buildings, (Reading, 1994), Proceedings of a one-day Conference held on January 15th 1994 at the King's Manor, University of York; Gwen Jones, Jeremy Lake and Susanna Wade Martins eds., Rural Regeneration- A Sustainable Future for Farm Buildings, (Reading 2002), Proceedings of a one-day Conference held on April 30th 2002 at the Royal Society of Arts, London.

to the non-domestic buildings of the farmstead.[18] Peters contributed to the popularisation of the subject with a Shire publication *Discovering Traditional Farm Buildings,* as did Harvey with another Shire publication *Old Farm Buildings.*[19] There was a growth in the popularity of farming and folk museums in the 1980s and Roy Brigden, Keeper of the Museum of English Rural Life at Reading, published a study of Victorian farms in 1986.[20] Gillian Darley and Jeremy Lake both wrote general studies of historic farm buildings for the National Trust.[21] Darley's was lavishly illustrated, the intention being to provide a visual record of an important, but threatened, aspect of British heritage.

Susanna Wade Martins, who succeeded Harvey as Chairman of the HFBG, examined the farm buildings of the Holkham estate as a part of her doctoral thesis, later published as *A Great Estate at Work.* She progressed to a research fellowship in the University of East Anglia working on the Norfolk Farm Buildings Project, which employed a team under the Manpower Services Commission Community Enterprise Programme, on a two year project surveying the historic farm buildings of the county. In 1991 Wade Martins published the results of this survey in *Historic Farm Buildings.* She then worked in association with Jeremy Lake on an English Heritage project reviewing the listing of historic farm buildings and seeking to redefine the criteria for such listing, based on a thematic survey of planned and model farms. Material gathered during this project formed the basis for *The English Model Farm* published in 2002.[22]

[18] R. W. Brunskill, Illustrated Handbook of Vernacular Architecture, (1971) Chapter 5; R. W. Brunskill, 'Recording the Buildings of the Farmstead', Transactions of the Ancient Monuments Society, 21 (1976); R. W. Brunskill, Traditional Farm Buildings of Britain, (1982).
[19] J. E. C. Peters, Discovering Traditional farm Buildings, (Princes Risborough, 1981); Nigel Harvey, Old Farm Buildings, (Princes Risborough, 1975).
[20] R. Brigden, Victorian Farms, (Marlborough, 1986).
[21] G. Darley, The National Trust Book of the Farm, (1981); J. Lake, Historic Farm Buildings, (1989).
[22] S. Wade Martins, A Great Estate at Work, (Cambridge, 1980); A. Carter and S. Wade Martins eds., A Year in the Field: The Norfolk Farm Buildings Project, (Norwich 1987); S. Wade Martins, Historic Farm Buildings, (1991); S. Wade Martins, The English Model Farm: Building the Agricultural Ideal, 1700-1914, (Macclesfield 2002).

Before turning to a second major survey of historic farm buildings, mention must be made of a number of other significant contributions to their study. John Weller took an international view in *History of the Farmstead: The Development of Energy Sources;* Eurwyn Wiliam produced a good general text on the farms buildings of Wales; farm buildings of England and Wales were illustrated and discussed after an overview of their development from prehistoric times, in a study by John Woodforde; John Martin Robinson considered decorative and model farm buildings in the Age of Improvement in a scholarly treatise which placed Georgian farm buildings in their cultural context and A. D. M. Phillips used the records of the land improvement companies and associated correspondence as the basis for a substantial body of research into the farm buildings of the second half of the nineteenth century.[23]

Pre-dating the English Heritage survey organised by Wade Martins and Lake, the other important survey of historic farm buildings by a national body was that by the Royal Commission on the Historic Monuments of England, which undertook the recording of farmsteads in selected areas of five counties in England during the early 1990s. Lincolnshire was the first of the counties to be recorded, which accounts for the greater number of farmsteads recorded there than in Berkshire, Northumberland, Cornwall or Cheshire. Survey leaders Paul Barnwell and Colum Giles shared their initial findings with delegates at the annual HFBG conference held in Lincolnshire in September 1994, and the 1996 conference in Cheshire focussed on their work in that county. Both conferences included visits to farmsteads recorded by the Commission.[24] Records of all

[23] J. Weller, History of the Farmstead: Development of Energy Sources, (1982); E. Wiliam, Historical Farm Buildings of Wales, (Edinburgh, 1986); John Woodforde, Farm Buildings, (1983); J. M. Robinson, Georgian Model Farms: A Study of Decorative and Model Farm Building in the Age of Improvement 1700-1846, (Oxford 1983); A. D. M. Phillips, SSRC Report HR7263, 'The spatial adoption of farm buildings in England 1850-1900', (1983); A. D. M. Phillips, 'Landlord Investment in Farm Buildings in the English Midlands in the Mid Nineteenth Century', in B. A. Holderness and Michael Turner, Land, Labour and Agriculture, 1700-1920: Essays for Gordon Mingay, (1991) pp. 190-210; A. D. M. Phillips, The Staffordshire Reports of Andrew Thompson to the Enclosure Commissioners, 1858-68: Landlord Investment in Staffordshire Agriculture in the Mid-Nineteenth Century (Stafford 1996).

[24] HFBG Conference Horncastle, Lincolnshire, 30th September-2nd October 1994; HFBG Conference Crewe, Cheshire, 20th-22nd September 1996

buildings surveyed are deposited at the National Monuments Record in Swindon and the findings of the survey were published by Barnwell and Giles in *English Farmsteads 1750-1914.*[25] The RCHME survey and ensuing publication represented an important milestone in the development of the study of historic farm buildings. In them the subject was accorded official recognition, and a model for recording techniques and documentary research was provided which, it was hoped, would stimulate the study of a fast-disappearing class of buildings.[26]

Having considered, in broad outline, the historiography of historic farm buildings' study in Britain, the corpus of literature on the historic farm buildings of Lincolnshire may now be reviewed. In summary, the two national surveys have published material on Lincolnshire farmsteads as have two of the volumes published by the History of Lincolnshire Committee. Other than this, work on Lincolnshire farm buildings is to be found in collections of essays, journals and unpublished research. In order to establish the context for the present study of the buildings of high farming in Lincolnshire it is necessary to give an account of this Lincolnshire material.

The RCHME farmstead survey recorded farmsteads in two areas of South Lincolnshire: a group of four parishes centred round Helperingham, on the Black Sluice Fen, south-east of Sleaford, and a second group, further west, on slightly higher clay soils, in the Folkingham area. A third group of parishes, on the South-Western Semi-Wolds around Bolingbroke, in the Lindsey division of the county, was also recorded. However, this area was not included in the final write-up because the team realised they had been over-ambitious and did not have enough time to achieve the necessary understanding of local farming practices to enable them to present the buildings in their agricultural context.[27] The Commission's work in Lincolnshire is also the basis of a paper by Barnwell which

[25] P. S. Barnwell and Colum Giles, English Farmsteads 1750-1914, (1997)
[26] Shirley Brook, review of 'English Farmsteads 1750-1914', JHFBG 13 (1999) 41-2.
[27] Conversation with Paul Barnwell, October 1999.

considers the value of historic farm buildings as evidence of past farming practices.[28]

Lake and Wade Martins' English Heritage survey identified examples of historic farm buildings in each county which had been recorded or appeared in documentary sources. The number given for Lincolnshire in *The English Model Farm* is 42. However, it is noted that such figures should not be taken to include all examples in any given county.[29] Buildings on the Turnor estate included in the discussion of high farming and those of the Earl of Dysart, in the consideration of buildings erected after 1870, are the Lincolnshire examples which are given particular mention in this volume.[30] Some inaccuracies in the account of the Turnor estate require correction.[31]

Charles Rawding makes only passing reference to three notable examples of Victorian farm buildings in his History of Lincolnshire volume on the Lincolnshire Wolds in the nineteenth century, whereas T. W. Beastall's study of the agricultural revolution in Lincolnshire, in the first History of Lincolnshire series, goes into more detail. Beastall devotes part of a chapter on the 'Physical and Social remains of the Agricultural Revolution' to a consideration of farm buildings, farmhouses and cottages, which draws heavily on his research into the Scarbrough estates in Lincolnshire and Durham.[32]

Catherine Wilson, a former curator of the Museum of Lincolnshire Life, wrote about Christopher Turnor and his buildings in a tribute to Terence Leach, identifying Leach's

[28] P. S. Barnwell, 'An Extra Dimension? Lincolnshire Farm Buildings as Historical Evidence', Ag.HR 46 I (1998) pp. 43-44.
[29] Wade Martins, English Model Farm, (2002) pp. 207, 215.
[30] ibid. pp. 142-145, 183, 187-8.
[31] Hanby Lodge Farm, Lenton is given as a Turnor farm when it was in fact a Dysart one and a picture of Grange Farm, Little Ponton is given as Manor Farm, Kirmond le Mire. There are also mistakes in the spelling of Stixwould, Wispington and Mareham.
[32] Charles K Rawding, The Lincolnshire Wolds in the Nineteenth Century, (Lincoln, 2001) pp. 30-31; T.W. Beastall, Agricultural Revolution in Lincolnshire, (Lincoln, 1978) pp. 212-220, 229-30; T. W. Beastall, A North Country Estate: The Lumleys and Saundersons as Landowners 1600-1900, (Chichester, 1975).

1978 Kitching Memorial Lecture as the origin of her interest in Turnor's buildings.[33] In another collection of essays, Adrian Russell contributed a short account of a restored chalk farmstead in north Lincolnshire.[34] An article by Stewart Squires on Lincolnshire's historic farm buildings appeared in *JHFBG* in 1996.[35] Like Wilson, Squires wrote about Christopher Turnor and his influence on Lincolnshire buildings, concluding that much more research remained to be done on this important Lincolnshire landowner and surviving examples of his buildings. Both authors expressed the hope that what they had written would stimulate such work.[36]

Three articles on historic farm buildings in Lincolnshire appeared in *Lincolnshire Past and Present* in the summer of 1996. Squires wrote a piece encouraging their recording and informing readers about the English Heritage survey, asking for information regarding interesting examples to be passed on to the survey team.[37] Dennis Mills wrote about small farms in Lincolnshire including a case study and a measured drawing of Heath Farm, Scothern .[38] The third piece, 'A Fertile Field in which to Labour' commended historic farm buildings as a rewarding area of study, reviewing work currently being undertaken and urging that farmsteads should be recorded and case studies published.[39] This article included a plan and elevations of Lawyer's Farm, Holbeach St Matthew recorded as part of a joint Lincolnshire and Humberside Arts/ Manpower Services Commission survey undertaken in 1979-80, which was similar to the Norfolk Farm Buildings Project. Findings of the survey, a stray collection of

[33] C. M. Wilson, 'Christopher Turnor (1809-1886) and His Buildings', C. Sturman ed. Lincolnshire People and Places: Essays in Memory of Terence R. Leach (1937-1994), (Lincoln 1996) p. 121; Terence R. Leach, The Turnors and their Wragby Estates: Kitching Memorial Lecture given at Bardney July 1978, (Bardney 1978).

[34] A. Russell, 'Elsham Top Farmstead', D. Tyszka, K. Miller, G. Bryant eds, Land, People and Landscapes: Essays on the History of the Lincolnshire Region, (Lincoln 1991) 168-176.

[35] Stewart Squires, 'Christopher Turnor and his influence on Lincolnshire Buildings', JHFBG, 10 (1996) 49-51.

[36] ibid. p. 51; Wilson, 'Christopher Turnor and His Buildings, (1996) p. 130.

[37] Stewart Squires, 'Old Farm Buildings in a New Landscape', Lincolnshire Past and Present, 24 (Summer, 1996) 14-16

[38] Dennis Mills, 'The Small Farm, with special reference to Victorian Lincolnshire', Lincolnshire Past and Present, 24 (Summer, 1996) 7-11. Recorded with the assistance of David and Shirley Brook.

[39] Shirley Brook, 'A Fertile Field in which to Labour', Lincolnshire Past and Present, 24 (Summer, 1996) 11-14

photographs, plans, elevations and background documentary research, are stored at the Museum of Lincolnshire Life, the original stated intention of depositing them at Lincolnshire Archives having failed.[40]

Another of the farmsteads recorded by the Manpower Services team was Scopwick House, Scopwick, a substantial house and steading on the estate of Henry Chaplin of Blankney.[41] This was visited by the BAHS during its Spring Conference in 1999.[42] Detailed recording and research into the agricultural context of this farmstead was undertaken for 'Farm Buildings of North Kesteven', presented by the writer for the University of Hull BA in Regional and Local History. The sections on Scopwick House and Ferry Farm, a county council farmstead on Blankney Fen, were later published in an article in *JHFBG*.[43]

The inquiry which produced 'Farm Buildings of North Kesteven' and a previous extended essay, 'Approaches to the study of Historic Farm Buildings in Lincolnshire', submitted for the Nottingham University Certificate in Local History, enters a new phase with the current study. [44] As fresh evidence is identified and interrogated, different insights are afforded, thinking evolves and understanding advances. It is intended that 'The Buildings of High Farming: Lincolnshire Farm Buildings 1840-1910' should represent the next stage in the development of the study of historic farm buildings in Lincolnshire.

The aim of the thesis is to increase our knowledge and understanding of the farm

[40] Farm Buildings Survey, Lincolnshire and Humberside Arts and Manpower Services Commission (1979-80) Elm House, Museum of Lincolnshire Life.
[41] Whilst the term 'farmstead' denotes a farmhouse and agricultural buildings, the term 'steading' is often used to mean the agricultural buildings alone, in contrast to the farm house. This distinction is applied in the present study. Oxford English Dictionary, Vol. 4 (Oxford, 1933) p. 78; OED, Vol.10 (1933) p. 882.
[42] Shirley Brook and Dennis Mills, BAHS Spring Conference, Caythorpe, Lincolnshire, Field Study, 31st March, 1999.
[43] A. S. Brook, 'Farm Buildings of North Kesteven', B.A. (Hons) dissertation, University of Hull, (1994); A. S. Brook, 'Farm Buildings of North Kesteven: Two Examples', JHFBG, 9 (1995) 12-24.
[44] A. S. Brook, 'Approaches to the Study of Historic Farm Buildings in Lincolnshire', Certificate in Local History dissertation, University of Nottingham, (1990).

buildings of Lincolnshire from 1840-1910 and to contribute to the record of this rapidly-diminishing source of evidence concerning nineteenth-century land ownership and farming practice in the county. The year 1840 was chosen as the opening of the period under consideration because it is the median date of tithe apportionments, and 1910 as the terminal date because of the rich documentation associated with the The Finance (1909-10) Act 1910. Both categories of documentation have national coverage, are the result of standard forms of enquiry and have been the subject of major academic studies.[45] This facilitates comparison of agriculture and landownership in Lincolnshire with that in other counties, at the initial and terminal dates of the study. A substantial body of scholarship underpins our understanding of the changes in British agriculture between these two dates and the footnotes to the following two paragraphs acknowledge chronologically, significant contributions within each area of research.

In 1840 there was a new queen on the throne and the recently-formed Agricultural Society of England was incorporated, becoming the Royal Agricultural Society of England and publishing its first journal.[46] After 1840 the pace of agricultural improvement accelerated with widespread underdraining of heavy clay lands facilitated by cheaply-produced drain tiles and financial assistance from government-sponsored loan companies.[47] The Royal Agricultural Society's journal and annual shows spread the gospel of improvement under the slogan 'Practice with Science' and by mid-century cultivated lands were becoming more productive as a result of the application of natural and artificial fertilisers such as bone meal, guano from Peru, nitrate from Chile, potash from Germany and home-produced superphosphates and basic slag. The development

[45] R. J. P. Kain and H. C. Prince, The Tithe Surveys of England and Wales, (Cambridge, 1985); R. J. P. Kain, An Atlas and Index of the Tithe Files of Mid-nineteenth-century England and Wales, (Cambridge, 1986); Brian Short, Land and Society in Edwardian Britain, (1997).

[46] Nicholas Goddard, Harvests of Change: The Royal Agricultural Society of England 1838-1988, (1988).

[47] R. W. Sturgess, 'The agricultural revolution on the English clays', Ag.HR, 14 II (1966) 104-21; E. J. T. Collins and E. L. Jones, 'Sectoral advance in English agriculture, 1850-80', Ag.HR, 15 II (1967) 65-81; R. W. Sturgess, 'The agricultural revolution on the English clays: a rejoinder', Ag.HR, 15 II (1967) 82-7; A. D. M. Phillips, 'Underdraining on the English claylands, 1850-80: a review', Ag.HR, 17 I (1969), 44-55.

of the rail network enabled cheap and efficient distribution of these inputs and the agricultural produce they benefitted.[48] Men aspired to 'farm high' employing the latest machinery and adopting intensive feeding regimes for stock, housed in carefully-planned buildings.[49]

The year 1910 saw the death of Edward VII at a time of rising political pressure for reform in land ownership.[50] There had been an exodus from the countryside as men sought better-paid, less onerous work in towns or the chance to make good by emigrating to newly-developing countries.[51] British agriculture had ridden the storms of disastrous seasons, falling profits and increased competition from abroad. In response to disadvantageous times farmers and landowners had endeavoured to maximise the return on their inputs, harnessing advances in technology and managing their resources as efficiently and economically as possible.[52]

[48] S. Wilmot, 'The Business of Improvement': Agriculture and Scientific Culture in Britain c.1700-c.1870, Historical Geography Research Series 24 (November, 1990); O. R. McGregor, Introduction to Part II of Lord Ernle, English Farming Past and Present, 6th edn. (1961) 79-145; C. S. Orwin and E. H. Whetham, History of British Agriculture 1846-1914, (1964); J. E. Chambers and G. E. Mingay, The Agricultural Revolution 1750-1880, (1966); F. M. L. Thompson, 'The second agricultural revolution 1815-1880' Ec.HR, 2nd ser., 21 I ((1968) 62-77; E. J. T. Collins, 'Introduction' in E. J. T. Collins ed. The Agrarian History of England and Wales, Vol. 7 1850-1914, (Cambridge, 2000) 1-29.

[49] B. A. Holderness, 'The Origins of High Farming', in B. A. Holderness and Michael Turner, Land, Labour and Agriculture, 1700-1920: Essays for Gordon Mingay, (1991) 149-164; E. J. T. Collins, 'The Age of Machinery', in G. E. Mingay ed. The Victorian Countryside, Vol. 1 (1981) 200-213; R. D. Brigden, 'Equipment and motive power', in Collins ed. The Agrarian History of England and Wales, Vol. 7 (2000) 505-513; R. Trow-Smith, History of British Livestock Husbandry, (1959); E. L. Jones, 'The changing basis of agricultural prosperity, 1853-1873', Ag.HR, 10 II (1962) 102-19.

[50] F. M. L. Thompson, English Landed Society in the Nineteenth Century, (1963); F. M. L. Thompson, 'Land and Politics in England in the Nineteenth Century', Transactions of the Royal Historical Society, 15 (1965) 23-44; J. V. Beckett, The Aristocracy in England, (Oxford 1986); D. Cannadine, The Decline and Fall of the British Aristocracy, (1990); John R. Fisher, 'Agrarian Politics', in Collins ed. The Agrarian History of England and Wales, Vol. 7 (2000) 321-357.

[51] W. A. Armstrong, 'The Flight from the Land', in G. E. Mingay ed. The Victorian Countryside, Vol. 1 (1981) 118-135; Alan Armstrong, Farmworkers: A Social and Economic History 1770-1980, (1988); Brian Short, 'Rural Demography 1850-1914', in Collins ed. The Agrarian History of England and Wales, Vol. 7 (2000) 1232-1296.

[52] Christobel S. Orwin and Edith H. Whetham, History of British Agriculture 1846-1914, (1964); T. W. Fletcher, 'The Great Depression in English Agriculture', Ec.HR, 2nd ser. 13 (1961) 417-32; R. Perren, 'The Landlord and Agricultural Transformation 1870-1900', Ag.HR, 18 I (1970) 36-51; P. J. Perry, 'Where was the "Great Agricultural Depression"?: A geography of agricultural bankruptcy in late Victorian England and Wales', Ag.HR, 20 I (1972) 30-45; C. O Grada, 'The Landlord and Agricultural Transformation 1870-1900: A comment on Richard Perren's hypothesis', Ag.HR, 27 I (1979) 40-2; J. R. Fisher, Clare Sewell Read, 1826-1905: A Farmers' Spokesman of the late Nineteenth Century, (Hull 1975); F. M. L. Thompson, 'An Anatomy of English Agriculture, 1870-1914', in B. A. Holderness and Michael Turner, Land, Labour and Agriculture, 1700-1920: Essays for Gordon Mingay, (1991) 211-240; Richard Perren, Agriculture in Depression 1870-1940, (Cambridge, 1995).

In order that the farm buildings of Lincolnshire erected between 1840 and 1910 might be located in their social, ideological and economic context it is necessary to consider them from the point of view of a variety of academic disciplines. Historians, geographers, sociologists, anthropologists and architectural historians all have a contribution to make and our understanding of the culture of high farming and the buildings it produced, is furthered by a combination of perspectives on the subject. The need for an interdisciplinary approach to the study of buildings has been recognised for some time. Anthony King, in his introduction to *Buildings and Society: Essays on the Social Development of the Built Environment*, published in 1980, noted 'big gaps in communication between people who effectively are interested in the same field'.[53] His volume of essays sought to remedy this by including contributions from sociologists, anthropologists, historians and architects. One essay, by Amos Rapoport, an American Professor of Architecture and Anthropology, considered vernacular architecture and the cultural determinants of form. In this Rapoport identified three major categories into which definitions of culture fall. These, he said, complemented one another, they did not conflict with each other. Culture was to be understood as a way of life typical of a group, as a system of symbols, meanings and cognitive schemata transmitted through symbolic codes and as a set of adaptive strategies for survival related to ecology and resources.[54]

Taking these three broad definitions of culture as the framework for discussion, the cultural context of Lincolnshire's nineteenth-century farm buildings is examined in this thesis. The country estate with its residence, gardens, parkland, home farm, estate housing, tenanted farms and farmsteads is regarded as a designed environment which provided a setting for the landowning and tenant classes of the county. This designed

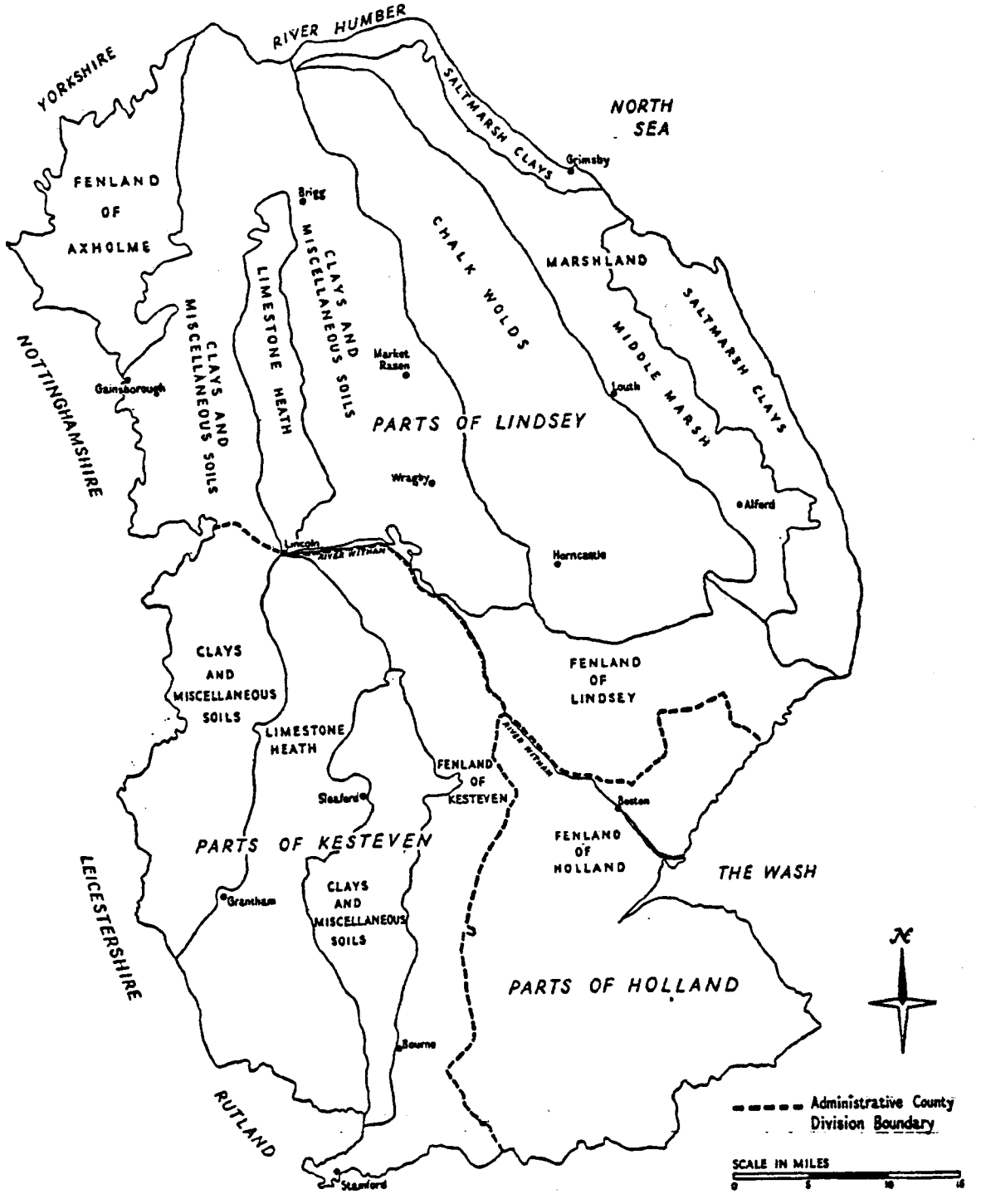
[53] Anthony D King ed., Buildings and Society: Essays on the social development of the built environment, (1980) p. 7.

[54] Amos Rapoport, 'Vernacular architecture and the cultural determinants of form', in King ed., Buildings and Society, (1980) pp. 286-7.

Figure 3

The Main Towns and Natural Regions of Lincolnshire

Adapted from Thirsk, English Peasant Farming, (1957) p.50



environment enabled and promoted the particular lifestyle which was significant and typical of this group and distinguished it from others. Within this setting and lifestyle an order was expressed and a vision of an ideal was given form in the system of symbolic codes contained within the designed environment. Furthermore, this lifestyle and symbolic system were part of the adaptive strategy of the landowning and tenant classes within their social, economic and ecological setting. In this study, the extent to which the buildings of high farming in Lincolnshire are a manifestation of the lifestyle, symbolic system and adaptive strategy of those who created them, is explored.

The thesis is presented in two parts: the first of these establishes the theoretical framework for understanding the buildings of high farming in their cultural context and the second part sets forth empirical evidence which exemplifies the points made and tests the extent to which the buildings of high farming were an expression of the culture of improvement against various bodies of quantitative data. Farmsteads referred to in the study are identified by a six-figure national grid reference (NGR). A map of the county is presented (Fig. 3) to show the location of Lincolnshire's natural regions as well as the main towns. These are used as convenient points of reference when identifying the area of the county within which an estate or farmstead is located.

The Buildings of High Farming: Lincolnshire Farm Buildings 1840-1910

PART 1

THEORETICAL FRAMEWORK

Chapter 2

The Social Networks and Information Environment of High Farming

'Buildings betray what we value'.[55] In order to examine the motives for building among those who were the agents for change in the Victorian countryside it is necessary to explore the behavioural environment in which they operated: the knowledge, values, ideas and social and economic circumstances which motivated them. This chapter explores the social networks and information environment of high farming, identifying those responsible for shaping and transmitting the culture of improvement in nineteenth-century Lincolnshire. The discussion centres upon the influences on the landowners and farmers whose activities created the rural landscape and its buildings. The visitors' book for J. J. Mechi's experimental farm at Tiptree in Essex, is considered as hitherto unexploited documentary evidence regarding the identity and preoccupations of nineteenth century improvers.[56]

The extent to which there was a particular lifestyle and shared vision typical of the landowners and tenant farmers of Lincolnshire in the nineteenth century may be explored by identifying significant figures in mid-Victorian agricultural circles in the county, considering their involvement with local and national agricultural societies and examining the ideas in currency amongst them as represented in contemporary farming literature. H. S. A. Fox noted the efficiency of this combination of personal contacts and the printed word in influencing people's attitudes and knowledge, in his consideration of

[55] Francis Duffy, 'Office buildings and organisational change', in Anthony D King ed., Buildings and Society: Essays on the social development of the built environment, (1980) p. 255.
[56] 'List of Visitors to Tiptree Hall Farm', BL ADD 30015.

local farmers' associations for the Historical Geography Research Group in 1979.[57]

It is important to consider tenant farmers as well as landowners because farm building provision was affected by both of these groups within nineteenth-century society in Lincolnshire. Farm buildings formed part of the fixed capital which came to belong to the owner of the soil and, by the nineteenth century, the provision of buildings on a holding was regarded as the responsibility of the landlord.[58] In practice the situation was far more complex, with tenants on some farms undertaking repairs and providing new buildings, or sharing their cost. At Stenigot between 1830 and 1841, Thomas Moses, a tenant of the Alingtons of Swinhope, undertook a series of repairs and maintenance such as 'limewashing of the farm house for the past 10 years'. He also itemised in his accounts 'Timber, labour and lime towards a blacksmith's shop and a brewhouse in brick and tile. New back kitchen - part cost shared with landlord'. In addition, he erected a number of calf sheds and waggon sheds, apparently at his own expense.[59] A Turnor estate letter book records that, at Somerby in 1888, the tenant was to do the carting and pay half the cutting costs of timber for a new covered yard.[60] Even in circumstances where the landowner was the sole provider of the buildings, the aspirations of the tenant might become a factor in his decisions regarding the type of provision to make, depending on the level of pressure he felt to retain or attract tenants. Owner-occupiers were another group within society who undertook farm building works and so it is the landlords, owner-occupiers and tenant farmers of Lincolnshire who are considered in the following discussion.

We begin with the example of a significant figure in farming in mid-nineteenth century

[57] H. S. A. Fox, 'Local farmers' associations and the circulation of agricultural information in nineteenth-century England', in H. S. A. Fox and R. A. Butlin eds., Change in the Countryside: Essays on Rural England, 1500-1900, Institute of British Geographers Special Publication, 10 (1979) p.46.

[58] B. A. Holderness, 'Investment,accumulation and agricultural credit', in E. J. T. Collins ed., The Agrarian History of England and Wales, Vol. 7 1850-1914, (Cambridge, 2000) p.875; Wade Martins, Historic Farm Buildings, (1991) pp. 34, 38-9.

[59] LA Hill 36/1 quoted in Beastall, Agricultural Revolution in Lincolnshire, (1978) pp.207-8.

[60] Turnor Estate Letter Book, Oct. 1887-Feb. 1890, Stoke Rochford Estate Office, p. 402.

Lincolnshire: William Loft, an owner-occupier at Trusthorpe in the marsh west of Mablethorpe, who was a leading agent for change in his locality. In 1838 he founded the 'Alford Agricultural Society for promoting and exciting Good Conduct, Skill and Industry amongst Labourers and Servants' and became its first president.[61] An examination of records of the meetings of the Alford society demonstrates how the values of the particular social group which founded and promoted local agricultural societies were revealed in the activities of such societies.

The Alford Agricultural Society held annual meetings at which its aims were furthered by the awarding of premiums, that is cash prizes, to winners in various classes of competition. The second annual meeting of the society held at the Windmill Inn in Alford on the 28th February, 1840, had competitions for the labourer who had brought up the largest family without parochial relief; the shepherd who had reared the greatest number of lambs; the waggoner who had driven his master's team for the longest time and servants in husbandry who had stayed longest with the same master. There were also prizes for ploughing, hedging and sheep shearing.[62] The report of the third annual meeting, published in *The Farmer's Magazine*, notes an additional prize of a silver cup, awarded to the farmer's son who was most proficient in ploughing. The purpose of this premium was 'to induce young men to turn their attention to business, to make themselves practical men, as theory and practice must be combined if they expected to farm to any advantage'.[63] This has resonances of the motto of the newly-formed Royal Agricultural Society of England (RASE) which was 'Practice with Science'.

The aims and activities of Loft's local society, founded at around the same time as the national one, afford an insight into the ideas and values of Lincolnshire's early Victorian

[61] Mona Skehel, Tales from the Showyard: Two Hundred Years of Agricultural Shows in Lincolnshire (Lincoln, 1999) p. 119. Servants in this context are servants in husbandry, ie. unmarried agricultural workers who lived-in with their employer.
[62] Handbill published in Alford, January 29th, 1840, reproduced in Skehel, Tales from the Showyard (1999) p. 120.
[63] Cutting from The Farmer's Magazine with handwritten date 1841, in unreferenced LAS archive.

agriculturalists. The perceived duty of the landowning classes, to see that the lower orders were gainfully occupied in honest toil, was taken very seriously. At the annual meeting in 1840, just six years after the Poor Law Amendment Act, the first class on the schedule was a competition to reward the farm labourer who had succeeded in supporting the largest number of children by his own efforts, without resort to poor relief. Toil, thrift and self help, virtues which were deemed to be essential in the labouring classes, were being promoted and rewarded by the Alford Agricultural Society.

The annual hiring fairs, at which large numbers of unattached young men and women celebrated their temporary freedom, were frowned upon by those who sought to improve the morals of the poor. Clergymen and landowners, using their position to exercise social control, advocated much longer periods of employment for the lower orders, which would enable their activities to be supervised by masters who knew them well.[64] Competition for prizes in classes which rewarded those who had remained longest in the service of a particular master, reinforced this. These premiums were actively seeking to extend the influence of the landowner and not simply displaying patronage as was suggested by Nicholas Goddard in his contribution on agricultural literature and societies in the Cambridge *Agrarian History* Volume 6.[65]

It was the local owners and occupiers who put up the money for such prizes and the list of those present at the 1841 meeting of the Alford society includes many of the leading local families as well as a number of clergymen. These people had a shared identity and the annual agricultural society dinner, with its speeches, comment and social intercourse, was an opportunity to affirm the beliefs and values common to the group. Information about the latest advances in farming was exchanged and ideas upon which their common

[64] James Obelkevich, Religion and Rural Society: South Lindsey 1825-1875, (Oxford, 1976) pp. 80-86; E. P. Thompson, The Making of the English Working Class, (1963) pp. 443-445.
[65] Nicholas Goddard, 'Agricultural Literature and Societies', in G. E. Mingay, The Agrarian History of England and Wales, Vol 6, 1750-1850, (Cambridge, 1989) p.375.

life was founded were debated. The second and third annual meetings of the Alford society included a dinner at the Windmill Inn and the report of the third annual meeting carefully names the local landowners and tenant farmers who were present.[66]

The Alford Agricultural Society was one of a number of early agricultural societies in Lincolnshire led and supported by important local farmers and landowners. Caistor Ploughing Society was founded in 1847 by William Skipworth of South Kelsey and William Torr, a leading tenant farmer occupying over 2,000 acres on the wolds at Rothwell, Riby and Aylesby. Lord Yarborough became Patron of the Society. The Earl was also president of the North Lincolnshire Agricultural Society, founded at Brigg in October 1836, 'for the purpose of promoting improvement in the various branches of rural economy'; William Loft was a committee member.[67] The society served the whole of the Lindsey division of the county and held its first show in a paddock at Brigg in September 1837 with 16 stock classes, five labourer and servant classes and seven for corn and roots. A five pound prize was offered for the best new or improved implement.[68] The showing of new machinery and the awarding of prizes for innovation in their design was another important dimension of the activities of agricultural societies.

The activities of many local agricultural societies and the objects of their approbation demonstrated in the prizes they awarded have much in common. The Isle of Axholme Agricultural Association; Owston Agricultural Society; Tetney Agricultural Society and the North Lincolnshire Agricultural Society all rewarded the labourer who had supported the largest family without recourse to parish relief, whilst classes rewarding skills such as shepherding, ploughing, underdraining, hedging, stacking and thatching were included in the annual meetings of most societies. The names adopted by these societies also provide an insight into the values and conduct their founders and

[66] Cutting from The Farmer's Magazine, LAS archive.
[67] Skehel, Tales from the Showyard, (Lincoln, 1999) p. 11.
[68] ibid.

supporters were seeking to promote. The Alford Agricultural Society was founded for the purpose of 'promoting and exciting Good Conduct, Skill and Industry amongst Labourers and Servants' and Owston aimed to encourage 'Skill, Industry and Good Conduct amongst Servants and Labourers'. Tetney also sought to nurture these virtues 'among Labourers, Farm Servants and others connected therewith', as well as promoting 'the Advancement of Agriculture generally' and 'the excitement of Enterprise and Emulation amongst Owners and Occupiers of Land'.[69] A North Lincolnshire Agricultural Society pamphlet, published in January 1868, stated that 'The object of the Society is to promote improvement in every branch of the rural economy, and the industry, providence and welfare of the labouring classes'.[70]

Prizes for long service were awarded by the North Lincolnshire Society, the Torksey, Fenton, Kettlethorpe and Doddington Agricultural Society and the societies at Axholme, Owston and Tetney.[71] The North Lincolnshire Society, whose president was the Earl of Yarborough, put particular emphasis on stability, with eight of its 12 classes in 1856 rewarding those who had remained longest in the service of the same master.[72] The Yarborough estate had a reputation for encouraging long service amongst both its labourers and tenant farmers. Rawding, in his study of the Lincolnshire Wolds in the nineteenth century, gives an account of a conversation between Yarborough and the

[69] Collection of 1856 pamphlets held in the LAS archive: 'The Alford Agricultural Labourers' Society for Promoting Good Conduct, Skill and Industry amongst Labourers and Servants: List of Competitors at the Eighteenth Anniversary of the Society held at Alford, on the 14th of November, 1856'; 'Isle of Axholme Agricultural Association: List of Competitors at the Second Anniversary of the Society, held at Crowle, the 29th Day of October, 1856'; 'The North Lincolnshire Agricultural Society: List of Competitors at the Nineteenth Anniversary of the Society, held at Market Rasen, on the 30th July, 1856'; 'Owston Agricultural Society for the Encouragement of Skill, Industry and Good Conduct amongst Servants and Labourers: List of Competitors at the Ninth Anniversary of the Society, held at West Ferry, Owston, the 10th of December, 1856'; 'Tetney Agricultural Society for the Advancement of Agriculture generally, for the excitement of Enterprise and Emulation amongst Owners and Occupiers of Land and for the encouragement of Skill, Industry and Good Conduct among the Labourers, Farm Servants and others connected therewith: List of Competitors at the Third Anniversary of the Society, held at Grainthorpe, November 13th 1856'; 'Torksey, Fenton, Kettlethorpe and Doddington Agricultural Society: List of Competitors at the Seventeenth Anniversary of the Above Society, held at Fenton, the 23rd Day of October, 1856'.

[70] 'The North Lincolnshire Agricultural Society: Annual Report', (Brigg, 1868) p. 3. Pamphlet in LAS archive.

[71] Collection of 1856 pamphlets held in the LAS archive.

[72] 'The North Lincolnshire Agricultural Society: List of Competitors, 30th July, 1856'.

Dean of Westminster in which the Dean is reputed to have remarked on the high quality of the Earl's tenants. In response to the question 'Where do you get them from?' Yarborough is said to have replied, 'Get them! I don't get them, I breed them.'[73]

Lord Yarborough, of Brocklesby Park near Grimsby, dominated local farming society in the north of the county. The south also had its leading figures; Lord Peter Robert, 21st Baron Willoughby de Eresby, of Grimsthorpe Castle near Bourne, was a pioneer in the application of steam power in agriculture, having three or four static steam engines in use, powering machinery in the woodyards and brickyards or pumping water on his Ancaster estate, in the early 1850s. He gained wide recognition for his experiments in steam ploughing, with members of the public being invited to the field trials of his system, which he publicly announced could be copied without charge. Illustrations showing field trials of steam ploughing at Grimsthorpe appeared in the Illustrated London News in 1850 and 1852 and the system was exhibited at the Great Exhibition in London, in 1851 and in Paris, in 1856.[74]

There were other prominent figures in the south of the county; the Marquis of Exeter, of Burghley House, Stamford, was patron of the Bourne Agricultural Society founded in 1837, and John Algernon Clarke, whose articles appeared regularly in the *Journal of the Royal Agricultural Society* (*JRASE*), was president of the Long Sutton and District Society.[75] Henry Handley, of Culverthorpe near Sleaford, MP for South Lincolnshire 1832-41, was one of those involved in the founding of the English Agricultural Society, as the nascent Royal Agricultural Society of England was called. In 1838, the year of its inception, Handley, an enthusiast for scientific farming, was active in encouraging fellow MPs to support the new society.[76] In 1868, under the patronage of Earl Brownlow of

[73] Rawding, Lincolnshire Wolds, (2001) p. 111.
[74] R. E. Pearson and J. G. Ruddock, Lord Willoughby's Railway: The Edenham Branch, (Grimsthorpe, 1986) pp. 14-17. The pictures from the *Illustrated London News* are reproduced here but detailed references are not given.
[75] Skehel, Tales from the Showyard, (1999) pp. 122, 130.
[76] Goddard, Harvests of Change, (1988) p. 21.

Belton House near Grantham, the South Lincolnshire Agricultural Association was formed. This was an amalgamation of the Sleaford and Grantham societies and many other small societies in the south of the county. It held its first exhibition in the same year. Henry Chaplin of Blankney Hall, mid-way between Lincoln and Sleaford, chaired the meeting to found the South Lincolnshire society.[77] Serving as MP for Mid-Lincolnshire, he was a leading advocate of the agricultural interest in parliament.

Chaplin used his influence in his home county to promote the founding of an agricultural society for the whole of Lincolnshire. The creation of the South Lincolnshire Agricultural Association may have been a move towards this goal, with the combining of associations in the south paving the way for amalgamation with the North Lincolnshire Agricultural Society which took place later in the same year. Prominent members of the northern society, William Torr, James Martin and Charles Nainby, were invited as judges at the South Lincolnshire exhibition. It was Chaplin who chaired the meetings which led to the amalgamation of the two societies to form the third and current Lincolnshire Agricultural Society.[78] The object of the new county society was 'to hold an Annual Exhibition of Farming Stock, Implements, etc., for the general promotion of Agriculture, and the interest and welfare of the Labouring classes'.[79]

John Algernon Clarke, in his prize essay on Lincolnshire in the *JRASE*, refers to seventeen agricultural societies in the county and Skehel lists over 50 places which had ploughing or agricultural societies in the nineteenth century.[80] Some of them were very short-lived, others amalgamated to form stronger affiliations and, in addition to the county society, a few such as Heckington, Woodhall Spa and Wrangle, continue to this day. The foregoing discussion demonstrates how the history of these societies helps us

[77] Skehel, Tales from the Showyard, (1999) p. 24.
[78] ibid.
[79] 'Lincolnshire Agricultural Society Annual Report', (Lincoln, 1871) p. 3. Pamphlet in LAS archive.
[80] J. A Clarke, 'On the Farming of Lincolnshire', JRASE, 12 (1851) p. 406; Skehel, Tales from the Showyard, (1999) pp. 119-134.

to identify many of the leading agents for change in the county in the mid-nineteenth century and affords insights into their ideas and concerns. The picture must now be expanded to consider the dissemination of ideas amongst this particular social group via the corpus of agricultural literature in circulation at the time.

The *JRASE*, journal of England's national agricultural society, can be used as a source for exploring the world of ideas inhabited by the country's landowners and more substantial tenants in the nineteenth century. Earl Spencer, who had been instrumental in the founding of the Yorkshire Agricultural Society the previous year, was the first president of the society in 1838, with William Shaw, editor of the leading agricultural newspaper the *Mark Lane Express*, the first secretary. The society became the Royal Agricultural Society of England when a Charter of Incorporation was granted in 1840 and in the same year its journal was first published under the editorship of Philip Pusey. At the time of its incorporation membership of the society was over 2,000 and a few years later it peaked at around 7,000 before levelling out during the prosperous years which followed, at around 5,000.[81] There were 200 Lincolnshire members of the RASE in 1873, the first year in which members were listed by county.[82]

Goddard has studied the society and its journal and considers that its relatively small membership and the absence of a mass readership of its biannual publication are not an indication of the limited influence of the society. He points out that early Victorian agricultural institutions and the printed media were hierarchical in their character. Although local farmers' clubs and county agricultural societies attracted greater membership, the landlords of a number of the more prominent tenant farmers, and some of the farmers themselves, might be members of the RASE. These people were often leaders of opinion at local level. Also, large numbers of people who were not members

[81] Nicholas Goddard, 'The Royal Agricultural Society of England and Agricultural Progress 1838-1880', PhD thesis, University of Kent at Canterbury (1981) pp. 78, 84, 91-98.
[82] 'List of Governors and Members of the Royal Agricultural Societyof England' JRASE 2nd ser 9 (1873) xxi-xxiii.

of the society visited the annual show which was held in a different part of the country each year. Information and opinion published in the *JRASE* filtered downwards to a wider readership through reports in more popular weekly and monthly publications such as the *Agricultural Gazette*, *Farmers Journal*, *Farmers Magazine* and *Mark Lane Express.* These provided abstracts of the contents of the *JRASE* for their readers and were frequently the focus for formal or informal gatherings of farmers at which articles would be read and discussed. By this means information and ideas originating in the pages of the *JRASE* would reach all levels of the farming community. Therefore a much larger group of people was influenced by the society than might be assumed from the membership figures.[83]

Goddard analysed the contents of the *JRASE* between 1840 and 1879, categorising the articles according to subject.[84] Crops and cultivation were the most frequent topic throughout the period with articles on livestock and agricultural machinery enjoying fairly constant representation. Other subjects achieved prominence in phases and give an indication of the preoccupations of the agricultural world at the time. Drainage and irrigation, and manures and fertilisers, two vital elements of improvement, were particularly popular between 1840 and 1855. Articles on pests and diseases appeared throughout the period as did surveys and descriptions of farm practice. Interest in food manufacture, markets and supply increased in the 1860s and 70s, a concern reflected by James Caird in *The Landed Interest and the Supply of Food*, (1878).[85]

After 1855 articles on drainage virtually ceased, perhaps because the debate on the best means of effecting this improvement had died down. Articles about manures and

[83] Goddard, Harvests of Change, (1988) p. 30; Nicholas Goddard, 'Information and Innovation in Early-Victorian Farming Systems', in B. A. Holderness and Michael Turner, Land, Labour and Agriculture, 1700-1920: Essays for Gordon Mingay, (1991) pp. 167-9.

[84] Goddard, 'Information and Innovation', in Holderness and Turner, Land, Labour and Agriculture, (1991) p. 169-172.

[85] James Caird, The Landed Interest and the Supply of Food, (1878). Parts of this pamphlet are reproduced in G. E. Mingay ed., The Agricultural Revolution: Changes in Agriculture 1850-1880, (1977).

fertilisers continued to be popular until the mid-1860s. The Victorian passion for empiricism is exhibited in such articles as that of Dr Augustus Voelcker who informed his readers that 'During a period of more than twelve months my leisure and that of my assistant Mr Sibson.....has been almost constantly occupied in studying the changes which farmyard manure undergoes on keeping'. He goes on to describe experiments which involved cutting up manure with scissors, pressing it through a sieve, and the employment of two men in turning dung for a whole day long.[86] After 1865 interest in manures and fertilisers waned, although some articles on the topic continued to appear until the end of the period.

Between 1840 and 1860 articles on agricultural science were significant. Their early prominence reflects Philip Pusey's enthusiasm for the application of advances in scientific knowledge to the labours of agriculture. The motto of the Society 'Practice with Science' and a quotation from Von Thaer about the need for experiment to further agricultural knowledge, preface the journal he created. The wave of interest in the properties and effects of various substances coincided with an increase in the application of external inputs in farming systems which is characteristic of high farming. Goddard is in no doubt of the connection between the reporting of J B Lawes' experiments at Rothamsted in the *JRASE* and the intensification of English agriculture.[87]

In Goddard's analysis, articles on farm buildings are shown to be comparatively few. The most important category, crops and cultivation, accounts for 17.26% of the total whereas articles on farm buildings account for only 2.82%. However, there was a clearly defined period from 1850-55 when attention was focussed on them.[88] This period of interest coincided with the first farm building activity financed by land improvement

[86] Dr Augustus Voelker, 'On the Composition of Farmyard Manure, and the Changes which it Undergoes on keeping under different Circumstances', JRASE, 17 (1856) p. 193.
[87] Goddard, Harvests of Change, (1988) p. 92.
[88] Goddard, 'Information and Innovation', in Holderness and Turner, Land, Labour and Agriculture, (1991) p. 171.

loans, which took place in 1852. There followed two decades during which increasing sums were borrowed for improvements to farm buildings. This culminated in a significant peak, both nationally and in Lincolnshire, in the period 1875-9.[89]

According to Goddard's analysis, the surge of building activity during the late 1870s was not reflected in concern for this subject in the pages of the *JRASE*; he indicates that articles on the subject were running at a very low level at this time. However, he acknowledges that some of his categories overlap and this is certainly the case with farm buildings, which were noted in the reports on Farm Prize competitions from 1869 onwards, although these references are not represented in his study.[90] In 1870 the society began to offer examinations in agriculture. There were rigourous papers on a range of disciplines and these were reproduced in the appendix of the journal. In 1873 and 1874 questions on farm buildings were included in the opening paper.[91] Again, this attention is not registered by Goddard who deals only with articles. If these incidental references to farm buildings in the *JRASE* are taken into account, a renewal of interest is to be discovered in the years immediately preceding the boom in building expenditure in the late 1870s.

Perusal of the contents pages of the nineteenth-century editions of the *JRASE* reveals that significant contributors included Philip Pusey, the first editor, and P. H. Frere and H. M. Jenkins, who were subsequent holders of the post. Pusey included his own celebration of the progress and quality of Lincolnshire farming in the fourth volume, in 1843.[92] The society was founded at the height of the great debate over Protection which led to the repeal of the Corn Laws in 1846. It was one of the fundamental tenets of the

[89] Phillips, SSRC Report HR7263, 'The spatial adoption', (1983) p. 6; A. D. M. Phillips, Unpublished report on Lincolnshire for 1983 SSRC project, n.p.
[90] Goddard, 'Information and Innovation', in Holderness and Turner, Land, Labour and Agriculture, (1991) p. 172.
[91] Examination in Agriculture, JRASE, 2nd ser. 9 (1873) lxxxvi; Examination in Agriculture, JRASE, 2nd ser. 10 (1874) lxxxviii.
[92] Philip Pusey, 'On the Agricultural Improvements of Lincolnshire', JRASE, 4 (1843) 287-316.

society, enshrined in its charter, that it should not enter into political debate and this was rigourously upheld by H. S. Thompson who was Chairman of the Journal Committee 1855-69.[93] Despite the prohibition of political argument, Thompson, M.P. for Whitby, and his fellow Yorkshire MP John Dent Dent, were major contributors to the journal. So too were the Norfolk M.P., tenant farmer Clare Sewell Read, and many others of the council of the RASE who sat in Parliament. Political position and agricultural interest were inextricably linked in the persons of the landowners and agriculturalists who read and contributed to the *JRASE.*

The information environment inhabited by Lincolnshire landowners and farmers was influenced by the scientific ideas and information disseminated by the *JRASE,* with its motto 'Practice with Science'. The journal's most prolific contributor was Dr Augustus Voelcker, Professor in Chemistry at the Royal Agricultural College in Cirencester, by whom 83 articles were written between 1857 and 1884.[94] In his capacity as consulting chemist to the RASE he conducted 13,068 chemical analyses for members of the society.[95] Other scientific papers were contributed by Charles Daubney, Sibthorpian Professor of Rural Economy in the University of Oxford, John Bennett Lawes, the founder of the Rothamsted Experimental Station and his colleague Joseph Henry Gilbert. Daubney wrote about the manner in which manures such as quicklime, animal dung, nitrate of soda, bones and gypsum benefitted plant growth, whilst Lawes and Gilbert, drawing on their Rothamsted experiments, stressed the importance of nitrogen in increasing crop yields.[96] Much mid-century high farming was based on a principle of high inputs of organic and artificial manures to achieve high outputs in the form of

[93] Goddard, 'Information and Innovation', in Holderness and Turner, Land, Labour and Agriculture, (1991) p. 173.
[94] Goddard, 'The Royal Agricultural Society', (1981) p. 162.
[95] Nicholas Goddard, 'Voelker, Augustus (1822-1884)', Oxford Dictionaryof National Biography, (Oxford, 2004) http://www.oxforddnb.com/view/articles/28345, accessed 14/4/05.
[96] Charles Daubney, 'Lecture on the Application of Science to Agriculture', JRASE, 3 (1842) pp.136-157; J. B. Lawes and J. H. Gilbert, 'On Agricultural Chemistry - Especially in Relation to the Mineral Theory of Baron Liebig', JRASE, 12 (1851) 1-40; J. B. Lawes and J. H. Gilbert, 'On Some Points connected with Agricultural Chemistry', JRASE, 16 (1856) 411-502.

increased yields. Landowners, their tenant farmers and agents engaged in lively correspondence in the pages of the *JRASE*, airing their own views and reporting on their personal experience of putting the new scientific principles into practice.

Lincolnshire members of the society wrote in on a wide range of subjects. G. M. Williams, agent to Lord Yarborough, contributed an article on the Lincolnshire custom of tenant right to the 1845 edition of the journal.[97] In 1849, John Young Macvicar, agent to Christopher Turnor, was awarded second prize for an article on labourers' cottages which included plans for two designs of cottage, the first of which had been erected 'in numerous instances'.[98] His aim in building was to combine economy with utility and the cottages were said to have been erected 'for the *express purpose of bettering* the moral and social condition of the labourer and his family'.[99] The First Prize Essay on labourers cottages was also by a Lincolnshire contributor, Henry Goddard, an architect and surveyor of Lincoln.[100] In an article on steam cultivation by Clarke of Long Sutton, Mr T. B. Dring of Claxby near Spilsby and Mr Wass of 'Asgodby' are included in a list of those using 'Smith's Steam Cultivating Equipment'.[101]

In 1869, after a very hot season the previous year, reports from farmers were collected to demonstrate how different types of farming were affected by the drought conditions. Among those quoted was Francis Sowerby of Aylesby, a leading North Lincolnshire tenant farmer, on the subjects of cropping and livestock management. Clarke also commented on alterations to livestock management under the unusual circumstances

[97] G. M. Williams, 'On the Tenant's Right in Unexhausted Improvements according to the Custom of North Lincolnshire', JRASE, 6 (1845) 44-46.
[98] J. Young Macvicar, 'Labourers' Cottages', JRASE, 10 (1849) p. 403.
[99] ibid. pp. 412-3.
[100] Henry Goddard, 'On the Construction of a Pair of Cottages for Agricultural Labourers', JRASE, 10 (1849) 230-246.
[101] John Algernon Clarke, 'Account of the Application of Steam Power to Cultivation of the Land', JRASE, 20 (1859) p.220. It is unclear whether Clarke meant that Mr Wass hailed from Asgarby or Osgodby.

resulting from the exceptional weather conditions.[102] In the same year a series of Farm Reports was begun in the journal, again seeking to share the experience of individuals with the rest of the membership. One of these reports considered the farms of Sowerby's neighbour, Torr, who was a member of the council of the RASE from 1857-1875.[103] The following year, 1870, Torr appeared in the journal again, as a judge of the farm prize competition held in conjunction with the society's annual show which took place at Oxford in that year.[104]

Plans for labourers' cottages by James Martin of Wainfleet, north of Boston, were published in an article on agricultural labourers in 1878.[105] Martin was another leading figure in agricultural circles in Lincolnshire, having promoted the amalgamation of the North and South Lincolnshire societies and taken an active part in the running of the new county society. He was a land agent who, besides farming extensive lands in the marsh near Wainfleet, also managed nearly 100,000 acres for Magdalen College Oxford, the Bethlehem Hospital and others. Jas. Martin and Co., now relocated to Lincoln, are still in business today.[106] Martin entered the farm plans competition at the London International Exhibition in 1879. In the account of the competition published in the *JRASE*, his farm plan entitled 'Experience with Economy' receives mention but, as he did not gain a prize, the plans are not reproduced nor do they appear to have been retained by the company.[107]

The scientific culture reflected in the pages of the *JRASE* had a major influence on the

[102] J. Chalmers Morton, 'Some of the Agricultural Lessons of 1868', JRASE, 2nd ser. 5 (1869) pp. 53, 57, 62.
[103] H. M. Jenkins, 'Aylesby, Riby and Rothwell Farms, near Grimsby, Lincolnshire; in the occupation of Mr William Torr', JRASE, 2nd ser. 5 (1869) 415-442; Rawding, Lincolnshire Wolds, (2001) p.119.
[104] H. W. Keary, 'Report on the Farm-Prize Competition 1870', JRASE, 2nd ser. 6 (1870) p. 251.
[105] H. J. Little, 'The Agricultural Labourer', JRASE, 2nd ser. 14 (1878) 780-3.
[106] Skehel, Tales from the Showyard, (1999) p. 111; 'Death of Mr James Martin of Wainfleet', unreferenced press cutting in LAS archive.
[107] J. Bailey Denton, 'Report of the Judges of Farm Plans sent in for Competition at the London International Exhibition, 1879', JRASE, 2nd ser. 15 (1879) p. 780; visit to Jas. Martin and Co., 8, Bank Street, Lincoln, 10th January 2000.

design of farm buildings. Whereas the estate farms of eighteenth-century landowners were designed by architects, by the mid-nineteenth century there was a growing body of men from the new professional groups of engineers and surveyors who were interesting themselves in the principles of farmstead design and construction. An article appeared in the *JRASE* in 1865, written by Philip Tuckett, who described himself as a land agent and surveyor, 'On the Comparative Cheapness and Advantages of Iron and Wood in the Construction of Roofs for Farm Buildings'.[108] Arthur Bailey Denton (Junior) contributed the Prize Essay on this subject in the same year and a letter, two years later, on the use of homegrown timber treated with lime.[109] Denton (Junior) was the son and business partner of John Bailey Denton, a man whose career and writings exemplify the activities and ideas of the new professional men who were becoming involved in the theory and practice of farmstead design.

The training of Denton (Senior) was as a surveyor and land agent. As a witness before parliament he was identified variously as a surveyor, land valuer, land agent, civil engineer, and as the Principal Drainage Engineer to the General Land Drainage and Improvement Company.[110] His curriculum vitae is that of a man of energy, vision and determination. Before he was 30 he was championing the cause of surveyors in their campaign against plans to employ the Ordnance Survey to survey and map London. At a meeting held at Gray's Inn Coffee House in June 1843, an association of surveyors was formed and a proposal put forward for the surveying of the capital by civilian surveyors. Five years later a second surveyors' association was formed to promote the interests of civilian surveyors in this undertaking but, despite frequent meetings under the chairmanship of Denton, their campaign was unsuccessful. However, the emergence

[108] Philip D. Tuckett, 'On the Comparative Cheapness and Advantages of Iron and Wood in the Construction of Roofs for Farm Buildings', JRASE, 2nd ser. 2 (1866) 140-148.
[109] Arthur Bailey Denton (Junior), 'On the Comparative Cheapness and Advantages of Iron and Wood in the Construction of Roofs for Farm Buildings', JRASE, 2nd ser. 2 (1866) 116-139; Arthur Bailey Denton, 'On the use of homegrown timber treated with lime', JRASE, 2nd ser. 4 (1868) 208.
[110] House of Lords Record Office, database of Witnesses in Committees on Opposed Private Bills 1771-1917, keyword search, 'Denton'.

of surveyors as a recognised professional group had its origins in this campaign and finally, in March 1868, the Institution of Surveyors was founded with Denton as one of the twenty founder members.[111]

The development of the profession was closely linked to the expansion of the railways and in this, too, Denton played a part. He was associated with the construction of the Great Northern; London and South Western; Midland; Oxford and Cambridge, and the Hitchin and Royston railways, and gave evidence before parliament in connection with 28 railway bills between 1845 and 1870.[112] He subsequently gave evidence on a number of bills relating to water supply, drainage, sewerage works and public health, these being at the end of a career which preoccupied itself with such matters. Of his 91 contributions published in *The Times* in the 32 years from 1856 to 1888, 81 relate to water resources and supply, drainage, sewers, or sanitation and public health.[113]

Denton's publications date from 1841, when he was 27 years old. An early article on the subject of drainage, which appeared in the *Westminster Review* in 1843, is the key to understanding how this interest led to his involvement in agriculture. With great enthusiasm it advocated and examined schemes for clearing drainage outfalls, irrigation, motive power, and the collection and distribution of town sewage. Denton's vision was of an integrated system, similar to that of nature's water cycle, in which the water from land drainage would be used for irrigation of lower-lying land and for water power for farms and factories. In addition, he suggested that water draining from higher ground should be used to carry the sewage from cities, to irrigate and fertilise agricultural land.[114]

[111] F. M. L. Thompson, Chartered Surveyors: the growth of a profession, (1968) pp. 119-20.
[112] House of Lords Record Office, database of Witnesses 1771-1917, billcode search of all bills identified in 'Denton' keyword search.
[113] CD-ROM, 'Palmers Index to The Times', (1994) keyword search, 'Denton'.
[114] JBD, 'Drainage', Westminster Review, 39 (February, 1843). According to Pooles Index to Periodical Literature, (1883) this article was later claimed by Denton, writing on the storage of water in Von Nostrand's Eclectic Engineering Magazine, 11 (1874) pp. 544ff.

In 1842 Denton published *What Can Now be Done for British Agriculture?* which argued that investment in underdraining and farm buildings would increase agricultural productivity and so offset the negative impact of loss of Protection. Phillips, his biographer, details how he became an advocate of the application of collective capital to the improvement of landed property. He became a director of the Yorkshire Land Drainage Company, the first company founded for that purpose, in 1843. The failure of this company, as a result of difficulties raised by those who had interests in the entailed estates which were to secure the loans, led Denton to join with Philip Pusey and the Duke of Richmond to press for legislation, passed in 1845, establishing the principle that improvement charges had priority over all other mortgages and encumbrances. The General Land Drainage and Improvement Company was founded under an act of 1849 to augment the funds made available under the Public Money Drainage Acts of 1846 and 1850 and Denton, who was primarily responsible for promoting the 1849 act, was appointed as its Engineer.[115]

Denton's Prize Essay in the *JRASE* on the subject of land drainage and improvement loans included background information on the provision of public money for agricultural improvement, details of the founding of each company, the regulations governing their lending and the purposes for which loan capital was available.[116] Like so much of the material in the *JRASE,* this information would have been disseminated amongst the landowners and tenant farmers of Lincolnshire and may well have prompted some of the hundreds of loans which were taken out for various categories of agricultural improvement in the county between the publication of the article in 1868 and 1910, the terminal date for this study.[117]

[115] A. D. M. Phillips, 'Denton, John Bailey (1814-1893)' in Oxford Dictionary of National Biography, Vol 15 (Oxford, 2004) 856-7.
[116] J. Bailey Denton, 'On Land Drainage and Improvement by Loans from Government or Public Companies', JRASE, 2nd ser. 4 (1868) 123-143.
[117] infra. Chapter 5.

Denton had certainly visited a number of farms in Lincolnshire and spoken to the occupiers. Evidence for this is contained in *The Farmhomesteads of England: A Collection of Plans of English Homesteads Existing in Different Parts of the Country, carefully selected from the most Approved Specimens of Farm Architecture, to illustrate the accommodation required under different Modes of Husbandry.* This volume, published in 1864, contains 27 examples of existing farmsteads, two of them Lincolnshire ones, with details of the agricultural regimes they served and the size of farm, type of soil, average rainfall and distance from the nearest railway station.[118] The use of the term 'approved' in the title may indicate that all the designs put forward met the criteria of the Inclosure Commissioners whose approval was necessary before a loan could be sanctioned. However, there was also considerable peer group pressure on those commissioning farm buildings on their estates to conform to socially 'approved' styles. Of the two Lincolnshire farmsteads, one was on the Mid-Lincolnshire estate of Christopher Turnor and the other, belonging to the Marquis of Bristol, on fenland in the south of the county.[119] For each farmstead a detailed ground plan and 'isometrical view' preface an account of the accommodation provided and the mode of husbandry practised on the farm. In both instances the architect is identified, the year and cost of construction given and the tenant named.

Some fifteen years later Denton was still promoting plans for farmsteads which would meet the criteria for loan capital when, with his fellow judges of the farm plan competition at the London International Exhibition, they agreed that 'no prize should be awarded unless approved arrangement and accommodation were afforded at such probable outlay as might fairly be charged on land in the occupation of practical farmers', and at a cost 'which the Enclosure Commissioners, who are the protectors of

[118] J. Bailey Denton, The Farmhomesteads of England, (1864). This publication is catalogued with the publication date 1863 by the British Library despite the volume held there having the date 1864 in Roman numerals on the fly leaf. There is no edition statement which means that this is the first edition. 1864 is also given as the date of publication in the Times review; 'The Farmhomesteads of England', The Times, Friday 3 February 1865, p. 12 cols. a, b.

[119] Denton, The Farmhomesteads of England, 2nd edn. (1865) pp. 20-22; 47-49.

reversionary interests, would allow to be charged on entailed estates'.[120] The shift in emphasis from function and layout to cost is an interesting reflection of a change in mood; the optimism of the early 1860s having given way to a spirit of caution by the late 1870s.

Denton's inclusion of details of soil type and annual rainfall in his *Farmhomesteads of England* reflects his long-held view that such scientific and statistical information was of importance to farmers. His 1843 article on drainage had been prefaced with comments addressed to 'the councils of the Agricultural Society of England, and the Highland Society of Scotland' on the need for dependable statistics relating to agriculture. He advocated a jointly-funded inquiry by the government and the national agricultural societies. As a result of this 'The government would be supplied with data of the geological, zoological and botanical resources of the country....and the landowner and farmer would be able to compare notes with distant localities of the same capabilities, by which emulation would be excited, and the intrinsic value of property ascertained.'[121] Although *The Farmhomesteads of England* served as a pattern book demonstrating approved designs for improvement loan capital, written by Denton in his capacity as Engineer to the General Land Drainage and Improvement Company, it also constituted a systematic survey of existing farm buildings on the principal land types of England, in the mid-nineteenth century. In this, Denton's approach deviated from the usual nineteenth-century literature on farm building design which owed more to precept than practice. The significant thing about Denton's examples is that they were all extant farmsteads serving existing farming enterprises whose circumstances were described in detail.

Denton's activities and publications exhibit his tireless zeal for improvement founded on

[120] Denton, 'Report of the Judges of Farm Plans, 1879', JRASE, 2nd ser. 15 (1879) p. 774.
[121] JBD, Westminster Review, 39 (1843) pp.232-3.

the scientific understandings and technological advances of his age. He epitomises the new professional approach to agricultural business, with decisions regarding farm practice and investment being founded on carefully-considered principles, informed by science and statistical evidence. In the new 'Age of Capital', Denton advocated investment in agricultural improvements to equip British agriculture to compete in the post-Protection free market. What is more, he campaigned energetically to promote his vision of British agriculture as a well-equipped and highly-efficient industry and to gain political support for the measures necessary to achieve this. His influence on high farming in mid-nineteenth century Lincolnshire and throughout the rest of Britain was considerable.

There were other leading agricultural commentators whose writings appeared in the *JRASE.* J. C. Morton, author of *A Cyclopaedia of Agriculture* (1855) and editor of *The Agricultural Gazette*, was a regular contributor, as was Henry Evershed, agricultural correspondent to *The Field.* The Rev. W. L. Rham, agricultural correspondent to the *Penny Cyclopaedia,* also contributed along with H. H. Dixon, an agricultural columnist and sports writer, who wrote under the pseudonym of 'The Druid'. However, it is important to remember that the *JRASE* did not have the monopoly on influential writing in the nineteenth-century agricultural world.

The prominent agricultural writer and campaigner, James Caird, was a member of the society but his most potent discourses did not appear in print in the journal. In 1849 he published *High Farming under Liberal Covenants, the Best Substitute for Protection,* as a pamphlet 'seeking to direct attention to the prosecution of a high system of farming'.[122] From his own experience as a tenant farmer in lowland Scotland, he recommended the increased cultivation of green crops in addition to corn, the heavy application of fertilisers to increase yields, and capital investment in buildings and

[122] James Caird, High Farming under Liberal Covenants, the Best Substitute for Protection, (1849) p. 6.

underdraining. The influence of this publication may be gauged by the fact that it ran to eight editions. Caird subsequently undertook a systematic inquiry into the state of English agriculture, the results of which were first published as a series of letters in *The Times* and then as *English Agriculture in 1850-51*, which was reproduced in 1968 with an introduction by Gordon Mingay.[123]

Like Denton, Caird was a leading promoter of the case for the systematic collection of agricultural statistics. His first speech, upon being elected to Parliament as MP for the Wigtown burghs in 1857, was an attempt to bring in a Bill to facilitate this. The matter had been discussed in Parliament since 1835 but had always failed to proceed because of the difficulty of finding a suitable means of collecting the information. The 1850s and 60s were a time of rising pressure for the systematic gathering of agricultural statistics. Experimental gathering of statistics had been undertaken in eleven counties in 1854 but no permanent arrangement had resulted. Caird continued to pursue the matter until legislation was finally passed, which provided for the collection of statistics by the Inland Revenue and their publication by the Board of Trade. This began in 1866.[124]

In the previous year Caird had vacated his seat to become one of the Inclosure Commissioners for England. In addition to supervising the enclosure of land under the General Inclosure Act of 1845, the Commissioners were charged with the task of sanctioning land improvement loans applied for by the limited owners of settled estates.[125] As a result of this they later became known as the Land Commissioners and, when the Board of Agriculture was reconstituted in 1889, Caird became director of its land department into which the responsibilities of the Land Commissioners were

[123] James Caird, English Agriculture in 1850-51, repr. (1968).
[124] G. E. Mingay, 'Caird, Sir James (1816-1892)', Oxford Dictionaryof National Biography, (Oxford, 2004) http://www.oxforddnb.com/view/articles/4339, accessed 20/4/05; Bethanie Afton and Michael Turner, 'Basic Statistical Data', in Collins (ed), The Agrarian History of England and Wales, (2000) 1759-1761.
[125] Those who held estates under the terms of a family settlement were not outright owners but 'limited owners' or 'tenants for life', holding their lands in trust for future generations.

subsumed. In the face of increasing foreign competition in the market for agricultural produce, in the late 1870s, Caird spoke at an international agricultural congress held in Paris. His paper was later published as a pamphlet, *The Landed Interest and the Supply of Food.*[126]

The example of John Joseph Mechi serves as a further reminder that not all those who influenced the information environment of nineteenth-century agriculture were closely associated with the RASE. Mechi was a great self-publicist but his background in trade and the perception in some quarters that he was a *dilettante* farmer meant that, although he excited much comment in agricultural circles, he was not universally accepted. He was a second- generation Italian immigrant who made his money in the cutlery trade, supplying scientific instruments, pen-cutting quills and razors. He made a name for himself, and his fortune, selling 'Mechi's magic razor strop'. He also patented two lighting improvements; one to illuminate shop windows and the other to reduce the effects of heat and vapours from gas and oil lamps on the atmosphere in a room.[127]

In 1841 Mechi purchased Tiptree Hall Farm in Essex. He constructed a model farmstead to serve an enterprise which directed all the latest scientific and technical innovations towards the task of bringing the poor clay soils into profitable cultivation. He invested heavily in improving his lands by paring, burning and underdraining before deep ploughing, for which steam power was used. The intensive cultivation of green crops, advocated by Caird, was promoted by the calculated application of both human and animal effluent, diluted with water, piped to stop-taps in each field and sprayed from gutta percha hoses. Mechi kept his cattle, which were intensively fed on bought concentrates and home-grown green crops, in covered sheds with slatted floors, through which the manure fell to giant reservoirs beneath. Here it was diluted and then steam

[126] Caird, 'The Landed Interest', (1878).
[127] John S. Creasey, 'Mechi, John Joseph (1802-1880)', in Oxford Dictionary of National Biography, Vol 37 (Oxford, 2004) 680-1.

power was used to pump it through the pipes to the fields, thus beginning the cycle again.[128]

Mechi was a great ambassador for his improved farming techniques. He addressed farmers' gatherings in all parts of the country, in places as far removed as Aberdeen and Manchester, Carlisle and London and he published the papers he delivered, and a steady stream of letters, in the farming press.[129] Goddard notes that in a period of over thirty-five years, there was scarcely one issue of the *Agricultural Gazette* which did not contain some correspondence from him.[130] Mechi's addresses to farmers' clubs and improvement societies were also published by him in a series of publications with variations on the title *How to Farm Profitably or the Sayings and Doings of Mr Alderman Mechi*, which appeared in a variety of editions over a period of nearly twenty years.[131] In these his farm balance sheets for Tiptree Hall and a list of his 'Agricultural Library' were also included.

Not content with travelling the country spreading the gospel of improvement, Mechi invited people to visit him for guided tours of Tiptree. He held an annual gathering each July to which special trains conveyed hundreds of visitors: 'peers and members of the House of Commons, civic dignitaries, men of science, heads of Government departments, engineers, writers on the science and practice of agriculture, a fair sprinkling of clergy, implement-makers, commissioners from foreign States, and a large

[128] Caird, High Farming under Liberal Covenants, (1849) pp. 6-7; 14-15; 'Tiptree Farm', The Times, Thursday 27 July 1854, p. 9 col.f; 'Mr Mechi at Tiptree', The Times, Monday 21 July 1856, p. 12 cols.a, b.

[129] There is a collection of these in the British Library Rare Books Room, in some of which the appellation is I. J. Mechi: 'Application of Town Sewage to Agricultural Fertility. Read to the Improvement Society at Leeds, 29 November, 1854', BL CT 344; 'A Fourth Paper on British Agriculture with some account of his own operations at Tiptree Hall read before the Society of Arts, Manufactures and Commerce by Mr I. J. Mechi, 6 December, 1854' BL CT 344; 'Mr Mechi's Farm Balance Sheets also His Lectures and Papers on Farming since the publication of his former book', (1867) BL 7076 AA29; 'How I make Farming Pay. A Paper Read to the Midland Counties Farmers' Club Birmingham on April 1, 1875 by J. J. Mechi', BL CT 344; 'How to farm profitably on stiff heavy clays', n.d., BL CT 344; I. J. Mechi, 'Letters on Agricultural Improvement', n.d. BL 7074 K35.

[130] Goddard, 'The Royal Agricultural Society', (1981) p. 132.

[131] J. J. Mechi, How to Farm Profitably or the Sayings and Doings of Mr Alderman Mechi, various editions (1859-1878).

number of farmers.'[132] They were conducted on a walk around the farm with demonstrations of the liquid manure irrigation system, views of the luxuriant crops, exhibitions of machinery, explanations of Mechi's latest innovations in cultivation and animal husbandry, and a tour of the buildings. As his visitors' book reveals, he also welcomed individuals and groups of visitors throughout the year.[133] In doing all this he was regarded as 'inviting inspection in order by the force of example to give an impulse to improved cultivation'.[134]

The case of William Lawson, son of Sir Wilfrid Lawson Bart., of Brayton Park near Aspatria, Cumbria, who visited Tiptree in June 1861 and again in June 1864, demonstrates how influential Mechi's activities were.[135] At the age of 25 Lawson purchased an estate in the village of Blennerhasset, which neighboured Brayton Park and named one of its farms 'Mechi Farm'. Here he proceeded to put into practice many of Mechi's ideas for scientific and mechanised farming and also imitated him by writing a book publicising his experiences.[136] This began with a description of his travels in England, Scotland and Wales looking at model farms. He says he was especially interested in farm buildings because he planned to build for himself and he noted the good advice given in Henry Stephens' *Book of the Farm.* Another influence was the co-operative movement and, as well as visiting Tiptree, he visited Mr Gurdon's co-operative farms at Assington, Suffolk.[137]

Lawson commenced operations at Blennerhasset in 1862, the year after his first visit to Tiptree. He immediately embarked on a major campaign of improvement. In the first five months three and a half miles of hedges were levelled, then upwards of 30 miles of

[132] 'Tiptree Farm', The Times, 1854.
[133] 'List of Visitors to Tiptree Hall Farm', BL ADD 30015.
[134] 'Tiptree Farm', The Times, 1854.
[135] 'List of Visitors to Tiptree Hall Farm', f.197, f.220.
[136] William Lawson, Ten Years of Gentleman Farming at Blennerhasset, with co-operative objects, (1874).
[137] ibid. pp. 14-24.

drains were laid and stones fetched off the fields and broken for new roads and buildings. He proceeded to erect model farm buildings and install an irrigation system, a water wheel and gas manufactory. The farm buildings had a clock tower and a laboratory with a library of 300 volumes to be lent out free of charge, and the premises included a flax mill and starch mill, which aimed to exploit the good parts of diseased potatoes. There were experiments in producing gas from flax and, by 1865, gas lighting was working in the buildings (Plate 7).[138] This realised Mechi's vision of 'our Homesteads or Farmeries.....like factories or railway stations: warmed in cold weather, lighted with gas'.[139] However, such advances were not without their problems and in August 1871, Lawson's gas manager, looking for a gas escape with a lighted candle, caused an explosion and started a serious fire.[140]

Mechi's practice of keeping cattle on boards was adopted by Lawson, with manure being collected in reservoirs and distributed in liquid form through an irrigation system. The results of his experiments with manures and cropping were set out in his book with tables of inputs and outputs.[141] The farm utilised all the latest advances in technology and steam power was used for threshing and ploughing. He began steam cultivation in 1862 with a single engine and anchor system which he claimed to be the first in Cumbria. In 1866 he exchanged this for a Fowler's double engine system whose machines he christened Cain and Abel.[142]

If anything, Lawson's enthusiasm for promoting the cause of improvement outstripped even Mechi's and his book included a chapter, written by a neighbour, entitled 'The French Excursion'. In this, Lawson's trip to the Paris Exhibition in October 1867 is described. Blennerhasset folk were offered expenses-paid visits to the exhibition. There

[138] ibid. pp. 39-40; 150-161.
[139] Mechi, How to Farm Profitably, 4th edn. (1864) p. 458.
[140] Lawson, Ten Years of Gentleman Farming, (1874) pp. 82-3.
[141] ibid. pp. 221-395.
[142] ibid. pp. 42-72.

followed plans to construct a model farm in France, using Mechi's irrigation method of farming and run on co-operative principles. The farm was to be managed by two Frenchmen with Lawson putting up the capital and Cain and Abel, his two steam engines, being exported to serve the new enterprise. However, the scheme was abandoned when Lawson saw the proposed site for the farm.[143]

Mechi also sought to promote his ideas on improved agriculture beyond the shores of Britain. However, unlike Lawson who was planning a 'farm plant', Mechi invited people to come to him, welcoming visitors from all over the world at Tiptree. The visitors' book which he kept, now deposited in the British Library, began with the note 'This book was kept in the Bailiff's House where visitors to the farm recorded their names after inspecting it'.[144] Its 264 folios chronicle over eight thousand visits to Tiptree Hall between January 22nd, 1846, and March 22nd, 1878. It is a rich source of evidence contributing to an understanding of the culture of high farming which influenced the farmers and landowners of Lincolnshire, some of whom visited the experimental farm at Tiptree.

The visitors' book provides a record of the sort of people who were interested in high farming and the period(s) at which their interest was greatest. It allows examination of the balance between home and foreign exposure to Mechi's 'scientific farming' ideas and enables identification of the countries of the world to which these ideas were conveyed. Its content also contributes to the development of an understanding of the interests and preoccupations of Victorian agricultural society. Some of the evidence, such as the number of visits and the country of origin of Mechi's visitors, is quantifiable, whilst other aspects, such as the insights it affords into the mid-nineteenth century world of ideas, are not quantifiable but contribute to a deeper understanding of the influences

[143] ibid. pp. 212-20.
[144] 'List of Visitors to Tiptree Hall Farm', f. 1.

upon the farmers and landowners of Lincolnshire in the mid-nineteenth century.

The entries are arranged in columns recording the date of the visit and the name and address of the visitor(s). There is also a column for remarks. Some visitors, like William Lawson, visited more than once and this is particularly true of Mechi's neighbours, many of whom came every year to his open day. Because of this it was not possible, when analysing the contents of the visitors' book, to state the exact number people who visited the farm but rather the number of visits. A few entries recorded visits such as '*x* and his farm manager (or bailiff)', '*x* and sons' or '*x* and friend'. These were difficult to quantify and were counted as two in each instance. There is also the possibility that some visitors did not sign the visitors' book. Such imponderables mean that the total of 8,347 visits presented in Table 1 is almost certainly an under-representation.

Table 1 shows the temporal distribution of visits to Tiptree, providing evidence of the periodicity of interest in Mechi's experimental farm. The number of entries was greatest in 1846, the year in which Mechi began his visitors' book, when 594 visits were recorded. From 1846 to 1856 the number did not fall below 300 but in 1857 it dropped to 255 and thereafter there were generally between one and two hundred visits per year. The exceptions to this were 1862, the year of the Great International Exhibition in London, when numbers soared again to 517, and the difficult years of 1865 and 1866 when Cattle Plague restrictions reduced visits to 77 and 69 respectively. In 1875 the number of visits was again fewer than 100, with 97 recorded in that year, 93 the following year and 72 in 1877, which was the final full year of record.

It is unclear whether this fall in the number of visits was actual, perhaps resulting from diminishing interest in Mechi's innovative approach or from his failing health and financial difficulties, or whether it was a result of the book being relocated. A note at the

Table 1
Visits to Tiptree Hall Farm, 1846-1878

Source: 'List of Visitors to Tiptree Hall Farm', BL ADD 30015

GB=Visits from Great Britain; OS=Visits from overseas; NC=not classified

Year	GB	OS	N/C	All visits
1846	576	9	9	594
1847	343	10	9	362
1848	357	1	2	360
1849	317	5	3	325
1850	475	13	7	495
1851	511	175	18	704
1852	309	21	8	338
1853	336	62	17	415
1854	353	55	10	418
1855	265	107	8	380
1856	385	80	11	476
1857	168	74	13	255
1858	139	43	9	191
1859	97	53	2	152
1860	197	83	15	295
1861	133	49	8	190
1862	186	312	19	517
1863	100	31	4	135
1864	118	36	1	155
1865	51	24	2	77
1866	46	22	1	69
1867	108	41	1	150
1868	116	36	1	153
1869	160	15	5	180
1870	85	16	0	101
1871	158	25	3	186
1872	89	20	0	109
1873	112	21	1	134
1874	136	25	7	168
1875	73	24	0	97
1876	72	20	1	93
1877	47	21	4	72
1878	0	1	0	1
Total	**6618**	**1530**	**199**	**8347**

beginning of the entries records that it was 'Presented (on Public Grounds) to the British Museum by J. J. Mechi May 12 1876'.[145] This conflicts with a statement on the fly leaf which says that the book was presented on May 27th of that year.[146] It seems that Mechi, an accomplished publicist to the last, presented his visitors' book to the museum, thus ensuring a place in history for his experimental farm. What is less certain is precisely when it was presented and how further visits to the farm came to be recorded when the book was apparently lodged at the museum. As a result of these uncertainties, the fall in visitor numbers in the final years should not be accorded too much significance. However, what is much more certain is the significant level of interest in Mechi's high farming systems between 1846 and 1856, the period in which Caird's *High farming under Liberal Covenants* and his survey of English agriculture were published. The second half of this period, 1850-55, was also the time when attention was focussed on farm buildings in the *JRASE.*[147]

As the visitors' book recorded addresses it is possible to consider the distribution of home and foreign interest in high farming by categorising visits under three headings: 'Great Britain', 'Overseas' and 'Not Categorised' (Table 1). In addition to those giving a British address, newspaper men from British papers were assumed to be home visitors and entered in the 'Great Britain' column whilst those recording their comments in a foreign language were categorised as 'Overseas' even if they gave no address. Civil servants serving abroad were also categorised as overseas because it was assumed that they took Mechi's ideas with them to the countries in which they served, as did those who emigrated. 'Going to settle as a farmer on The prairies and shall have to thank Mr Mechi's farm for some valuable hints', wrote one visitor.[148] If there was no address or the address was illegible then the visit was counted in the 'Not Categorised' column.

[145] ibid., f.1.
[146] ibid., un-numbered folio.
[147] Caird, High Farming under Liberal Covenants,(1849); Caird, English Agriculture, 2nd edn.(1968); Goddard, 'Information and Innovation', in Holderness and Turner, Land, Labour and Agriculture, (1991) p. 171.
[148] 'List of Visitors to Tiptree Hall Farm', f. 238.

Assumptions based on the name were avoided; as has already been noted, some British people served abroad and would come in the overseas column whilst others with a foreign name, eg. Mechi himself, might be naturalised and involved in British agriculture.

Home visits always exceeded overseas ones except in 1862 when there were 186 home visits and 312, the highest number in any year, from abroad. This coincided with the Great International Exhibition held in London. Numbers of both home and overseas visits were high in 1851, the year of the Great Exhibition at Crystal Palace, with 511 home visits and 175 from abroad. There was also a high number of foreign visits (107) in 1855. Other than this, visits from abroad did not exceed 100 and in many years there were fewer than 50. However, they became proportionately more significant as time went on. Whilst the proportion of visits which were home visits diminished in the 1860s and 70s, the proportion which were overseas visits increased. Of the total of 8,347 visits to Tiptree Farm between January 1846 and March 1878, 6,618 were home visits, 1,570 overseas visits and 199 could not be categorised (Table 1).

The range of the countries from which Mechi's visitors came allows insight into the geographical extent of his influence (Table 2). Visitors to Tiptree came, not only from Europe, but from India, Africa, the Americas and the Antipodes and may have returned home as converts to Mechi's revolutionary farming practices. Such global dissemination of the principles and techniques of high farming was to have a profound effect on the farmers and landowners of Lincolnshire in the final quarter of the nineteenth century when British agriculture was exposed to crippling foreign competition. Mechi, and others who so enthusiastically encouraged the exportation of British high farming across the globe, failed to realise that with their success they were sowing the seeds of misfortune and that many who 'farmed high' would soon be facing adversity in the form of competition from the very countries whose agriculture Britain had fostered.

Table 2

Countries and areas from which Mechi's visitors came

America	Finland	Philippine Islands
Australia	France	Poland
Austria	Germany	Pomerania
Barbados	Greece	Russia
Belgium	Hungary	Sardinia
Bermuda	India	Saxony
Bohemia	Ireland	Scotland
Brazil	Italy	Silesia
Canada	Luxembourg	Spain
Cape of Good Hope	Mauritius	Sweden
Chile	Mexico	Switzerland
Croatia	Netherlands	Tasmania
Cuba	New Zealand	Venezuala
East Indies	Norway	Wales
England	Peru	

The column in the visitors' book which recorded visitors' comments provides insights into how Mechi's innovations were regarded by this heterogeneous body of visitors and how they received his exhortation to 'improve'. An attempt was made to analyse the subject categories into which their comments fell, in the same way that Goddard had analysed the subjects of articles in the *JRASE*.[149] The purpose of this was to discover whether the periodicity of interest revealed in Goddard's analysis of *JRASE* articles was also apparent in the comments of visitors to Tiptree. After a number of unsuccessful attempts this exercise was abandoned because it became apparent that there were too many diverse factors bearing upon the subjects of the comments recorded in the visitors' book. The most significant of these was the influence of each latest innovation at Tiptree; if Mechi had added a new building or purchased a new item of machinery then its novelty would incite comment. A second problem was that visitors often came in groups and influenced one another's views. By the time they had circumambulated the farm and discussed amongst themselves what they had seen, they had usually arrived at a shared view. Furthermore, the habit of looking at the comment of the person who headed the page and echoing it, meant that the subject matter of the comment was reflecting something other than the wider preoccupations of the agricultural community.

[149] Goddard, 'Information and Innovation', in Holderness and Turner, Land, Labour and Agriculture, (1991) pp. 168-72.

Notwithstanding the unsuitability of the record for systematic analysis of the subject matter of the comments, individual responses were examined in pursuit of an insight into the world of ideas inhabited by those with an interest in agriculture in the mid-nineteenth century. It was immediately apparent that many of Mechi's visitors came to learn from his example. Cornelius Maw from Crowle in the Isle of Axholme, an early visitor to Tiptree, commented that he hoped 'to benefit by the example set by Mr Mechi'. Another Lincolnshire visitor considered he had 'picked up an idea or two worth taking away' and another declared himself 'Very much pleased and instructed'. Henry Hardy of Postland commented, 'Very much pleased and shall have much to say when I get back into Lincolnshire', and a visitor from Devizes in Wiltshire went away 'Much gratified, the Spirit for improvement.....stimulated by the example of Mr Mechi'. Joseph William Webb of Cradley near Malvern, visiting with his wife, told Mechi he was 'Very much pleased and shall put up a covered yard similar to yours', and two visitors from Essex considered 'the arrangements of the Farmery a pattern to all Landlords'.[150]

Visitors admired the 'high feeding' and 'high cultivation' and many, like Sir Tatton Sykes of Sledmere, East Yorkshire, declared themselves 'Highly gratified and pleased'. Some visitors commented on Mechi's system of keeping stock on 'stages' and in loose boxes. They praised Mechi's mode of management and mechanisation of processes. G. Thompson of the Land Drainage Company and John Dent Dent of Ribston Hall, Wetherby, Yorkshire, were amongst many who commented on the system of irrigation with liquid manure and Alexander Pitcairn, Factor for Lord Breadalbane, was ' Very much gratified with the general economy of the farm and the appliance of steam power also the efficient method of stirring the liquid Manure in the Tank by means of the small air pump'. The quality of cropping, as a result of irrigation with liquid manure and Mechi's system of thin sowing, was widely commended; 'The whole of the farm in the

[150] 'List of Visitors to Tiptree Hall Farm', ff.11, 155, 215, 154, 22, 260, 16[v].

most productive state of any I have visited this season - particularly after a comparison of the neighbouring fields', enthused Thomas Lyale of Grantham.[151]

Not all comments were favourable and visitors sometimes took it upon themselves to offer Mechi advice. Fisher Hobbs criticised the one inch pipes used for underdraining and expressed dissatisfaction with the buildings; 'The buildings are not planned according to my ideas of a good Farmery the Steam Apparatus should not be in the Centre of the Yards so close to the Piggeries, Sheep Yards etc. where straw appears to be used.' A fellow Essex farmer commented '.....think the Piggeries require more ventilation' and another visitor wrote, 'I should recommend more cleanliness and ventulation [sic] for the animals', which someone, possibly Mechi, countered by pencilling above 'I should recommend better spelling'. However, the general response was favourable; William Milford Teulon, architect, expressed 'Many thanks for the valuable hints about buildings' and Francis J. Pelham of Royal Farm, Windsor Park, considered Tiptree 'A perfect model in every respect'. 'A Model Farm: & a Model farmer' was the endorsement of one visitor from Kent.[152]

The heterogeneity of Mechi's visitors illustrates the breadth of interest in improvement within mid-nineteenth century British society. It is therefore helpful to consider in more detail precisely who visited him at Tiptree. In addition to landowners such as the Duke of Rutland, Earls Grey and Macclesfield, Lords Bridport, Curzon and Rayleigh and Sir Tatton Sykes, there were farmers and members of farmers' clubs.[153] The London Farmers' Club visited on Mechi's annual open day in July 1849 with Henry Dixon ('The Druid'). Dixon had been there the previous year and also attended the event in 1850 and 1851.[154] Many others who shaped opinion in mid-nineteenth century

[151] ibid., ff. 62^{v}, 173, 178, 75^{v}, 37^{v}, 109^{v}, 109, 130^{v}, 187,
[152] ibid., f. 9, 65, 36, 259^{v}, 229^{v}, 75.
[153] ibid, ff. 8, 36^{v}, 64^{v}, 108^{v}; 113^{v}, 178.
[154] ibid., ff.47^{v}, 57, 69^{v}, 83.

agricultural circles also visited Tiptree. William Fisher Hobbs was one of the first visitors and Henry Stephens, in whose *Book of the Farm* William Lawson found much good advice, visited in 1851.[155] Other visitors in that year were John Bailey Denton and Chandos Wren Hoskyns.[156] Fisher Hobbs commented at length on the buildings and under-drainage and Dixon left the rhyme:

> There was a man and some did count him mad
> The more he spent on land (no doubt) the more he had
> (A riddle to be answered)[157]

It is unclear whether the invitation was to guess whom he meant or to wait for the answer as to whether Mechi's high farming would pay. Perhaps the *double entendre* was intended.

The scientific base of high farming and the emergence of agriculture as a recognised subject of study are reflected in the visitor list at Tiptree. Charles Daubney visited from Oxford in the first year of its opening and announced himself 'Much pleased with the general arrangements of [the] system of the Farm'.[158] Thomas Tancred, one of the council of the Royal Agricultural College at Cirencester, visited in 1845, the year of its establishment, and included in his lengthy remarks the comment that it was 'most encouraging to see a man with sufficient Faith in correct principles to carry them out unflinchingly in practice'.[159]

A number of architects, including Teulon and Frederick Chancellor, visited Tiptree.[160] Chancellor was a local architect, based in Chelmsford, whose plans for over 50 farmsteads survive in the Essex Record Office. These include one of the earliest examples of a covered yard and designs which provided for integrated systems within

[155] ibid., ff. 9, 89; Henry Stephens The Book of the Farm. (Edinburgh and London, 1844); Lawson, Ten Years of Gentleman Farming. (1874) p. 18.
[156] 'List of Visitors to Tiptree Hall Farm', ff. 78^{v}, 90.
[157] ibid., f. 83.
[158] ibid., f.19.
[159] ibid., f. 21.
[160] ibid., ff. 71, 259^{v}.

which the movement of food, litter, livestock and cereals had been carefully thought out. His comment in Mechi's visitors' book was 'Many thanks for the valuable hints about buildings'.[161] The increasing involvement of engineers, land agents and surveyors in farm building design is reflected in the number of men from these professions who also visited Tiptree.

There is evidence for the increased mechanisation of farming in Mechi's list of visitors, with Joseph Shuttleworth, Richard Hornsby and two of the owners of Crosskill's Iron Works in Beverley visiting on the same day.[162] At their Stamp End iron foundry in Lincoln, Shuttleworth and his brother-in-law Nathaniel Clayton, developed and manufactured portable steam engines and threshing machines. Hornsby manufactured steam engines and threshing machines as well as other agricultural equipment such as winnowing machines, seed drills and cake crushers, at his Spittlegate works just south of Grantham. At the peak of their production these two Lincolnshire firms employed over 2000 men each and exported agricultural machinery across the world.[163] In doing this, British agricultural engineers joined those who disseminated high farming ideas in contributing to the expansion of foreign meat and grain production which would so grievously affect British agriculture in the years after 1875.

Shuttleworth and Hornsby were not the only Lincolnshire visitors to Tiptree; between 1846 and 1876 there was a total of 90 or 91 visitors from the county (Appendix 2) depending on whether Thomas Lyale, a farmer and auctioneer from Gayton le Wold near Louth, who visited in December 1856, was the same person as Thomas Lyale whose

[161] Wade Martins, The English Model Farm, (2002) pp.128-9; 'List of Visitors to Tiptree Hall Farm', f. 259^{V}.

[162] 'List of Visitors to Tiptree Hall Farm', f. 128^{V}.

[163] Neil R. Wright, Lincolnshire Towns and Industry 1700-1914, History of Lincolnshire Vol.10 (Lincoln, 1982) pp. 83-5, 137-149; Ken Redmore, 'The Production of Agricultural Machinery' in Elizabeth Bates, Farming in Lincolnshire, (Heckington, 2004) pp.36-7.

name appears again in June 1860 but this time with Grantham as the address.[164] There were no other names which appeared twice. George Cattle, who visited in October 1856, gave his address as 'Thorney, Lincolnshire' but as Thorney is actually in Nottinghamshire his entry was not included.[165] Some of the names were immediately recognisable; for instance William Loft, who established the Alford Agricultural Society and was a committee member of the North Lincolnshire Agricultural Society, visited in August 1848.[166] George Tomline and Captain Tomline of Riby, were early visitors to Tiptree, visiting in July 1846.[167] The Tomlines were neighbours of Lord Yarborough in the north of the county and substantial Lincolnshire landowners, with over 8,439 acres at the time of the Return of Owners of Land in 1873.[168] One of their farms was occupied by William Torr, the leading tenant farmer who was co-founder of Caistor Ploughing Society and a council member of the RASE.

Other Lincolnshire landowners to appear in the columns of Mechi's visitors' book were Joseph Livesey of Stourton Hall near Horncastle, George Alington of Swinhope on the wolds, and H. S. Skipworth of Rothwell, also on the wolds.[169] Livesey visited in May 1852, and in April and December 1853 loans of over £6,500 for drainage, irrigation and farm buildings on his estate at Baumber, Sturton and Hemingby were sanctioned by the General Land Drainage Company. His death from scarlet fever the following year may explain why the loans were not proceeded with.[170] Although none of these was owner of a large estate they were prominent in agricultural circles in their own areas, Alington having seconded the resolution when the North Lincolnshire Agricultural Society was founded at Brigg in 1836 and Skipworth being one of those noted by Clarke in his prize

[164] 'List of Visitors to Tiptree Hall Farm', ff. 166^{v}, 187; White's 1856 Lincolnshire, repr. (New York, 1969) p. 229.
[165] 'List of Visitors to Tiptree Hall Farm', f. 165.
[166] ibid., f. 49.
[167] ibid., f. 16.
[168] Owners of Land, 1872-3 (England and Wales), BPP, C. 1097, LXXII, Part 1 (1874). p.96.
[169] 'List of Visitors to Tiptree Hall Farm', ff. 107^{v}, 134, 255^{v}.
[170] NA MAF66 1/8; Interview with Angela Clark (nee Livesey), Great Sturton, Horncastle, Lincolnshire, 27th January 1998.

essay on Lincolnshire, as a leading breeder of 'Improved Leicesters'.[171]

A Lincolnshire visitor who represented one of the county's largest landed estates was Edmund Turnor who visited Tiptree in July 1873 as one of a party of 20.[172] This was some years before he inherited the Stoke Rochford estates from his father Christopher and he was living at Panton Hall near Wragby, the centre of Turnor's 'Mid-Lincolnshire Estate'. The Turnors were one of the county's most substantial landowning families with a holding of 20,664 acres in the year of Edmund's visit to Mechi's experimental farm.[173] At this time the estate was engaged in an extensive farm building campaign for which it was borrowing heavily from the Lands Improvement Company.[174]

Also amongst Mechi's visitors were Lincolnshire farmers who commanded influence in their own neighbourhoods. Croft Sharpley visited in November 1847; the Sharpleys were said to farm over 12,000 acres on the wolds in the Louth area .[175] Thomas Boyer Dring of Claxby near Spilsby, who visited in April 1854, gave evidence to the 1867 Royal Commission enquiring into the employment of children in agriculture. This suggests he was regarded as one of the *cognoscente* in his locality and was possibly known to the commissioner or moved in circles where he would be recommended as a witness. High farming was an expression of the culture of improvement which was embraced by many in the agricultural community in Lincolnshire and was reinforced and transmitted through social contact within the group. Dring was a member of the LAS and received mention in the *JRASE* as an early user of steam ploughing apparatus.[176]

The RASE and local agricultural societies sought to formalise the transmission of

[171] Skehel, Tales from the Showyard, (1999) p. 11; Clarke, JRASE, (1851) p. 394.
[172] 'List of Visitors to Tiptree Hall Farm', f.251^{V}.
[173] Return of Owners of Land 1873, p. 97.
[174] infra. Chapter 5.
[175] 'List of Visitors to Tiptree Hall Farm', f. 36; Rawding, Lincolnshire Wolds, (2001) p. 119.
[176] 'List of Visitors to Tiptree Hall Farm', f. 131; Rawding, Lincolnshire Wolds, (2001) p. 188; 'LAS Annual Report', (1871); Clarke, 'Application of Steam Power to Cultivation', JRASE 20 (1859) p. 220.

scientific knowledge and agricultural theory by promoting agricultural education. As has already been noted, RASE began to offer examinations in agriculture in 1870. Skehel notes that accounts of the LAS and Lincoln Chamber of Commerce record grants towards an agricultural science prize in the 1880s. This was usually referred to as the 'Prize for Mr Harris' Agricultural Science Class', and the evidence quoted by Skehel suggests that it was awarded to farmers or their sons who attended classes at Lincoln School of Science and Arts. In 1885 the prize was awarded to Mr F. M. Codd of South Carlton, who passed with honours. The visit to Tiptree Farm in July 1869, of Francis A. Codd of South Carlton, is further evidence of the family's interest in informing and educating themselves.[177]

Charles G. Gillyatt of Wickenby, near Wragby and William Abraham of Barnetby le Wold, both of whom were acclaimed as sheep breeders, were other visitors to Tiptree.[178] Gillyatt was noted by Clarke as a leading breeder of Lincoln-Leicester crosses and Abraham was recorded in the diary of Charles Nainby of Barnoldby as winning a prize at the North Lincolnshire Agricultural Society Show at Caistor in 1843, for 'a pen of 6 wonderful sucked ewes'.[179] William Richardson of Ashby Puerorum, near Horncastle, another visitor to Tiptree, also showed sheep at the North Lincolnshire Agricultural Society Show at Caistor.[180] A willingness to travel to Essex to view an experimental farm and involvement in local agricultural society competitions are indicative of the thirst for knowledge and the desire to display best practice which characterised many of the leading improvers in agricultural circles in Lincolnshire, in the mid-nineteenth century.

Christopher Turnor's tenant, William Seagrave, who occupied Manor Farm, Lissington

[177] Skehel, Tales from the Showyard, (1999) p. 141; 'List of Visitors to Tiptree Hall Farm', f. 236.
[178] 'List of Visitors to Tiptree Hall Farm', ff. 188, 166.
[179] Clarke, JRASE, (1851) p. 394; Charles Nainby's diary quoted in Skehel, Tales from the Showyard, (1999) p. 13.
[180] 'List of Visitors to Tiptree Hall Farm', f. 159; Charles Nainby's diary quoted in Skehel, Tales from the Showyard, (1999) p. 13.

near Wragby, visited Tiptree in July 1860, in the same party as Gillyatt.[181] William Ingram, the tenant of the Marquis of Exeter's farm at Postland, which was one of the two Lincolnshire examples in Denton's *Farmhomesteads of England*, was one of the party of 30 with whom Richardson visited in July 1856, just two days before the annual Open Day.[182] Detail such as this contributes to the general corpus of information about notable Lincolnshire landowners, their farms and their tenants. It also reinforces the proposition that there was a particular social group within the county which was identified and distinguished by shared activities, such as involvement in agricultural societies, public displays of skill and innovation in cultivation and stock keeping, dissemination of agricultural knowledge, promotion of agricultural education and visits to model farms.

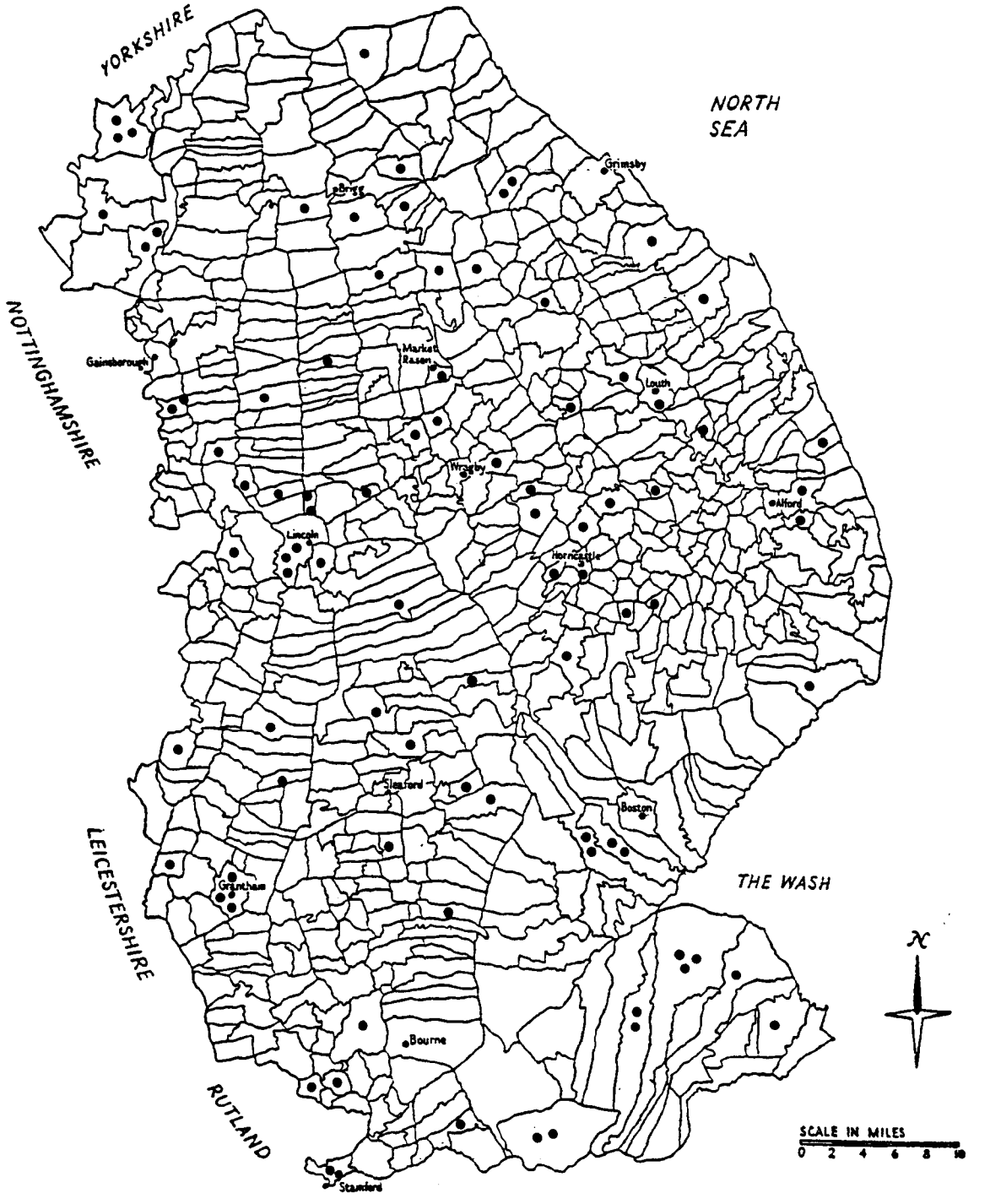
The distribution, by parish, of Lincolnshire visits to Tiptree was considered (Fig. 4). The overall distribution was too sparse for any meaningful conclusions to be drawn from the incidence of visits from parishes which fell within the transect selected for the map exercise in Chapter 6. However, when the county as a whole was considered, it was apparent that people from all land types visited Mechi's experimental farm. There was no marked concentration of visitors from clay lands who may have experienced similar problems to those encountered by Mechi on the poor clay soils at Tiptree. Men who farmed, or had an interest in agriculture, made the journey to Essex from the heath, wolds, fens, marshes and clay vales of Lincolnshire. The Isle of Axholme and the fenland area around the Wash had the greatest concentration of parishes from which more than one person visited. This may have been due to the fact that these were significant areas of reclamation and improvement in the nineteenth century. However, the same concentration was not evident on the light uplands of the heath and wolds which, equally, saw great improvement in the middle years of the century. In these areas the

[181] 'List of Visitors to Tiptree Hall Farm', f. 188; Ken Redmore, Society for Lincolnshire History and Archaeology, Transcription of Turnor Rent Books, LA 3 Turnor.
[182] 'Denton, The Farmhomesteads of England, (1865) pp.20-22; List of Visitors to Tiptree Hall Farm', f. 159; 'Mr Mechi at Tiptree', The Times, 1856.

Figure 4

Distribution of Lincolnshire Visitors to Tiptree Hall Farm 1846-78

Source: Thirsk, English Peasant Farming, (1957) p.16; 'List of Visitors to Tiptree Hall Farm', BL ADD 30015



distribution of visitors was much more scattered.

A more probable explanation for the concentration of visitors from certain areas, albeit one which was not unconnected with local improvement activity and interest, was the presence of active local agricultural societies. In his discussion on the diffusion of information within local farmers' associations Fox states that 'the concept of territoriality was well developed in the minds of those who organised the activities of local associations'.[183] He notes that contemporaries referred to their respective territories as 'limits' and that in the minds of some contemporaries there were hopes that whole counties might be put into 'a state of organisation'.[184] It is difficult to know how organised Lincolnshire was in this respect. The best information we have on this is from Skehel, who has had close connections with the LAS over many years and has an intimate knowledge of its archive of material relating to the local societies it absorbed. She included a 'Register of Agricultural Societies in Lincolnshire' in her volume on the history of the LAS.

In order to discover whether there were links between the presence of local societies and visits to Tiptree, names which appear in Mechi's visitors' book were studied in the context of Skehel's findings and Whites 1856 directory of Lincolnshire.[185] A connection was immediately apparent in the Isle of Axholme. Thomas Horberry from Gunthorpe and Jonas Hall from Melwood, both in Owston parish on the Isle, visited on the same day in August 1860.[186] Owston Agricultural Society was flourishing at this time, as was the Isle of Axholme Agricultural Association which had 265 members in 1856.[187] The Owston Society came into being in 1847, the same year as the visit by Richard Dawson,

[183] Fox, 'Local farmers' associations', in Fox and Butlin eds., Change in the Countryside, (1979) p.53.
[184] ibid.
[185] Skehel, 'Register of Agricultural Societies in Lincolnshire', Tales from the Showyard, (1999) pp. 119-134; White's 1856 Lincolnshire, repr. (1969).
[186] 'List of Visitors to Tiptree Hall Farm', ff. 191, 191[v].
[187] Skehel, Tales from the Showyard, (1999) pp. 129, 131.

a solicitor from neighbouring Epworth, and the year after the visit of Cornelius Maw, farmer, from nearby Crowle. Two other men made a joint visit from Crowle in July 1851.[188]

The fact that a local agricultural society might have come into being after people in the area visited Tiptree rather than before, does not nullify the argument for a connection between local society activity and visits to Mechi's experimental farm. In instances where visits preceded the formation of a local society, it could be that the enthusiasm for improvement generated by the visit gave impetus to the drive to found a local agricultural association. On the other hand, given that it is probable that it was out of informal associations of those interested in promoting agricultural improvement that local societies grew, it is quite possible that such informal contacts may have prompted the visit(s) to Tiptree. Either way the case can be made for a connection between visits to Tiptree and the existence of a local agricultural society whether it was founded before or after the time of the visit. It is also important to note that the precise date of inception of many societies is uncertain. Skehel explains that the dates she gives are based on the first evidence she could find of a society's existence and this may not always represent the exact date of foundation.[189]

There are further instances of parishes with a concentration of visitors to Tiptree being in an area in which there was agricultural society influence. Lincoln, from whose area there was a comparatively large number of visitors, had an active farmers' club and Grantham, with three visitors to Tiptree, had an agricultural association. Horncastle, with two visitors plus one from the neighbouring parish of West Ashby, had an agricultural society for the whole of the period of Mechi's visitors' book and Bilsby and Farlesthorpe, adjoining Alford, the home of William Loft's Labourers' Society, had a

[188] 'List of Visitors to Tiptree Hall Farm', ff. 11, 30, 86[V]; White's 1856 Lincolnshire, repr. (1969) pp. 625, 629.
[189] Skehel, Tales from the Showyard, (1999) p. 119.

visitor each. Similarly, neighbouring Kirton and Frampton, two parishes just south of Boston, which had a society for almost the whole of the nineteenth century, each had two visitors to Tiptree.[190] However, these towns were all centres of population and trade in the county and, whilst visits to Tiptree may have been stimulated by membership of local agricultural associations, it is equally possible that the nature of society in such places rendered the inhabitants more likely to make visits to places of current interest such as experimental farms.

The concentration of visitors to Tiptree from fenland parishes in the south of the county around the Wash, can be more confidently attributed to the influence of a strong culture of improvement among local people. This area was the home of Clarke, who wrote about the draining and subsequent improvement of the fens in South Lincolnshire, as well as the Prize Essay on the county, in the JRASE.[191] Clarke was president of the Long Sutton and District Agricultural Society founded in 1836. The society was active throughout the nineteenth century and into the second half of the twentieth century, finally becoming affiliated to the East of England Agricultural Society in 1969.[192] From within the sphere of influence of the Long Sutton society there were nine visitors to Tiptree; three from Holbeach, two each from Whaplode and Crowland, one from Gedney and one from Sutton Bridge. Those whose names appeared in Whites 1856 directory were all farmers except the visitor from Sutton Bridge who was William Skelton, land steward to Guy's Hospital. Skelton made an early visit to Tiptree in May 1846.[193] Clarke himself does not appear in Mechi's visitors' book.

The double visits from Riby and Knaith were less readily attributable to connections with local agricultural associations. The two visitors from Riby in the north wolds area

[190] ibid., pp. 119-20, 128-9.
[191] J. A. Clarke, 'On the Great Level of the Fens, including the Fens of South Lincolnshire', JRASE, 8 (1847) 88-133; Clarke, 'Farming of Lincolnshire', JRASE, 12 (1851).
[192] Skehel, Tales from the Showyard, (1999) pp. 129-30.
[193] 'List of Visitors to Tiptree Hall Farm', f. 7; White's 1856 Lincolnshire, repr. (1969) p. 862.

were the Tomlines who, as large landowners, would have been subject to influences beyond the level of local agricultural societies. Knaith, south of Gainsborough, also had two visitors: Richard Wright senior, a land agent, and George Wright, who visited together in May 1863. There is no evidence for an agricultural society in Gainsborough before 1873, so perhaps the incentive for the visit to Tiptree derived from Wright senior's profession.[194]

The temporal distribution of visits to Tiptree from Lincolnshire (Table 3) mirrors the overall pattern of visits (Table 1) with a high level of interest to begin with. However, unlike the overall pattern, interest from Lincolnshire was not sustained throughout the first decade; it fell away rapidly after the first two years then re-emerged in the middle of the 1850s. The year 1856 saw the highest number of people from Lincolnshire visiting Tiptree with 14 visits, six of which were in mid-July when the Royal Show was held at nearby Chelmsford.[195] In 1860 numbers again equalled those of 1846, the first year of record, with nine Lincolnshire visitors recorded in Mechi's visitors' book.

Table 3

Temporal distribution of Lincolnshire Visits to Tiptree Hall Farm, 1846-78

	1850 2	**1860** 9	**1870** 0
	1851 2	**1861** 1	**1871** 2
	1852 2	**1862** 4	**1872** 4
	1853 4	**1863** 4	**1873** 1
	1854 3	**1864** 0	**1874** 3
	1855 6	**1865** 0	**1875** 0
1846 9	**1856** 14	**1866** 1	**1876** 0
1847 8	**1857** 6	**1867** 0	**1877** 0
1848 1	**1858** 1	**1868** 2	**1878** 0
1849 1	**1859** 0	**1869** 1	
			Total 91

[194] 'List of Visitors to Tiptree Hall Farm', f. 215; White's 1856 Lincolnshire, repr. (1969) p. 203; Skehel, Tales from the Showyard, (1999) p. 127.
[195] Goddard, 'The Royal Agricultural Society', (1981) p.35, Table 1.

The only female visitor to Tiptree from Lincolnshire was Hannah Grant of Farlesthorpe House near Alford, who visited with James Post of Tolleshunt D'Arcy in September 1871.[196] The same gentleman had visited earlier in the year with Mrs Tomlinson of Salt End Farm, Hedon, Hull, Yorks.[197] The significance of this is uncertain. The gender profile of all the visits to Tiptree was not calculated but it can be stated that whilst the predominance of visitors were men, there were a small number of instances of women visiting. On some occasions whole families came, perhaps reflecting the curiosity evoked by Mechi's system of farming. One such group commented that they 'Came expecting much from public report. It was realised fully'.[198]

A further exercise was undertaken in pursuit of insight into the influences at play amongst the farmers and landowners of Lincolnshire in the mid-nineteenth century. This aimed to test the suggestion that the social networks of local agricultural society gatherings served to confirm and disseminate the knowledge and ideas in currency within that particular social group at the time, acting as 'nodes around which all types of networks for the transmission of information....met and interacted'.[199] Fox suggested that it should be possible to gain a more precise picture of the impact of exposure to information by comparing membership lists of agricultural associations with other nominative sources which allow glimpses into the farming practices of individuals.[200] Sarah Wilmot, in her treatise on agriculture and scientific culture in Britain in the eighteenth and nineteenth centuries, encouraged similar study, noting that membership of agricultural societies was an area 'scarcely touched by historical research'.[201] In response to these suggestions the following exercise was undertaken.

Working from the premise that exposure to high farming influences was increased by

[196] 'List of Visitors to Tiptree Hall Farm', f. 247[V].
[197] ibid., f. 244.
[198] ibid., f. 174.
[199] Fox, 'Local farmers' associations', in Fox and Butlin eds., Change in the Countryside, (1979) p. 55.
[200] ibid. p. 56.
[201] Wilmot, 'The Business of Improvement', (1990) p. 80.

membership of national, county and local agricultural societies, membership lists of the LAS and the RASE were compared with the names of those identified by Skehel in her 'Register of Agricultural Societies in Lincolnshire' as being involved in local agricultural societies (Table 4).[202] The starting point was the 1871 membership list for the LAS. Farmers or farming families whose names appeared here were included if they could be identified as being involved in at least one other category of improvement activity. The list of those who, according to Skehel, were involved in local associations was included in 'improvement activity'. This may not be a complete list but is the best insight available into the, often obscure, origins and membership of local agricultural societies in the county. Those who had ordinary membership of the LAS and of the RASE but were not involved in any other category of improvement activity, were not included because many people in the county had membership of both societies, so this was not remarkable. However, RASE membership was noted if people held office in the county society or were involved in some other category of improvement activity. In this way the principal agents for change in the county were identified.

In order to examine the extent to which there were networks of improvers whose membership of agricultural societies influenced involvement in high farming activities, the names of those in the categories recording membership of agricultural societies (columns D, E and F) were compared with those of the 'Celebrated Lincolnshire Ram Breeders' who appear in a portrait hanging in the LAS headquarters (column G), names of prominent stock breeders mentioned by Clarke in his prize essay on the county (column H) and the breeders, owners and hirers of bulls listed in the first *Lincoln Red Shorthorn Association Herd Register* (column I). The list of visitors to Mechi's experimental farm at Tiptree was also examined (column J) to see whether there were recurrent names and the number of hits for each person or family was recorded in the

[202] 'LAS Annual Report', (1871); 'Members of RASE' JRASE 2nd ser 9 (1873); Skehel, Tales from the Showyard, (1999) pp. 119-134;

Table 4

Network of Nineteenth-Century Lincolnshire Improvers

Sources: Lincolnshire Agricultural Society Annual Report, 1871, pamphlet in LAS archive; 'Members of RASE' JRASE, 2nd ser. 9 (1873); Mona Skehel, Tales from the Showyard, (Lincoln, 1999) pp. 119-134; 'Portrait Group of the Celebrated Lincolnshire Ram Breeders', LAS Office, Lincolnshire Showground; J. A. Clarke, 'Farming of Lincolnshire', JRASE, 12 (1851) pp. 394, 401; Lincolnshire Red Shorthorn Association Herd Register, Vol. 1 (Lincoln, 1895); 'List of Visitors to Tiptree Hall Farm', BL ADD 30015.

Key:

A: Surname

B: Other name(s)

C: Address

D: LAS Membership

(if involved in at least one of the other categories of improvement activity, excluding RASE unless an officer of the LAS)

E: RASE Membership

(if an officer of the LAS or involved in at least one of the other categories of improvement activity in addition to LAS)

F: Involvement with local agricultural societies

(this list may not be complete).

G: Celebrated ram breeder

H: Noted in Clarke's Prize Essay

I: Listed in Lincoln Red Shorthorn Register

J: Signed Mechi's visitors' book

K: Number of hits.

Those listed in italics were not resident in the county but held land in Lincolnshire

Table 4 contd.

A	B	C	D	E	F	G	H	I	J	K
Amcotts	Col.	Hackthorn Hall, Lincoln	Vice Pres. of Soc.	x						2
Bartholomew	family	Waddington Heath, Lincoln	x	x				x		3
Battle	family	Potterhanworth and Minster Yd, Lincoln	x	x				x		3
Baumber	family	Somersby, Horncastle	x					x		2
Bett	family	Benniworth Walk, Donington on Bain	x		Donington and Hainton			x		3
Bland	G.	Coleby Hall, Lincoln	Council	x						2
Bramley	John, M. P.	Langrick, Boston	x					x		2
Bramley	C.	Fiskerton Hall, Lincoln	Council	x						2
Brocklebank	family	Carlton-le-Moorland, Newark	x					x		2
Brown	Pereira	Glentworth Hall	Council	x				x		3
Brownlow	The Rt. Hon., The Earl, Lord Lieutenant	Belton House, Grantham	Patron of Society	?						?
Budibent	George	Well, Alford	x					x		2
Burtt	family	Welbourne	x					x		2

Table 4 contd.

A	B	C	D	E	F	G	H	I	J	K
Cartwright	family	Pillar Farm, Dunston, Lincoln	x	x				x		3
Casswell	family	Laughton and Pointon, Folkingham	Council	x		x	x	x		5
Casswell	William	North Ormsby, Louth	x					x		2
Caudwell	Joseph	Holbeach Marsh	x					x		2
Chaplin	Henry	Blankney Hall, Lincoln	Vice Pres. of Soc. & Council	Gov.			x			3
Chatterton	family	Tathwell, Stenigot and Hallington, Louth	x					x		2
Cholmeley	Sir M. J., Bart., M.P.	Easton Hall, Grantham	Vice Pres. of Soc.	Gov.						2
Clarke	C.	Ashby de la Launde	Council	x		x	x			4
Dalton	T. B.	Scawby-cum-Sturton and Harmston	x					x		2
Davy	family	Thoresway, Worlaby, Tathwell	x					x		2
Dean	S. E. and sons	Dowsby	x					x		2
Dring	Thomas Boyer	Claxby, Alford	x					x	x	3
Dudding	family	Panton, Wragby and Lambcroft, Louth	Council	x		x	x			4

Table 4 contd.

A	B	C	D	E	F	G	H	I	J	K
Eve	family	Louth and Haugh, Alford	x					x		2
Exeter	*The Most Hon., the Marquis of*	*Burghley House, Stamford*	*Vice Pres. of Soc.*	*x*	*Bourne*					3
Fane	Col. F.	Fulbeck	Vice Pres. of Soc. & Council	x						2
Farrow	family	Strubby, Alford	x					x		2
Ffytche	J. Lewis	Thorpe Hall, Elkington, Louth	Vice Pres. of Soc.	x						2
Fieldsend	Charles R.	Kirmond le Mire	x	x				x		3
Frankish	William	Great Limber, Grimsby	Council	x				x		3
Frudd	John	Bloxholm, Sleaford	x					x	x	3
Garfit	A.	Scothern	x	x				x		3
Godson	W.	Normanby by Stow	x					x		2
Grantham	Maj.	West Keal Hall, Spilsby	Council	x	Spilsby					3
Grummit	family	Stainfield, Bourne and Graby, Folkingham	x					x		2
Heneage	Edward	Hainton	Vice Pres. of Soc. & Council	x						2

Table 4 contd.

A	B	C	D	E	F	G	H	I	J	K
Howard	E.	Nocton	Council	x		x				3
Howard	R. G. F.	Temple Bruer	Council	x		x				3
Hutton	family	Gate Burton	Trustee & Vice Pres. of Soc.	x				x		3
Jarvis	G. K.	Doddington Hall, Lincoln	Vice Pres. of Soc.	x						2
Kesteven	Lord	Casewick Hall, Stamford	Vice Pres. of Soc.	Gov.						2
Kirkby	Thomas	Cuxwold, Caistor	Council	x						2
Kirkham	Thomas	Biscathorpe, Louth	x	x			x	x		4
Lamb	family	Aubourn and Welbourn	x					x		2
Longstaff	J.	Dunsby	x					x		2
Lynn	family	Stroxton, Grantham	x	x				x		3
Mackinder	family	Langton and Belleau, Alford	x	x	Spilsby	x		x		5
Macvicar	Neil	Kirmond le Mire	x					x		2
Marris	family	Holton le Moor, Croxton and Ulceby	x	x				x		3

Table 4 contd.

A	B	C	D	E	F	G	H	I	J	K
Martin	family	Wainfleet	Council	x	Wrangle			x		4
Martin	Robert	Asterby, Horncastle	Council	x						2
Mason	family	Rigsby, Calceby, Keddington and Tathwell	x	x				x		3
Melbourn	N.	Ingham	x					x		2
Melville	The Hon. A. S. Leslie	Branston	Vice Pres. of Council	x						2
Millson	Edward	Strubby, Alford	x					x		2
Mitton	William	Wellingore	x					x		2
Morley	family	Leadenham	x	x				x		3
Mowbray	J.	Friskney	x					x		2
Nainby	Charles	Barnoldby le Beck, Grimsby	Council	x						2
Needham	J. L.	Huttoft	x					x		2
Nisbet-Hamilton	The Rt. Hon. R. A. C.	Bloxholm Hall, Sleaford	Vice Pres. of Soc.	Gov.						2
North	family	South Thoresby	x	x				x		3

Table 4 contd.

A	B	C	D	E	F	G	H	I	J	K
Odling	family	Kelstern, Louth	x					x		2
Oliver	G. A.	Hallington	x					x		2
Packe	Col. G. H.	Caythorpe Hall	Vice Pres. of Soc.	x						2
Paddison	Edward	Ingleby	Council	x		x		x		4
Reeve	Col. J.	Leadenham	Vice Pres. of Soc.					x		2
Riggall	Robert	Ulceby	x					x		2
Roberts	Reuben	Horncastle	x					x		2
Robinson	Christopher	Bilsby, Alford	x					x		2
Robinson	family	Huttoft	x					x		2
Robinson	R.	Sedgebrook, Grantham	Council	x						2
Robson	C. B.	Horncastle and Lincoln	x					x		2
Robson	James	Brackenborough	Council	x						2
Rutland	*His Grace, the Duke of*	*Belvoir Castle, Grantham*	*Vice Pres. of Soc.*	*Gov.*					*x*	3

Table 4 contd.

A	B	C	D	E	F	G	H	I	J	K
Scorer	W.	Burwell, Louth	x					x		2
Searby	family	Croft, Wainfleet	x					x		2
Searby	R.	Edlington, Horncastle	x					x		2
Sharpley	family	North wolds area	x	x				x	x	4
Skipworth	family	Caistor area	x	x	Caistor		x		x	5
Stanhope	J. Banks	Revesby	Vice Pres. of Soc.	x	Revesby					3
Stephenson	family	Alford	x					x		2
Sutton	family	Scawby	Vice Pres. of Soc.					x		2
Tomlinson	family	Birthorpe, Folkingham	x					x		2
Torr	William	Aylesby, Grimsby	Council	Council	Caistor	x	x	x		6
Tunnard	Rev. J.	Frampton, Boston	Vice Pres. of Soc.		Boston					2
Turnor	Christopher	Stoke Rochford Hall, Grantham	Vice Pres. of Soc.	x						2
Turnor	Edmund	Panton Hall, Wragby	Vice Pres. of Soc. & Council	x				x	x	4

Table 4 contd.

A	B	C	D	E	F	G	H	I	J	K
Wadsley	W. E.	Dunsby, Bourne	x					x		2
Walter	James	Hatton	x					x		2
Webb	Jonas	Melton Ross	x					x		2
Welby	J. Earle	Allington Hall, Grantham	Vice Pres. of Soc.	x						2
Welby	W. Earle	Folkingham	Vice Pres. of Soc. & Council	x						2
Wells	Wallis T.	Withern, Alford	x					x		2
Winn	Rowland	Appleby Hall, Brigg	Vice Pres. of Soc.	x						2
Would	William	Belchford, Horncastle	x		Donington and Hainton					2
Wyles	R.	Little Ponton, Grantham	Council	x						2
Yarborough	The Rt. Hon., the Earl of	Brocklesby Park, Grimsby	President of Society	x	Caistor					3
Total 101			101	54	11	8	7	65	6	

final column (column K).[203] Although the register of Lincoln Red Shorthorn breeders is of a later date (1895) than the other lists, many of those who appear in it were members of the great Lincolnshire farming dynasties who had been refining the breed over a number of decades. The portrait of the 'celebrated' ram breeders in the LAS offices is undated but photographs of the picture in local repositories give the date 1873-4.[204] The photograph in the Lincolnshire Life Museum is reproduced in J. A. Perkins', *Sheep Farming in Eighteenth and Nineteenth Century Lincolnshire.*[205]

Table 4 shows the results of the exercise undertaken. It is immediately apparent that many of those in the upper echelons of the LAS were also important members of the RASE. Sir M. J. Cholmeley, Bart. M.P.; Lord Kesteven; the Rt. Hon. M. J. Nisbet-Hamilton and the Duke of Rutland, all Vice Presidents of the LAS, were also Governors of the RASE. The Duke of Rutland visited Mechi's experimental farm at Tiptree in May 1850. He wished Mr Mechi 'every success in his truly national enterprise.'.[206] The President of the LAS, the Earl of Yarborough, and William Hutton of Gate Burton, a Trustee of the LAS Council, were also members of the RASE. Henry Chaplin, M.P., one of the Vice Presidents of the LAS Council was another Governor of the national society. A further five of the Vice Presidents, making a total of six out of 14 (43%) of the Vice Presidents of the Council of LAS, were members of the RASE. Unexpectedly, Lord Brownlow, the Patron of the LAS, does not appear in the membership list for the RASE in 1873, nor does he appear in that for any other county with which he had connections.

Half of the ordinary council members of the LAS had membership of the RASE as well.

[203] 'List of Visitors to Tiptree Hall Farm'; Clarke, 'Farming of Lincolnshire', JRASE, 12 (1851) pp. 394, 401; 'Portrait Group of the Celebrated Lincolnshire Ram Breeders', LAS office, Lincolnshire Showground; Lincolnshire Red Shorthorn Association Herd Register Vol 1 (Lincoln, 1895).
[204] Lincoln Central Library, LCL 2244; Museum of Lincolnshire Life, MLL 1419.
[205] J. A. Perkins, Sheep Farming in Eighteenth and Nineteenth Century Lincolnshire, Occasional Papers in Lincolnshire History and Archaeology 4, (Sleaford, 1977) Plate XIV, p. 50.
[206] 'List of Visitors to Tiptree Hall Farm', f. 64^{v}.

Five of these; J. H. Casswell of Laughton, E. Howard of Nocton, R. G. F. Howard of Temple Bruer, Edward Paddison of Ingleby and Charles Clarke of Ashby de la Launde, also appear on the LAS portrait of 'Celebrated Lincolnshire Ram Breeders'. Notwithstanding the possibility of self-selection, this suggests that a number of those associated with practical success in improved breeding were men who moved in leading circles of the county agricultural society and had membership of the national one. It is possible that J. H. Casswell was also the 'Mr Casswell' referred to by Clarke in his JRASE prize essay, as a leading sheep breeder. He appears yet again in the herd book of the Lincoln Red Shorthorn Association.

Another member of the LAS council, as well as the council of the RASE, was William Torr of Aylesby. He was noted by Clarke as a sheep breeder and listed in the Lincoln Red herd book. In addition to Casswell and Torr, at least six other members of the LAS council were Lincoln Red Shorthorn breeders, including William Hutton of Gate Burton. Torr was a co-founder of the Caistor Ploughing Society with William Skipworth of South Kelsey. A Skipworth is mentioned by Clarke as a leading sheep breeder and other members of the family were members of the LAS and the RASE. One of them, H. S. Skipworth, visited Tiptree in July 1874.[207]

Others of those involved with local societies had membership of the LAS and RASE and some were also leading stock breeders. The Rev. J. Tunnard of Frampton, sometime President of the Boston Agricultural Society, was a Vice President of the LAS and the Marquis of Exeter, Patron of the Bourne Agricultural Society, was also a Vice President. William Would and Thomas Bett both served at some time as chairman of Donington and Hainton Ploughing Society. Would was a member of the LAS and Bett was a Lincoln Red Shorthorn breeder. James Banks Stanhope, whose tenants constituted the Revesby Agricultural Society, was a Vice President of the LAS and a member of the

[207] 'List of Visitors to Tiptree Hall Farm', f. 255[v].

RASE. Major Grantham of West Keal, on whose farm the second meeting of the Spilsby Agricultural Labourers' Society was held, was a council member of the LAS and a member of the RASE. James Martin, who was involved with the Wrangle and East Lincolnshire Agricultural Society, was a council member of the LAS, a member of RASE and a Lincoln Red breeder.

Sometimes, as with the Skipworths, the picture is a little more confused, revealing extended family dynasties within the network of those involved in improvement activity in the county. Six members of the Mackinder family were members of the LAS, two of them also being members of the RASE. One of those who was a member of both the county and the national society was one of the 'Celebrated Lincolnshire Ram Breeders'. Another, who was a member only of the LAS, was a Lincoln Red Shorthorn breeder. The extensive Dudding family was another which was famed for its stock. Four of the family were members of the LAS and two of these also had membership of the RASE. F. W Dudding of Alford was a Lincoln Red breeder and a 'Mr Dudding' was noted by Clarke as a breeder of improved Leicesters. Five members of the Sharpley family, who were reputed to have farmed a vast area of the wolds, were members of the LAS and three of them were Lincoln Red breeders. Three members of the family were also members of the RASE.

The final column in Table 4 records the number of 'hits' each person had in the columns showing membership of agricultural societies and involvement in improved agriculture in the county. The minimum number of hits was two, ie. membership of LAS and involvement in at least one other category of improvement activity. Farming family names such as Casswell, Clarke, Dudding, Kirkham, Mackinder, Martin, Paddison, Sharpley, Skipworth and Torr are prominent in the network of improvers with between four and six hits each. Of the landowning families, Edmund Turnor is the most notable

with four hits. However, if Chaplin's involvement with the South Lincolnshire Society, which is not listed in Skehel's 'Register of Agricultural Societies in Lincolnshire', were to be counted then he too would appear as a particularly active improver. William Loft, with whom the chapter began, does not appear because his farming activities were terminated by his sudden death in 1854 and Joseph Livesey's premature death accounts for his absence from the list. Some of these names are ones which will resonate through subsequent chapters of the study and will help to answer the question 'Who was erecting the buildings of high farming in Lincolnshire?'. The network of nineteenth century improvers in Lincolnshire shows that there was an identifiable social group in the county who might be regarded as the high farmers of Lincolnshire.

The second question which this chapter has begun to address is why this group of people should have chosen to build and what determined the form of the buildings they erected. Their beliefs and values have been shown to have been expressed in their founding of local agricultural societies whose aims were to encourage skill in the various branches of husbandry, foster the welfare of the labouring classes and promote innovation and emulation. Membership of local, county and national agricultural societies has been shown to have provided social encounters which reinforced the beliefs and values of the group. The spread of the culture of improvement and the sharing of the scientific knowledge base upon which high farming was founded has been related to the information environment of nineteenth century farming circles, with the *JRASE* and other agricultural publications serving to disseminate information and ideas. Visits to Mechi's experimental farm at Tiptree in Essex have been examined as a means of demonstrating the extent of the influence of such publicists and in pursuit of insights into the shared ideology of Lincolnshire's high farmers.

The foregoing examination of the circumstances of the inception and subsequent

development of the county's nineteenth-century agricultural societies, and of the information environment of the county's landowning and tenant classes, and the particular example of visits to Mechi's experimental farm at Tiptree, has presented insights into who was involved in high farming in Victorian Lincolnshire, what was important to them and what shaped their thinking. It supports the view, based on the first of Rapoport's categories into which definitions of culture fall, that there was a way of life typical of the landowners and tenant farmers of Lincolnshire, which distinguished them from other people and expressed a shared vision of an ideal: that of high farming.

Chapter 3

The High Farming Ideology: its Evolution and Expression

The impact of industrial capitalism on enlightenment thinking created a culture of improvement which reached its apogee, in the rural sphere, in the high farming activities of the second half of the nineteenth century. The buildings of high farming in Lincolnshire were both a product of, and a vehicle for, that culture. The previous chapter presented various insights into the high farming mind-set. It is now necessary to turn to a more detailed consideration of the ideology of those involved in high farming in the county, in the nineteenth and early twentieth centuries. 'Environments are thought before they are built.'[208] This chapter will consider the culture of improvement and the ways in which nineteenth-century Lincolnshire farm buildings were shaped by the ideology common to the landowners and farmers who constructed them. Focussing on the second of Rapoport's ways of defining culture, discussion will centre on the premise that culture involves the manifestation of a common lifestyle and ideology through a system of symbols, meanings and codes contained within the environment designed by the group. An attempt will be made to define nineteenth-century high farming, and the extent to which landscape and buildings manifest its beliefs and values will be discussed.

It is not possible to give a simple and concise definition of high farming. As Holderness observed in his study of its origins: 'high farming was a complex expression even in mid-Victorian Britain'.[209] The *Oxford English Dictionary,* which gives historic uses of words, notes its use in the *Edinburgh Review* in 1819, where there is a reference to

[208] Rapoport, 'Vernacular architecture and the cultural determinants of form', in King ed. Buildings and Society, (1980), (1980) p. 292.
[209] Holderness, 'Origins of High Farming', in Holderness and Turner, Land, Labour and Agriculture, (1991) p. 152.

'capital.....expended on what is called high farming', but Holderness considered it was not until the 1840s that the term came into more general use as a result of the writings of Pusey, Hoskyns and Caird.[210] High farming did not necessarily have the same meaning for all who used it; for some it was a qualitative term indicating that the husbandry in question was good, whilst for others its use conveyed a number of more specific meanings relating to the substance of agricultural activities. Furthermore, it has since gained currency as a convenient epithet for the period of prosperity in farming in the middle years of the nineteenth century. These three different uses of the term 'high farming', the qualitative, the substantive and the periodic, must be distinguished before discussion of the culture of high farming can be developed.

R. E. Prothero (Lord Ernle), used the term 'high farming' to denote a period. He named Chapter 17 of *English Farming Past and Present,* first published in 1912, 'High Farming 1837-1874'.[211] Within this period he identified the years 1853-62 as 'The Golden Age of English Agriculture'.[212] This identification of the middle years of the nineteenth century with high farming pervades many later studies although the boundary dates of the period might vary from one to another. Its use by J. D. Chambers and G. E. Mingay as the title for a chapter on the years between the beginning of Queen Victoria's reign and the onset of the Great Depression, in their basic text on the agricultural revolution, is typical.[213] The index of Volume 7 of the Cambridge *Agrarian History* has one entry for high farming, 'High Farming Period *see* Golden Age', and the first section of E. J. T. Collins' chapter on 'Rural and Agricultural Change' is entitled 'The High-Farming Period: The Golden Age, 1850-75'.[214] The study by Wade Martins and Tom Williamson of farming

[210] Edinburgh Review, 32 (1819) p. 464, quoted in Oxford English Dictionary, (Oxford, 2005) http://dictionary.oed.com/cgi/entry/50082395, keyword search 'farming', meaning 2, accessed 28/6/05; Holderness, 'Origins of High Farming', in Holderness and Turner, Land, Labour and Agriculture, (1991) p. 149.
[211] R. E. Prothero (Lord Ernle), English Farming Past and Present, (1912).
[212] R. E. Prothero (Lord Ernle), English Farming Past and Present, 6th edn.(1961) p. 349.
[213] J. D. Chambers and G. E. Mingay, The Agricultural Revolution 1750-1880, (1966) pp. 170-198.
[214] Collins ed., The Agrarian History of England and Wales, (2000) p. 2229; E. J. T. Collins, 'Rural and Agricultural Change', in Collins ed., The Agrarian History of England and Wales, (2000) pp. 72-137.

and landscape in East Anglia has a chapter entitled 'High Farming, c.1830-1870, thus setting different parameters but again equating high farming with a particular period.[215]

In his essay in *Land, Labour and Agriculture*, Holderness spoke of high farming foundering 'upon the Scylla of 1879'.[216] The onset of the Great Depression, another widely-used term which has different connotations for different writers, is frequently taken to herald the end of high farming as a period. The periodicity of high farming and the extent to which it can be regarded as having ceased in Lincolnshire after 1879 are discussed further in Chapter 6. Attention must now turn to the second of the three ways in which the term can be used: as a qualitative term.

Amongst the many meanings given for 'high' in the *OED* is its use in the figurative sense, meaning 'of exalted quality, character or style; of lofty, elevated, or superior kind; high-class'.[217] The term was used as both an adverb and an adjective by one group of visitors to Tiptree who commented in the visitors' book 'We all most highly approve of the high state of cultivation of the farm.....'.[218] A great many of Mechi's visitors declared themselves to be 'highly gratified' with various aspects of their visits. Sir Tatton Sykes of Sledmere in East Yorkshire was such a one, commenting 'Highly gratified and pleased', after his tour of the farm on 23rd August, 1858.[219] A Northumbrian visitor in 1846 broke into superlatives: 'I..... have this day experienced the highest gratification in seeing the highest and most scientific practices I have ever observed in any county'.[220] The value of Mechi's visitors' book is that it records colloquial, rather than literary, use of language and there are numerous references to 'high farming', 'high feeding' and the

[215] Susanna Wade Martins and Tom Williamson, Roots of Change: Farming and the Landscape in East Anglia, c. 1700-1870, (Exeter, 1999) pp.131-153.
[216] Holderness, 'Origins of High Farming', in Holderness and Turner, Land, Labour and Agriculture, (1991) p. 152.
[217] OED, (2005) http://dictionary.oed.com/cgi/entry/50106028, keyword search 'high', meaning 6a. Accessed 28/6/05.
[218] 'List of Visitors to Tiptree Hall Farm', f. 15.
[219] ibid., f. 178.
[220] ibid. f. 3.

'high state of cultivation' of the farm.

It was in a qualitative sense that 'high farming' was used in the tithe surveys 1836-47. Roger Kain states that on the 'arable' report forms, local agents were specifically requested to record any examples of unusually high or low farming which might have affected the amount of tithe paid. He goes on to note that 'High farming was not defined according to any clearly defined criteria, indeed some local agents often used the term as a synonym for exceptionally good husbandry'.[221] High farming was noted in 23 places in Lincolnshire, one of these, West Firsby on the heath north of Lincoln, presented 'one of the finest specimens of artificial farming that I have seen in any part of England', according to John Penny, the local tithe agent.[222]

In the examples from Mechi's visitors' book and the tithe record for West Firsby there is evidence of 'high farming', as a description of the quality of farming, being equated with scientific practices and the use of artificial fertilisers. This leads on to the question of what type, or types, of farming, were understood when the phrase was used. Holderness noted that Pusey, Hoskyns and Caird all used the term in different ways and that Mechi, who deserved 'great credit for carrying on the modern improvement of Agriculture, beyond any one individual in this Country' in the opinion of William Fisher Hobbs, did not use the term at all in his writings.[223]

Used in a general sense, the term high farming suggested best practice, the application of the latest advances in technology and integrated farming regimes based on scientific principles. Being more specific about the substance of high farming, the *OED* defines it as 'the extensive use of fertilisers in land cultivation'.[224] Inputs such as guano from Peru,

[221] Kain, Atlas and Index of Tithe Files, (1986) p. 558.
[222] ibid., pp. 85-6.
[223] Holderness, 'Origins of High Farming', in Holderness and Turner, Land, Labour and Agriculture, (1991) p. 149; 'List of Visitors to Tiptree Hall Farm', f. 9.
[224] OED, (2005) http://dictionary.oed.com/cgi/entry/50106028, keyword search 'high', meaning 21a. Accessed 28/6/05.

nitrate form Chile, potash from Germany and home-produced superphosphates and basic slag, employed to enhance soil fertility and increase productivity, were an important element of high farming, as was farmyard manure. Brigden quotes G. A. Andrews writing in 1852: 'high farming is economy of labour and manure, and plenty of both'.[225] 'Economy' has here a nineteenth-century meaning suggesting productive management of resources rather than its modern sense of reduction of inputs, hence the comment of Alexander Pitcairn, Factor for Lord Breadalbane, in Mechi's visitors' book; 'Very much gratified with the general economy of the farm'.[226]

Pusey equated high farming with high feeding. Writing on the agricultural improvements in Lincolnshire, he particularly noted the system of providing large quantities of straw and feeding it, along with oil-cake, to beasts kept in sheltered yards. The cost of the feedstuffs was not recouped in the value of the beast at market but in the increased productiveness of the soil after liberal applications of manure from such yards. Pusey referred to beasts kept in this way as 'machines for converting the straw into dung'.[227] 'This principle is the great distinction of English agriculture and constitutes what is called high farming', he claimed in his essay on agricultural progress, which also contained a discussion of underdraining and mentioned particularly the system developed by Smith of Deanston.[228] Improving heavy clay lands by underdraining was another element of high farming and one which was employed by Mechi and Lawson on their inhospitable clays before cultivation was attempted.[229]

For Caird, capital improvements such as underdraining were an essential constituent of high farming. In his treatise on high farming as a response to the repeal of Protection, he

[225] G. H. Andrews, Agricultural Engineering, Vol. 1 (1852) p. 52, quoted in Brigden, Victorian Farms, p.28.
[226] OED, (2005) http://dictionary.oed.com/cgi/entry/50071995, keyword search 'economy', meaning 2a, accessed 28/6/05; 'List of Visitors to Tiptree Hall Farm', f. 130[v].
[227] Pusey, 'On the Agricultural Improvements of Lincolnshire', JRASE, 4 (1843) pp.300-01.
[228] P. Pusey, 'On the Progress of Agricultural Knowledge during the last Four Years', JRASE, 3 (1842) pp. 169, 205.
[229] supra. Chapter 2.

discussed permanent improvements including draining and subsoiling, reclamation of moss land and landlord provision of farm buildings. 'Where capital, skill, and the mutual co-operation of landlord and tenant can be combined, the practice of high farming will undoubtably be found the landlord's true interest and the tenant's best protection' he declared.[230] Mechi also advocated the application of capital to agriculture: 'I long to see the time when we shall be wise enough to use our spare capital in our own country, producing our own much-required food, rather than passing our untold millions into the hands of foreign nations, to enable them to compete with us by means of our own capital', he lamented. [231]

All the foregoing elements of high farming - the employment of new machinery and power sources, the adoption of new regimes based on advances in scientific knowledge, the liberal application of chemical and organic fertilisers, capital investment in underdraining, subsoiling, reclamation and the provision of farm buildings, were aimed at one thing: the increase of productivity. As Chambers and Mingay put it, high farming was synonymous with high production.[232] Pursuing an ever-increasing level of output and ongoing rises in productivity are part of the culture of progress and improvement in which Victorian high farming had its roots. The concept of improvement was fundamental to high farming and, for those seeking to achieve a better understanding of its culture, a consideration of the development of the idea and practice of improvement within the Scottish Enlightenment of the eighteenth century, is necessary.

In the opinion of Stephen Daniels and Susanne Seymour, "Improvement' is arguably the key word in the literature culture of the eighteenth and nineteenth centuries and certainly of that culture's designs on the landscape'.[233] Improvement was a term initially used to

[230] Caird, High Farming under Liberal Covenants, (1849) pp. 8-11, 32.
[231] Mechi, How to Farm Profitably, Preface to 4th edn. (1864) vi.
[232] Chambers and Mingay, The Agricultural Revolution, (1966) p. 171.
[233] S. Daniels and S. Seymour, 'Landscape Design and the Idea of Improvement 1730-1914', in R. A. Dodgshon and R. A. Butlin eds., An Historical Geography of England and Wales, 2nd edn. (1990) p. 487.

denote operations which were intended to turn something to profit. By the eighteenth century it frequently referred to activities which aimed to increase the profitability of a gentleman's estate, enclosure or reclamation, for example. However, alongside this use it assumed a wider sense of 'making something better'. It became a matter of taste, virtue, education and patriotism as well as of finance and pragmatism and, by the end of the eighteenth century, it was being applied to a much wider range of activities extending from art and science to manufacturing and commerce.[234]

The complexity of ideas contained within the term 'improvement' were fused to form this sophisticated concept, with its multiplicity of resonances, in the crucible of enlightenment thinking. The phrase 'enlightenment thinking' is used here because modern scholars encourage a broader understanding of what might once have been termed *the Enlightenment.* It is now seen as a dynamic process which took place in a number of locations, international, national and local, over a period of time. Roy Porter said enlightenment 'can no longer be treated as some homogeneous entity'. He went on to say that there were distinctive enlightenment identities in England, Scotland, France, Italy, the German States, Scandinavia and, beyond Europe, in the Americas. David Livingstone and Charles Withers argue that we should not be trying to identify a single 'where and when' but should think of enlightenment being 'about the movement of ideas across borders and over time'.[235]

Livingstone and Withers' siting of enlightenment in 'local spaces and circumstances', as well as at a national level, is identified by Daniels, Seymour and Charles Watkins as being characteristic of improvement also. They suggest that there were 'strong, self-

[234] OED, (2005) http://dictionary.oed.com/cgi/entry/50113527, keyword search 'improvement', meaning 1, accessed 28/6/05; Raymond Williams, Keywords: a vocabulary of culture and society, (1976) pp. 132-3; Daniels and Seymour, 'Landscape Design and the Idea of Improvement', in Dodgshon and Butlin eds., Historical Geography of England and Wales, (1990) pp. 487-8.

[235] Roy Porter, 'Afterword', in David N. Livingstone and Charles W. J. Withers eds., Geography and Enlightenment, (1999) p.416; Charles W. J. Withers and David N. Livingstone, 'Introduction: On Geography and Enlightenment', in Livingstone and Withers eds., Geography and Enlightenment, (1999) p.4.

consciously regional strains to the culture of even agricultural improvement, for example in Norfolk and Herefordshire'.[236] Their study of Sir George Cornewall's management of Moccas in Herefordshire found progressive practices on his home farm in the closing decades of the eighteenth century and early years of the nineteenth-century. These included improved breeding of sheep, cultivation of grasses such as clover, trefoil and rye grass, hoeing of turnips and potatoes, experiments with swedes, new implements including a threshing machine (1810), and fertilising by flooding; an accepted improving practice in Herefordshire.[237] In East Norfolk, in the same period, a system of high feeding was being practised. Holderness noted that Marshall observed intensive feeding regimes in the Blofield Hundred in the 1780s. Here cattle were accommodated in lean-to shelters and fed on turnips contained in central sheds, to which the beasts had access through arched openings.[238] Wade Martins has identified four buildings of this type extant in the area and Plate 8 shows an example at Toft Monks (TF 418 953) which she and Barnwell thought might date from the 1820s, or possibly earlier.[239]

Notwithstanding Norfolk's claims to have been the 'cradle of high farming', or at least its manifestation in the form of high feeding, the ideological origins of nineteenth-century high farming must be sought in the eighteenth-century enlightenment in Scotland.[240] In his study *The Long Nineteenth Century in Intellectual History*, Mark Bevir explores the link between nineteenth-century thinking and the Scottish Enlightenment. He identifies revisionist views of the nineteenth-century, especially the work of John Burrow and

[236] Withers and Livingstone 'Introduction' in livingstone and Withers eds., Geography and Enlightenment, (1999) p.4; Stephen Daniels, Susanne Seymour and Charles Watkins, 'Enlightenment, Improvement and the Geographics of Horticulture in Later Georgian England', in Livingstone and Withers eds., Geography and Enlightenment, (1999) p.347.

[237] Susanne Seymour, Stephen Daniels, Charles Watkins, 'Estate and Empire: Sir George Cornewall's management of Moccas, Herefordshire and La Taste, Grenada, 1771-1819', Journal of Historical Geography, 24 3 (1998) p. 323.

[238] Holderness, 'Origins of High Farming', in Holderness and Turner, Land, Labour and Agriculture, (1991) p. 156.

[239] Visited 2/4/95 with Wade Martins, Williamson and Barnwell on a field study at the Society for Landscape Studies and HFBG joint conference at the University of East Anglia, 1-2 April 1995 see also Wade Martins and Williamson, Roots of Change, (1999) p. 91.

[240] Holderness, 'Origins of High Farming', in Holderness and Turner, Land, Labour and Agriculture, (1991) p. 157.

David Winch and the so-called 'Cambridge School', which challenge the old historiography of the period and seek new understandings. These, whilst focussing primarily on history, economics, sociology and politics, are 'sensitive to the impact thereon of other domains of thought'.[241] The impact of 'other domains of thought' on the well-chronicled history of nineteenth-century high farming is one of the themes the present study seeks to explore.

Bevir explains that recent developments in the fields of intellectual and cultural history encourage the recognition of 'powerful continuities between the eighteenth and nineteenth centuries'.[242] He suggests that 'if we are seeking to characterise a period as a whole, we will do so in terms of a series of over-lapping beginnings, contents and endings'. For him the 'long nineteenth century' began in 1750 with the Scottish Enlightenment whose language and concerns persisted into the nineteenth century.[243] The 1846 comment of Thomas Dickon, the first Lincolnshire visitor to Tiptree, demonstrates the influence of the enlightenment in mid-nineteenth century Lincolnshire; concerns with empiricism, science and reason are evident in his expression of gratitude for 'the opportunity of witnessing experimental farming on scientific principles, founded on reason and calculated to produce results of the highest value'.[244]

The development of enlightenment thinking and improved agriculture in Scotland was discussed by Robinson in his study of Georgian model farms. He contended that in Scotland, after the defeat of the Jacobites, the energies of the landed aristocracy were concentrated in two 'fields of endeavour': the creation of a polite culture which would lead Europe in neo-classical taste and enlightenment thinking, and the pursuit of material improvement.[245] The two went hand-in-hand; the openness of mind and the idea that

[241] Mark Bevir, 'The Long Nineteenth Century in Intellectual History', Journal of Victorian Culture, 6.2 (Autumn, 2001) pp. 313-4.
[242] ibid., p. 313.
[243] ibid., p. 329.
[244] 'List of Visitors to Tiptree Hall Farm', f. 3.
[245] Robinson, Georgian Model Farms (1983) p. 17.

man could take control of nature with the aid of science which arose from the Scottish Enlightenment, fostered an interest in the possibilities of improvement, whilst the surplus wealth generated by such improvement was used to sustain a tasteful and educated lifestyle. This was not a 'closed circle' however. Gavin Sprott, of the Department of Social and Technical History of the National Museums of Scotland, emphasises that wealth generated in the East India trade was invested in agricultural improvement in Scotland.[246] Tom Devine also noted that capital generated elsewhere was invested in Scotland. He considered that whilst the old elite of the Highlands had expended the surplus of their northern estates in southern capitals, by the first half of the nineteenth century the process had been reversed and the new landed class was spending money derived from commercial success outside the Highlands on the improvement of the north and west.[247]

The land to which the Jacobites returned from exile after the 1715 and 1745 rebellions was ripe for improvement. The ancient tenurial system had given tenants little security and was characterised by excessive fragmentation of landholding. This, combined with years of warfare and political unrest, meant that scant attention had been paid to advances in farming arrangements and practices. Returning lairds brought with them new technologies from the Low Countries which they would apply to the improvement of estates whose potential had been identified, during the time of their confiscation, by the surveys commissioned by the Board of Commissioners for the Annexed Estates (1778-1784).[248]

[246] Telephone conversation with Gavin Sprott, 4/11/02.
[247] T. M. Devine, 'The Emergence of the New Elite in the Western Highlands and Islands 1800-60', in T. M. Devine ed. Improvement and Enlightenment: Proceedings of the Scottish Historical Studies Seminar, (Edinburgh, 1989) p. 130.
[248] Gavin Sprott, National Museums of Scotland, 'From subsistence to industrialised agriculture: The Scottish Experience', HFBG Conference, Inverness, 6th-8th September 2002; Ian J. Fleming and Noel F. Robertson, Britain's First Chair of Agriculture at the University of Edinburgh 1790-1990: A History of the Chair Founded by Sir William Johnstone Pulteney, (Edinburgh, 1990); Robinson, Georgian Model Farms (1983) pp. 17-19.

Practical improvement was supported by a constant stream of didactic texts. One of these, *The Gentleman Farmer, Being an Attempt to Improve Agriculture by Subjecting it to the Test of Rational Principles*, (1766) by Henry Home (Lord Kames), illustrates in its title the close connection between agricultural improvement and enlightenment principles. Home was a leading figure in Scottish agricultural improvement. He combined its promotion in his political career with practical undertakings such as the draining of Kincardine Moss at Blair Drummond, by means of a water wheel designed by George Meikle, brother of Andrew who developed threshing machine technology. Home was a member of 'The Edinburgh Society for the Encouragement of Arts, Sciences, Manufactures and Agriculture' which flourished mid-century, offering prizes for essays on innovations and successful methods of improving production.[249] The name of this society is a reminder of the breadth of activities which came to be embraced by the impetus for improvement.

Another leading improver, who engaged in enlightenment pursuits such as 'the promotion of improvement', 'the introduction of the spirit of industry' and 'the collecting of useful information', was Sir John Sinclair. He directed his enthusiasm towards the compilation of the *Statistical Account of Scotland* (1791-9); the foundation of the British Fisheries Society (1786); the British Wool Society (1791) and the first Board of Agriculture, of which he was president, (1793).[250] His great friend was Sir Joseph Banks of Revesby in Lincolnshire, also a distinguished enlightenment figure. Arthur Young visited the estate office at Revesby and enthused over Banks' innovative system of cataloguing 'useful information':

> There is a catalogue of names and subjects in every drawer so that whether the enquiry concerned a man or drainage, or an enclosure or farm, or a wood, the request was scarce named before a mass of information was before me. Such an appartment and such an apparatus must be of incomparable use in

[249] Fleming and Robertson, Britain's First Chair of Agriculture , (1990) pp. 7-9.
[250] ibid., p. 10; Rosalind Mitchison, Agricultural Sir John: The Life of Sir John Sinclair of Ulbster 1754-1839, (1962) pp. 83, 109-119, 137.

the management of every great estate or indeed in any circumstance.[251]

Personal friendships were not the only way in which ideas were traded between the two nations; in the early years of agricultural improvement in Scotland John Cockburn of Ormiston encouraged English tenants to his estate in order that they might bring English agricultural knowledge with them. Cockburn was a member of the 'Society of Improvers in the Knowledge of Agriculture in Scotland', founded in 1723, and was a great admirer of English agricultural progress. A century later the flow of ideas and resources was reversed. Whereas in the eighteenth century the Scots were copying the English and Scottish money was spent in the South, by the nineteenth century English money was being invested in Scotland and the English were copying the Scots.

English landowners sought to employ Scottish agents on their estates. Michael Henchard, in Thomas Hardy's novel *The Mayor of Casterbridge,* was not the only one who decided to engage a Scot in order to benefit from agricultural expertise developed north of the border.[252] Many nineteenth-century English estates had Scottish agents: the Marquis of Stafford, later Duke of Sutherland, employed John Loch on his estates in Shropshire and Staffordshire as well as in Scotland; Francis Blaikie was agent to the Earl of Leicester at Holkham; Andrew Thompson combined the supervision of the Sneyd estate at Keele with his job as surveyor to the Land Improvement Company and Caird recommended John Matthew to Peel.[253] The incidence of landowners holding estates in both countries may have encouraged the employment of Scottish agents on English estates. In Lincolnshire Lewis Kennedy was employed on the Ancaster estate at Grimsthorpe as well as on the family's Drummond estate in Scotland.[254] The close

[251] Quoted without an original reference in Daniels, Seymour and Watkins, 'Enlightenment, Improvement and the Geographics of Horticulture' in Livingstone and Withers eds., Geography and Enlightenment, (1999) p. 346.
[252] Thomas Hardy, The Mayor of Casterbridge, Macmillan Papermac edn. (1972) pp. 50-52.
[253] Wade Martins, The English Model Farm, (2002) pp. 17-19; Phillips, The Staffordshire Reports of Andrew Thompson, (1996) pp. 13-22.
[254] Tim Clarke, current agent for the Grimsthorpe and Drummond Estate Trust, addressing Shirley Brook's Year 1, Bishop Grosseteste College, Heritage Studies students, 23/4/98.

involvement of Christopher Turnor's Scottish agent, John Young Macvicar, with the extensive building campaign on Turnor farms across the county in the middle years of the nineteenth century, is discussed in the next chapter.

The notion of improvement was not a static concept. Ideas evolve and the mid-nineteenth century concept of improvement, which underpinned the culture of high farming, was one which grew out of the melding of enlightenment ideas of improvement with ones which belonged to nineteenth-century industrial capitalism. Derek Gregory, considering geographies of industrialisation, avoided the term 'Industrial Revolution' because he regarded industrialisation as 'a long, drawn-out process' rather than 'a cataclysmic transformation'.[255] This interpretation is shared by Bevir who states that 'Social and economic historians have begun to highlight the long, slow, ambivalent nature of the Industrial Revolution'.[256] E. P. Thompson, considering time and work-discipline, held that 'the transition is not to "industrialism" *tout court* but to industrial capitalism'.[257] What Britain experienced in 'the long nineteenth-century' was not simply industrialisation, ie. a change in manufacturing technique, but the evolution of industrial capitalism; an economic system which organised and promoted the exploitation of man and machine. It was the ideas and processes of industrial capitalism which brought new, pragmatic interpretations of the notions of progress and improvement to the development of the culture of high farming.

Industrial capitalism involved increasing mechanisation of processes and an attendant centralising of production, which created a need for integrated systems to manage labour and materials. Rationalisation of time was required to promote synchronisation and efficiency in the exploitation of labour and resources. The working day, and the tasks to

[255] Derek Gregory, "'A New and Differing Face in Many Places': Three Geographies of Industrialization', in Dodgshon and Butlin eds., Historical Geography of England and Wales, (1990) p. 351.
[256] Bevir, 'The Long Nineteenth Century', Journal of Victorian Culture, 6.2 (2001) p. 313.
[257] E. P. Thompson, Customs in Common, (1991) p. 382.

be performed within it, were no longer dictated by 'nature's time' as Anthony King called it; instead the day was divided into differentiated units of time within which specific tasks were to be conducted. Industrial capitalism was characterised by increasing specialisation and differentiation: functional differentiation relating to tasks and social differentiation relating to status. It also involved the creation and selective appropriation of a surplus and, in nineteenth-century Britain, much of this surplus was invested in the purchase and improvement of property in the form of land, country houses and estate buildings, including farm buildings.[258]

The buildings of high farming were not only physical spaces in which particular tasks were undertaken, they also constituted part of the substance of the landowner. As an element of the estate landscape they belonged to a theatre in which discourses of enlightenment and industrial capitalist improvement were pursued and played out. In the early 1980s Denis Cosgrove redefined landscape not as an object but as a 'way of seeing' rooted in ideology.[259] Over more than two decades, Cosgrove, Ann Bermingham, Daniels, Hugh Prince, Seymour, Watkins, Livingstone, Withers, Ian Whyte and others have explored the idea of landscape as being more than 'chunks of raw topography', but rather 'a thing of the mind', as Simon Schama put it in his BBC TV series 'Landscape and Memory', which helped to popularise cultural geography.[260] This way of interpreting landscape was presaged in two articles by David Lowenthal and Prince in

[258] Thompson, Customs in Common, (1991) pp. 352-403; Anthony D. King, 'The Vacation House', in King, Buildings and Society, (1980) pp. 196-200, 216-7.

[259] Denis E. Cosgrove, Social Formation and Symbolic Landscape, (1984) p.35 quoted in Ian D. Whyte, Landscape and History since 1500, (2002) p. 20.

[260] Cosgrove, Social Formation and Symbolic Landscape, (1984); Anne Bermingham, Landscape and Ideology: The Rustic Tradition 1740-1860, (1987); Denis Cosgrove and Stephen Daniels eds., The Iconography of Landscape, (Cambridge, 1988); Hugh Prince, 'Art and Agrarian Change, 1710-1815', in Cosgrove and Daniels eds., The Iconography of Landscape, (1988) 98-118; Daniels and Seymour, 'Landscape Design and the Idea of Improvement', in Dodgshon and Butlin eds., Historical Geography of England and Wales, (1990) 487-520; Stephen Daniels, Fields of Vision: Landscape Imagery and National identity in England and the United States, (Cambridge, 1993); Daniels, Seymour and Watkins, 'Enlightenment, Improvement and the Geographics of Horticulture' in Livingstone and Withers eds., Geography and Enlightenment, (1999) 345-371; Charles W. J. Withers and David N. Livingstone eds., 'Introduction on Geography and Enlightenment', in Livingstone and Withers eds., Geography and Enlightenment, (1999) 1-28; Whyte, Landscape and History, (2002); Simon Schama, 'Landscape and Memory', Programme 1 The Forest, BBC2, 1995 published as Simon Schama, Landscape and Memory, (1995).

the *Geographical Review* in the 1960s.[261] Whyte considers that the interpretation of landscape as a way of seeing has links with ideas of space which had their origins in the development of early modern capitalism in Renaissance Italy: 'Landscape developed as land acquired capital value and became itself a form of capital'.[262] 'Space' is thought by Rick Allen to have been 'one of *the* buzz-words in social theory and post-modern geography during the past few years'. He notes that 'its popularity in current cultural studies resides in the convenient combination of physical denotations and cultural-political connotations'.[263]

Before turning to the physical denotations of space manifest in the form taken by the buildings of high farming, the cultural-political connotations of their presence and position within the landscape must be considered. A nineteenth century country estate fits Rapoport's suggestion that culture involves the manifestation of a common lifestyle and ideology through a system of symbols, meanings and codes contained within the environment designed by a group who have a shared life-syle and shared values.[264] Within the designed landscape of an estate the distribution, siting and form of the farm buildings all had significance. Where the buildings were in relation to the estate nucleus, their siting in relation to roads and settlements and the design of the buildings themselves all contributed to the ideas and discourses being played out in the landscape.

Estate landscapes were a statement of the legitimacy and hegemony of the landed classes. They communicated the power of the landowner; political power and power over the means of supply. Whyte notes that analogies were made in England between the running of rural estates and the running of the kingdom and between the power of

[261] David Lowenthal and Hugh C. Prince, 'The English Landscape', The Geographical Review, 54 3 (July, 1964) 309-346; David Lowenthal and Hugh C. Prince, 'English Landscape Tastes', The Geographical Review, 55 2 (April, 1965) 186-222.
[262] Whyte, Landscape and History, (2002) p.21.
[263] Rick Allen, 'Street-life and Interdisciplinary Spaces', Journal of Victorian Culture, 8.2 (Autumn, 2003) p. 311.
[264] Rapoport, 'Vernacular architecture and the cultural determinants of form', in King ed. Buildings and Society, (1980) pp.286-7.

landlords and the power of monarchs; 'successful management of an estate and its community, scaled up, could be translated into successful management of a nation'.[265] The improvement and productivity which the intensive regimes of Victorian high farming sought to achieve were an expression of enlightenment ideas of the supremacy of man and his ultimate power over his environment combined with capitalist ideas of power and control.

Power over the means of supply was especially important in times of war when the production of food was fêted as a patriotic achievement. During the Napoleonic Wars the reclamation, improvement and cultivation of so-called 'wastes' were seen not only as contending with and overcoming nature but also as a blow against the French. Daniels points out that in Humphry Repton's 1812 *Red Book* for Sheringham in Norfolk, a cornfield is placed in the centre of the vista from the house. He believes that this was a 'dig for victory' symbol which represented a change in attitude on the part of the ruling classes and those who designed their landscapes. Repton had previously shuddered at the idea of a crop of wheat in the main vista. In similar vein, Daniels and Seymour quote Michael Rosenthal's interpretation of John Constable's 1814 commission to paint a view of Dedham church and the Stour valley near East Bergholt in Suffolk, as a wedding present from the bridegroom to the landowner's daughter. Here the foreground of the picture is occupied by preparations for spring sowing, with pride of place being given to a muck heap, with men digging out, carting and ploughing in the muck (Plate 9).[266]

The patriotic significance of high farming was not lost on its contemporaries. In the mid-nineteenth century the Crimean War had a short-term but pronounced effect on corn

[265] Whyte, Landscape and History, (2002) p.79.
[266] Daniels, Fields of Vision, (1994) p.94; Michael Rosenthal, Constable: A Painter and His Landscape, (1983) pp. 86-7 cited in Daniels and Seymour, 'Landscape Design and the Idea of Improvement', in Dodgshon and Butlin eds., Historical Geography of England and Wales, (1990) p.493. Repton's *Red Books* were collections of 'before' and 'after' drawings by which means he presented to his clients, his proposals for the improvement of their estates. They were so called because of their red moroccan leather bindings.

supplies. However, it was being realised that war was not the only circumstance which affected the nation's supply of food and attention also focussed on the need to feed the ever-increasing populations of burgeoning industrial cities. John Manners, Duke of Rutland, visiting Tiptree in May 1850, spoke of Mechi's farming as a 'truly national enterprise'.[267] Thomas Tancred, one of the Council of the Royal Agricultural College in Cirencester and winner of the *JRASE* Prize Essay on the Construction of Farm Buildings, also praised the example set by Mechi's farming techniques; 'The food of millions of additional fellow creatures may be surely reckoned upon as the consequence of such example, widely imitated' he commented.[268]

Setting an example and providing a model for the instruction and improvement of others was a duty taken very seriously by landowners and farmers. A letter from a seventeenth century knight noted that an innovator would 'not onely bee imitated but also honoured' by his neighbours. 'When your neighbours see your Labors thrive and prosper.....they will come to you as to an Oracle to ask your Counsel', he said.[269] By the nineteenth-century the desire was not simply that others should see, then go and do likewise, but that they should learn from the example set and be inspired to strive to do better still. It was emulation, rather than imitation, which was being encouraged. Emulation played an important role in the constant pursuit of progress, or 'improvement' as contemporaries would call it, which, as we have seen, was so much a part of nineteenth-century culture. Agricultural society meetings and shows were a major means of promoting emulation as they provided opportunities for farmers and landowners to see and hear what others were doing; one of the stated purposes of the Tetney Agricultural Society was 'the excitement of enterprise and emulation amongst

[267] 'List of Visitors to Tiptree Hall Farm', f. 64[v].
[268] ibid., f. 21.
[269] A. R. Mitchell, 'Sir Richard Weston and the Spread of Clover Cultivation', Ag.HR. 22 II (1974) p. 160.

owners and occupiers of land'.[270]

Another means whereby 'enterprise and emulation' were excited 'amongst owners and occupiers of land' was in the siting and construction of farm buildings as models for others to observe and seek to improve upon. Tiptree Hall Farm and its owner were referred to as 'A Model Farm: and a Model Farmer' and this is a high-profile example of a Victorian model farm.[271] Many landowners sought to set an example of best practice in the design and siting of their home farms and of other farms on their estates. T. Bowick's Prize Essay advice on the siting of the home farm was that it should be a quarter of a mile away from the mansion; near enough for visitors to stroll around and for produce to be sent over but far enough away to 'remove nuisance from the occupier'.[272]

As symbols of power and control and as models to be emulated, farm buildings needed to be seen and so their position was important, not just in terms of visibility from the road, but also of situation within the estate. Whether they were near to the mansion house and estate nucleus or further away, even in a detached portion of the estate, was significant. At a practical level their siting provides evidence of reorganisation of farm holdings after enclosure. In his paper at the 'W. G. Hoskins and the Making of the British Landscape' conference, David Neave cited examples of the erection of new farmsteads in East Yorkshire after enclosure. At Middleton on the Wolds there was only one farmstead left in the village after enclosure with seven new ones being built beyond its curtilage to serve new holdings. At Sledmere, whereas 100% of the population had resided within the village prior to enclosure, afterwards 60% lived outside the village,

[270] 'Tetney Agricultural Society for the Advancement of Agriculture generally, for the excitement of Enterprise and Emulation amongst Owners and Occupiers of Land and for the encouragement of Skill, Industry and Good Conduct among the Labourers, Farm Servants and others connected therewith: List of Competitors at the Third Anniversary of the Society, held at Grainthorpe, November 13th 1856', colection of 1856 pamphlets held in the LAS archive.
[271] 'List of Visitors to Tiptree Hall Farm', f. 75.
[272] T. Bowick, 'On the Management of a Home Farm', JRASE, 23 (1862) p. 248.

some in newly-erected cottages and others in the new farmhouses erected by Sir Christopher Sykes in a prodigious post-enclosure building campaign.[273]

Whilst having the practical purpose of serving reorganised farm units, some of the new farmhouses erected on the Sledmere estate were also carefully positioned within the landscape to serve as eye-catchers from the mansion. Castle Farm, one of 14 erected in 1774, was designed by John Carr to be visible from the terrace of the house, its crenelated facade giving it the appearance of a castle ruin in the distance, amongst the trees.[274] Here the message was one of power, with the suggestion of links with post-conquest Norman lordship being conveyed by the apparent presence of an ancient seigniorial stronghold close to the eighteenth-century seat of the Sykes family. In fact the family had no connection with the area in the middle ages, being present in Cumbria in the fifteenth century and tracing their descent through the younger son of a sixteenth-century Leeds merchant.[275] This is an example of farmstead design and position being used to claim legitimacy for the lordship of an eighteenth-century landowner. Chapel Farm, Barton on Humber (TA 019 190), is a Lincolnshire example of a post-enclosure farmhouse being given a crenelated facade and gothic windows. This farmstead served the newly-allocated holding of William Graburn, one of the three most influential people in the parish.[276]

Rawding considered the relationship between economic and social power, landownership and the physical environment, in a study of the iconography of Lincolnshire parish churches.[277] Taking the Lincolnshire Wolds as a case study, he

[273] David Neave, 'Buildings in a planned landscape: post-enclosure village and farmstead', W. G. Hoskins and the Making of the British Landscape Conference, University of Leicester, 7th-10th July 2005.
[274] John Popham, 'Sledmere Estate, 1775-1800', HFBG Conference, University of York, 6th-8th October 1989.
[275] ibid.
[276] Brook, 'Approaches to the Study of Historic Farm Buildings', (1990) pp. 82-5 and Fig.38.
[277] Charles Rawding, 'The iconography of churches: a case study of landownership and power in nineteenth-century Lincolnshire', Journal of Historical Geography, 16, 2 (1990) 157-176.

examined memorial windows, monuments and tombs or gravestones within parish churches, relating variations in their incidence to the presence, or absence, of large resident landowners, smaller landowners or wealthy tenant farmers. He concluded that 'The symbolic imagery aimed to achieve a sense of organic unity' portraying 'landowner and Church as a constant, unchanging, natural partnership at the head of rural society'.[278] He borrowed Rowland Barthes' concept of the message being 'secreted' rather than 'concocted', in his conclusion that this was not always a deliberate activity.[279] This is a significant point when the motives of those who designed and sited farm buildings are considered. It is important to remember that the messages the buildings conveyed were not always consciously framed in the minds of those who commissioned them but were a result of subconscious cultural conditioning.

In his History of Lincolnshire series study of the Lincolnshire Wolds Rawding considers other manifestations of lordship in the landscape. He discusses buildings on the Yarborough, Tennyson d'Eyncourt and Heneage estates, and mentions those of Christopher Turnor and the Dymokes at Scrivelsby.[280] Noting that the influence of the landowning family was greatest in the neighbourhood of the residence and that distant landownership was of less social, if not economic, importance, he points out that cottages close to Brocklesby Park were much more elaborately constructed than those in villages more distant from the heartland of the estate. This diminution of ornamentation on estate buildings with increasing distance from the estate nucleus was noted by Heather Fuller in an article in the *Annals of the Association of American Geographers* in 1976. She referred to it as 'distance decay'.[281]

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[278] ibid. p.173.

[279] Barthes' analysis of myth (Roland Barthes, Mythologies, (1957)) is discussed in T. R. Pringle, 'The privation of history: Landseer, Victoria and the Highland Myth', in Cosgrove and Daniels, Iconography of Landscape, (1988) pp. 142-161, and it is this to which Rawding is alluding in Rawding, 'The iconography of churches', Journal of Historical Geography, 16, 2 (1990) p. 174.

[280] Rawding, The Lincolnshire Wolds, (2001) pp. 56-68.

[281] Rawding, The Lincolnshire Wolds, (2001) p. 67; Heather A. Fuller, 'Landownership and the Lindsey Landscape', Annals of the Association of American Geographers, 66 (1976) p. 17.

There is clear evidence of distance decay in the Chaplin estate village of Blankney, mid-way between Lincoln and Sleaford, which was laid out in the Tudor style by William Adams Nicholson in the 1830s and 40s.[282] Here, the cottage nearest to the gates of Blankney Hall is of ashlared stone and heavily ornamented (Plate 10). Others along the main road are of the same build but have less elaborate decoration (Plate 11). However, if one leaves the main road and proceeds down the side road leading to the neighbouring open village of Metheringham, the cottages revert to vernacular style and materials (Plate 12).[283] It seems that the intention was to ensure that what would be seen by people who mattered, those arriving at the hall or travelling the main road, would be impressive. What was to be seen by the riff-raff *en route* for the open village was not as important.

Rawding cites evidence of the importance of maintaining an impressive presence in the environs of the mansion, quoting criticism of land in the area around Brocklesby itself, by the Earl of Yarborough's surveyor in 1852; 'good management would cause these lands to be productive and to become of greater value to the Occupiers than they have heretofore been. Their contiguity to the Mansion is another great reason why they should be in a superior state of management'.[284] On the Blankney estate the efforts to impress with superior buildings was continued in the farm building provision. Whilst the farmsteads on the side road to Metheringham (Plate 13) were of vernacular construction like the neighbouring cottages, Chaplin erected a showcase steading in a prominent position by the main road, on the outskirts of the neighbouring village of Scopwick. This was Scopwick House Farm (Plate 14), one of those surveyed by the 1979-80 Lincolnshire and Humberside Arts project and visited by the BAHS Conference in

[282] Nikolaus Pevsner and John Harris, The Buildings of England: Lincolnshire, 2nd edn. revised by Nicholas Antram (1989) p. 149.
[283] Field visit, March 2003, cited in A. S. Brook, 'The Buildings of High Farming in Lincolnshire: what where, when, who and why?' at the Jubilee Conference of the BAHS in Winchester, 8-10 April 2003.
[284] LA, YARB 5/1/20 quoted in Rawding, The Lincolnshire Wolds, (2001) p. 61.

1999.[285]

It is widely recognised that the seat of a landowner would reflect his status and importance in its siting and architecture. Mark Girouard's study of the Victorian country house begins with a description of the first Duke of Westminster, the *beau ideal* of the Victorian gentleman, and relates the form of his residence, Eaton Hall, Cheshire, to the character of the owner.[286] In Fuller's study of landownership and the Lindsey landscape her consideration extends to estate buildings generally. She notes that the Yarborough estate identified itself and personalised its buildings by the use of distinctive yellow bricks from the estate brickyard at Kirmington and by the adoption of a particular architectural style, in this case 'Rural Gothic', for farmhouses, cottages, schools and other estate buildings.[287] In this way the built environment was being used as a means of stressing social identity. Many present-day country estates continue the practice of identifying their buildings by the use of a particular colour of paint. The Grimsthorpe Castle and Drummond Estate Trust, on the Ancaster estate in Lincolnshire, operates a hierarchical paint code with cottage window frames being painted cream, farmhouse ones white and the agent's house having the distinction of window frames painted in both white and cream.[288]

Lord Yarborough, like many other nineteenth-century landowners, personalised his buildings with insignia incorporating elements of the family coat of arms. This practice was recommended by Humphry Repton in 1792, in his *Red Book* for Tatton Hall, Knutsford, in Cheshire. He suggested that the owner's coat of arms should be displayed on the inn, any public buildings and even on milestones, in order to emphasise his

[285] Farm Buildings Survey, Lincolnshire and Humberside Arts and Manpower Services Commission (1979-80) Elm House, Museum of Lincolnshire Life; Shirley Brook and Dennis Mills, BAHS Spring Conference, Caythorpe, Lincolnshire, Field Study, 31st March 1999.
[286] M. Girouard, The Victorian Country House, (1975) pp. 2-4.
[287] Fuller, 'Landownership and the Lindsey Landscape', Annals of the Association of American Geographers, 66 (1976) pp. 15-17.
[288] Tim Clarke, agent for the Grimsthorpe and Drummond Estate Trust, 23/4/98.

client's property and influence.[289] Plates 15-17 show the Whichcote crest on estate cottages, the school and the pub in the villages of Aswarby and Osbournby on the A15 between Sleaford and Bourne. Fuller notes that whilst the 4,000 acre Bethlehem Hospital estate, whose lands were principally on the coastal marshes at Wainfleet, had no readily identifiable building materials or architectural style, the Hospital Arms cast in lead were ordered to be fixed to all the Hospital houses in 1836.[290] It was as a mark of ownership and to advertise the extent of their power and influence that many nineteenth-century landowners displayed their arms or initials on farmhouses and farm buildings. Plate 18 shows a farmhouse on the Grimsthorpe estate which displays the Ancaster coat of arms over the door.

One further aspect of the siting of farmsteads in the landscape and in relation to roads and settlements must be mentioned. This relates to the social control nineteenth-century landowners attempted to exercise over the labouring classes through the agency of their tenant farmers. This desire for social control has already been noted as one of the aims of nineteenth-century agricultural societies with their prizes for labourers who remained with the same master for long periods and who brought their families up without recourse to parish relief.[291] It found its tangible expression in cottage architecture, with many estate cottages being characterised by an absence of front doors. The absence of front doors on the cottages at Brocklesby is noted by Rawding.[292] The incidence of this is widespread and examples from the Chaplin, Sibthorp and Heneage estates (Plates 19-22) are but a few of the many to be observed on estates across the county. The intention was that the lower orders should busy themselves out the back of their dwellings in honest toil and not sit idly by the front door gossiping with their neighbours. Attempts to monitor and control the activities of farm labourers outside of

[289] Discussed but with no reference in D. Jacques, Georgian Gardens, (1983) p. 150.
[290] Fuller, 'Landownership and the Lindsey Landscape', Annals of the Association of American Geographers, 66 (1976) pp. 20-21.
[291] supra. Chapter 2.
[292] Rawding, The Lincolnshire Wolds, (2001) p. 207.

working hours resulted in many farmhouses being positioned in such a way that the comings and goings of labourers and their families could be observed. Thus cottages attached to a farm holding might be located 'inland' of the farmhouse, with their access road running past it, as at Keelby Grange, Keelby, on the Yarborough estate.[293] This afforded the farmer a clear view of any journeys made by his workforce, often from a carefully positioned window in the farmhouse kitchen.

The foregoing discussion has attempted to show the landscape significance of estate buildings generally and farm buildings in particular, identifying the messages transmitted by their position within the landscape, their materials and their architectural style. They were a manifestation of the power, status and importance of the landowner and a means whereby he attempted to execute his perceived duty to provide examples of best practice to be emulated. They were part of what, in the late-twentieth and early twenty-first centuries, would be regarded as his corporate image, demonstrating the extent of his influence, the permanence of his position in society and his social responsibility. Such are the messages, either consciously or subconsciously, encoded in the landscape presence of the buildings of high farming. It is now necessary to turn to a more detailed consideration of the buildings themselves, examining how they reflected the enlightened, industrial capitalist culture of high farming and how, in turn, that culture was influenced and shaped by such buildings. It is their form which we now focus upon, in addition to their location.

Studies of various kinds of building have shown how certain organisations, when constructing their premises, have adopted plan forms and architectural styles which tell us as much about what those who commissioned them were thinking, as about what they were planning to do within them. King's collection of essays included studies of Victorian lunatic asylums by Andrew Scull, hospitals by Adrian Forty and offices by

[293] Field visit with Rex Russell April 1990.

Francis Duffy. The *Journal of Historical Geography* contained an article by Teresa Ploszajska in 1994 which considered Victorian reformatory schools, and one by Iain S. Black in 2000 on bank office buildings in the City of London.[294] In all these studies, although it is accepted that the space concerned was created to house a specific activity, at the same time there is an emphasis on the meanings contained within the design and form of the buildings in question.

In the second of their articles in *The Geographical Review*, Lowenthal and Prince discuss an idea which they term 'Façadism'. They suggest that façades are important in English buildings: 'the shape, size, style, fabric, and setting of buildings instruct the visitor how to approach them and residents how to behave'. They go on to note that particular types of building are characterised by certain styles of architecture: Classical for banks and government buildings and Gothic for churches and universities.[295] The suggestion is that the outward appearance of a building contains certain symbols, meanings and codes, which convey messages about the common lifestyle and ideology of the particular social group which created it.

Particular architectural features act as 'cues' which convey messages. A graphic example of a complex of utilitarian buildings which include an architectural feature eloquently expressive of the self-image and aspirations of its owner, is Lister's silk mill at Manningham, Bradford, built in 1873. Here the twenty-seven acres of sheds housing the manufactory are dominated by a 255 foot (78m) Italianate tower (Plate 23). Both this and the 309 foot Dock Tower at Grimsby, inspired by Siena Town Hall (Plate 24), are

[294] Adrian Forty, 'The modern hospital in England and France: the social and medical uses of architecture', in King ed., Buildings and Society, (1980) 61-93; Francis Duffy, 'Office buildings and organisational change', in King ed., Buildings and Society, (1980) 255-280; Andrew T. Scull, 'A convenient place to get rid of inconvenient people: the Victorian lunatic asylum', in King ed., Buildings and Society, (1980) 37-60; Teresa Ploszajska, 'Moral landscapes and manipulated spaces:gender, class and space in Victorian reformatory schools', Journal of Historical Geography, 20 (1994) 413-429; Iain S.Black, 'Spaces of capital: bank office building in the City of London, 1830-1870', Journal of Historical Geography, 26 (2000) 351-375.

[295] Lowenthal and Prince, 'English Landscape Tastes', The Geographical Review, 55 2 (1965) p. 201.

redolent of the mercantile glory of Renaissance Italy.[296] By adopting this style of architecture for these prominent landmarks their Victorian creators were claiming the same status and legitimacy for their own business activities.

On high-status, nineteenth-century farm buildings, it is not uncommon to find a tower or cupola which housed a dovecote or clock. The tower or cupola was a status symbol proclaiming power and elevated social standing, a message also encoded in the presence of a dovecote. In Norman times the right to keep pigeons was a feudal privilege of the lord of the manor and, although this monopoly did not extend into the nineteenth century, the presence of a dovecote still conveyed the suggestion of privilege and importance.[297] The siting of a clock in a prominent place on the buildings of a steading had the obvious practical advantage of it being visible to all. However, there was also the encoded message that, within the increasingly rationalised and differentiated time-work disciplines of industrial farming, time was important. The showcase farmstead erected by Chaplin beside the main road at Scopwick has a tower containing a dovecote topped by a cupola (Plate 25); Lawson's farmstead at Blennerhasset in Cumbria is dominated by a clock tower (Plate 26), and the fine model farmstead at Cold Harbour Farm, Bishop Burton, East Y orkshire, boasts a central tower with both dovecote and clock (Plate 27).[298]

Whilst individual features such as towers and cupolas might convey messages about the particular social group which constructed the buildings of high farming, it is only when the entire farmstead, including the farmhouse, is considered that a full understanding of their significance can be achieved. The ensuing discussion will seek to identify the

[296] http://en.wilkipedia.org/wiki/Lister%27s-Mill, accessed 28/7/05; Pevsner and Harris, The Buildings of England: Lincolnshire, revised Antram (1989) p. 343.
[297] Harvey, History of Farm Buildings, (1984) pp. 29-30.
[298] Scopwick House Farm, Scopwick, Lincs. (TF 506 358) Shirley Brook and Dennis Mills, BAHS Spring Conference, Caythorpe, Lincolnshire, Field Study, 31st March 1999; Mechi Farm, Blennerhassett, Cumbria (NY 135 412) visited April 1998; Cold Harbour Farm, Bishop Burton, East Yorks (SE 973 387) visited 22/6/04; John S. Dunning, Change of Use and Architectural Design of Farm Buildings and their Impact on the Rural Landscape, (Bishop Burton, 1998).

principle characteristics of the buildings of high farming. These features are present in complete sets of buildings, such as model farms and other planned farmsteads, which were constructed in a single phase of building. In the case of steadings which evolved over time, in response to changes in farming routines, some, but not all, of the characteristics to be found in complete sets of planned buildings might be introduced as a result of piecemeal alterations. Whilst the identification of the principal characteristics of the buildings of high farming is supported with a few general examples in the following discussion, a detailed consideration of the buildings themselves and the extent to which they demonstrate these characteristics, is reserved for the subsequent chapter.

The first point to be made is that the buildings of high farming were carefully planned. In the eighteenth and early-nineteenth centuries it was architects who designed model farms and home farms on large estates. The style was often Palladian because that was the style favoured by landowners for their mansions. Notable examples of such buildings are Park Farm, Hulne Park, Denwick, Northumberland, built in 1827 for the Duke of Northumberland to a design by John Green, and the Great Barn at Holkham, on the estate of the Earl of Leicester, designed by Samuel Wyatt in the 1790s as the centrepiece for the Holkham sheep shearings.[299] The mid-nineteenth-century buildings of high farming were frequently designed by the new breed of farming professionals, some of whom styled themselves as 'engineer'. This meant that farm buildings were likely to look more like factories, being built of industrial materials such as cast iron and concrete. Eastwood Manor Farm, East Harptree, Somerset, built in 1858, is an early example of a farmstead with covered yards. The appearance of its arched roofs is similar to that of a Victorian railway station and the system of collecting rainwater from the roof by providing for it to run down inside the hollow cast-iron columns which supported it, into collection tanks beneath the ground, is one which was also employed at Euston

[299] Field visit to Park Farm, Hulne Park, Denwick, Northumberland, (NU 169 146) HFBG Conference, Otterburn, Northumberland, 1st-3rd October 1993; Wade Martins, The English Model Farm, (2002) pp. 107-8, also Plates 8 and 11.

Station.[300]

Mid-nineteenth-century agricultural literature contained repeated references to farming as a form of manufacturing: 'husbandry being in effect the fabrication of meat and bread from raw, inedible materials by the toil and ingenuity of man'.[301] The need for appropriate buildings to serve this manufacturing process was frequently expressed; 'The steading is the manufactory of the farmer, and, like all other manufacturing premises, should be so arranged as to ensure facility in performing the various operations and for economising labour'.[302] Here again 'economising' has the sense of 'managing' labour. Denton's *Farm Homesteads of England* adopted the same theme:

> To farm successfully under the present struggle of competition, with defective, ill-arranged buildings, is no more possible than to manufacture profitably in scattered, inconvenient workshops in place of one harmoniously-contrived completely-fitted mill; and it may be safely affirmed, that ruin stares in the face the occupier whose farm premises are inadequate to the requirements of an 'intensive cultivation'.[303]

The notion of the farmstead as a manufactory led to emphasis being placed on the processes which were to take place within the buildings. Farmsteads were designed with the natural flow of activity in mind. In industrial fashion, raw materials were to enter the premises at one end and finished products were to emerge at the other. John Shaw of the National Museums of Scotland, in his preparatory work for the national survey of farm buildings for the Royal Commission on the Ancient and Historical Monuments of Scotland, grouped buildings within the steading on the basis of discrete sets of functions which he referred to as 'systems'. His paper at a one day conference held at the University of York early in 1994, presented diagrams of a number of these systems; the

[300] Lake, Historic Farm Buildings, (1989) pp. 125-7.
[301] Clarke,'Farming of Lincolnshire', JRASE, 12 (1851) p. 328.
[302] George Dean, 'On the Cost of Agricultural Buildings', JRASE, 11 (1850) p. 563.
[303] Review of J. Bailey Denton, 'The Farmhomesteads of England', in The Times, Friday February 3rd 1865, p. 12, cols. a, b.

labour system, the livestock system, the grain system and the land system.[304] Barnwell and Giles used similar, but simplified, forms of representation for the flow of processes on farms in Berkshire, Lincolnshire, Northumberland, Cornwall and Cheshire, in their survey of English farmsteads, and Wade Martins produced what she termed a 'flow diagram' of the workings of Bridge Farm in Norfolk, in 1850, as a result of her Norfolk farm survey.[305]

The concept of steadings being designed to serve a process gave rise to two further features of the buildings of high farming: the idea of designated spaces for particular tasks and the practice of laying out the steading in such a way as would facilitate the efficient use of time and labour. Nineteenth-century treatises on farm building design are replete with plans of steadings with spaces dedicated to particular purposes; root house, chaff house, trap house and so on, each carefully positioned to facilitate labour-saving patterns of activity within the steading. Tancred's Prize Essay on farm buildings begins, 'A well-arranged set of farm-buildings is a rare exception to the general rule' and goes on to prescribe that:

> the buildings should be concentrated, each part adjoining as nearly as possible those with which it is most in connexion in the routine of daily work, that thus time and hands may be economised, and a ready superintendence over every part possible; so that, in short, the several products of the farm, whether grain, cattle or manure, may be produced in the greatest excellence and within the shortest period.[306]

Denton's *Farmhomesteads of England* contains a ground plan of each of the 27 farmsteads described (his stated intention had been to consider 30 steadings but the final

[304] John Shaw, 'Identifying systems within farm steadings: a Scottish case study', in Giles and Wade Martins eds., Recording Historic Farm Buildings, (1994) 28-33.
[305] Barnwell and Giles, English Farmsteads, (1997) pp. 17, 44, 71, 98, 125-6; Wade Martins, Historic Farm Buildings, (1991) p. 197. See also Brook, 'Farm buildings of North Kesteven', (1994) pp. 33-35 for a discussion of the industrial process at Scopwick House farm.
[306] Sir Thomas Tancred, Bart, 'Essay on the Construction of Farm-Buildings', JRASE, 11 (1850) pp. 192-3.

total was three short).[307] One of the two Lincolnshire examples is that of Wispington Farm, on the estate of Christopher Turnor, designed by his agent John Young Macvicar (Fig. 5).[308] In accordance with industrial capitalist notions of specialisation and functional differentiation, the designation of each space is carefully noted, right down to the pigsties and fowl houses. The plan is cleverly conceived, taking the form of a double E-shape with the straw barn forming the middle bar of the E. This allowed for the distribution of straw to each of the two crewyards which flanked it, with the minimum distance of carriage.[309] A passage running behind the crews and in front of the outer ranges of buildings allowed for ease of communication and avoided the usual problem of movement along the front of the buildings surrounding the crewyard being hampered by the build-up of muck in the yards.

The application of steam power and the adoption of the latest technology with regard to machinery on the farm was regarded as a *sine qua non* of high farming. The industrial appearance of the steam engines powering Lincolnshire fen drainage operations earned Clarke's approval: 'It is pleasing to note the system of artificial drainage, where the tall smoke-breathing chimney and the massive machinery give an air of manufacturing industry to the labours of agriculture'.[310] The use of steam for powering barn machinery and stirring and pumping slurry has already been noted in the description of Mechi's experimental farm at Tiptree.[311] Included at the end of Denton's *Farmhomesteads of England* are descriptions and drawings of the machinery installed on farms in Herefordshire, Cheshire, Berkshire and Essex.[312] These included threshing machines, mills, grinders, mixers, rollers, cake breakers, root choppers and chaff cutters. The

[307] Denton, Farmhomesteads of England, (1864) p. vii.
[308] ibid. pp. 47-9.
[309] Crewyard (abbreviated to crew) is a Lincolnshire term for what might be called a fold yard or cattle yard in other parts of the country. The *OED* gives it as 'a close or yard with sheds for cattle'. The word 'crew' is of British origin and is linked to the Welsh *crowyn* or *crewyn* meaning a pigsty or hovel, Cornish *crow*, a hut, hovel or sty, Breton *kraou* a stable or stall. OED (2005) http://dictionary.oed.com/cgi/entry/50053887, keyword search 'crew-yard', accessed 2/8/05.
[310] Clarke,'Farming of Lincolnshire', JRASE, 12 (1851) p. 328.
[311] supra. Chapter 2.
[312] Denton, Farmhomesteads of England, (1864) pp. 92-100.

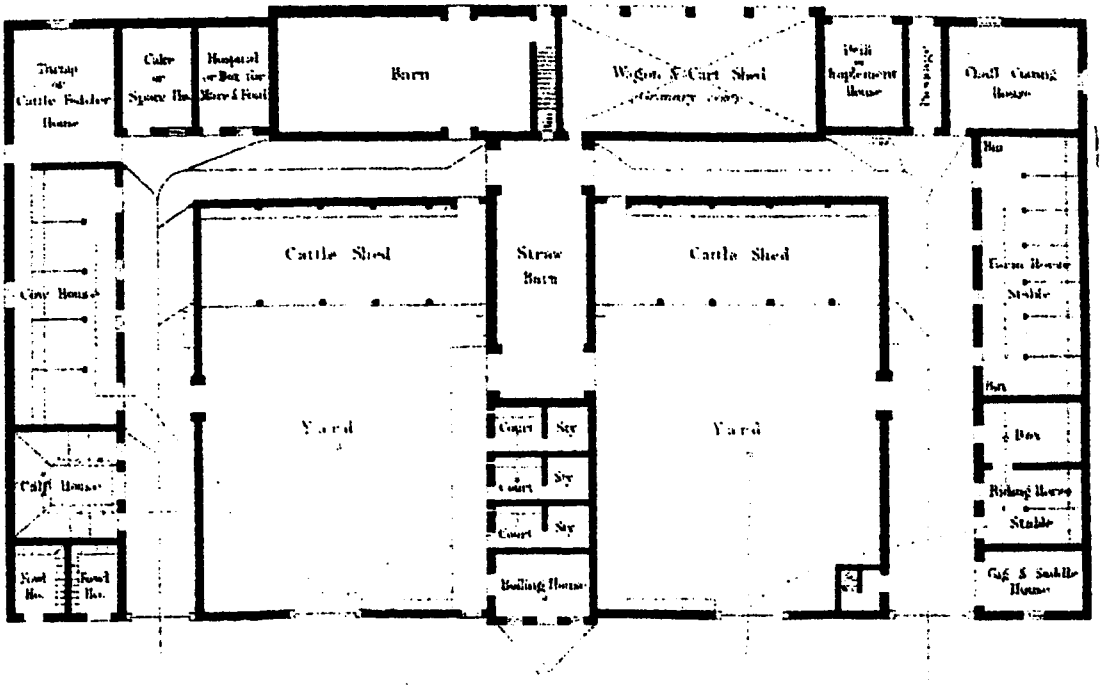
Figure 5
Plan of Wispington Farm Designed by John Young Macvicar
Source: Denton, The Farmhomesteads of England, 2nd edn. (1865)

THE FARM HOMESTEADS OF ENGLAND.

GROUND PLAN OF HOMESTEAD,

Wispington Farm,
LINCOLNSHIRE.
The Property of
Christopher Turnor, Esq.

Designed by Mr. J. Young Macvicar.



machinery on the farm at Dawpool in Cheshire was manufactured by Messrs Clayton and Shuttleworth of Lincoln.[313]

In all four of Denton's examples the power source was a fixed steam engine. Lincolnshire farmers used various sources. Map evidence for the persistence of horse engines in Lincolnshire into the early years of the twentieth century is discussed below; an overshot water wheel survives at Thoresway on the Lincolnshire Wolds (Plate 28), and documentary evidence reveals that William Loft had a 10 horse power fixed steam engine.[314] However, a great many Lincolnshire steadings have no archaeological evidence of a fixed power source even though the presence of line shafting attests to the mechanisation of processes.[315] The Lincolnshire practice was to use a portable engine sited outside the barn and the incidence of shaft-holes, pulley wheels and belt vents for the power take-off on the outer faces of barn walls, is evidence of this (Plates 29 & 30).

In the second half of the nineteenth century the Lincolnshire firms of Clayton and Shuttleworth, Foster, Ruston and Proctor and Robey of Lincoln, Marshall of Gainsborough and Hornsby of Grantham were world leaders in the manufacture of portable steam engines. Early sales details for the Lincoln firm of Clayton and Shuttleworth reveal that, in 1850, 13 of the 46 customers who purchased portable engines were from Lincolnshire.[316] One was J. Casswell of Wyberton; the Casswell family of nearby Pointon, Laughton and Folkingham is one of those identified in the Network of Lincolnshire Improvers (Table 4 (pp. 66-74)). Some customers, such as Emson and Beech of Hibaldstow and J. Bell of Boston, purchased more than one engine

[313] ibid. pp. 95-7

[314] infra. Chapter 6; Thoresway Water Wheel (TF 166 967), visited September 1999; Notice of sale of Trusthorpe estate, LA Dixon 20/1/11.

[315] The terms 'archaeology' and 'archaeological' are used in this study in the broad sense relating to the systematic study of past human life and culture by the recovery and examination of remaining material evidence.

[316] Wright, Lincolnshire Towns and Industry,(1982) pp. 138-140; Redmore, 'The Production of Agricultural Machinery' in Bates, Farming in Lincolnshire, (2004) pp.36-7; Neville Birch, 'Clayton, Shuttleworth and Co - early successes and a strike!', Lincolnshire Past and Present, 50 (Winter, 2002/3) p. 5.

which suggests that they were for contract use; both are listed as 'machine owners' in White's 1856 directory. Portable threshing sets continued in use in the county well into living memory.[317]

High status farmhouses are another characteristic of the buildings of high farming. Denton devoted a chapter of his book to the subject, lamenting that 'the home accommodation of the farmer is generally incompatible with the intelligence and position he is supposed to enjoy, and with the amount of capital he should employ in his business'.[318] Stating that 'intelligence and capital are ever found associated with a comfortable home', Denton recommended that landowners should provide a quality of house which would attract a man of refinement, with education and capital.[319] That his recommendations were in tune with contemporary thinking is neatly exemplified by the instance of Lands Improvement Company borrowing by Henry Chaplin for improvements to his farmstead at Temple High Grange. Correspondence with the commissioners who regulated improvement loans reveals that it was intended that part of the loan was to be expended on enlargement of the farmhouse. The commissioners queried the irregular shape of the dining room but the architect responded that the intention was to 'afford space for a large sideboard and greater facility for waiting at table'.[320] The loan was granted.

Holderness was much concerned with the subject of tenants' capital and considered that, expressed in terms of 1860 prices, the value of tenants' capital invested in agriculture grew from £153.3 million in 1800 to £223.2 million in 1860, a substantial increase.[321] Tenants' capital was expended upon crops, livestock and implements and it was usually

[317] Birch, 'Clayton, Shuttleworth and Co', Lincolnshire Past and Present, 50 (Winter, 2002/3) p. 5; White's 1856 Lincolnshire, (1969) pp. 296, 600; Peter Baumber, Sewell's Farm Scopwick, February 1994.
[318] Denton, Farmhomesteads of England, (1864) p. 101.
[319] ibid. p. 102.
[320] LA, BS 13/1/5/12.
[321] B. A. Holderness, 'Agriculture' in C. H. Feinstein and S. Pollard, Studies in Capital Formation in the United Kingdom 1750-1920, (Oxford 1988) p. 34.

the practice that they were responsible for repairs to buildings but not for capital investment in improvements, which were the landowner's responsibility. In his section on tenants' or occupiers' capital in Vol. 7 of the Cambridge *Agrarian History*, Holderness notes the conventional belief that the amount of capital required by a tenant to equip a farm was £10 per acre.[322] Mingay considers this figure to be high and suggests that, in practice, investment per acre was considerably less, running at about £6 per acre on the poorer kind of medium farm.[323] Where there was a need to attract tenants with the greatest possible amount of capital to invest in 'farming high' landowners were advised to erect appropriate farmhouses; 'it is expedient to increase the conveniences or "extras" of houses, in proportion to the capital required to stock and develop the land on which they stand' recommended Denton.[324]

Phillips notes that many of the estates on which Andrew Thompson reported to the Inclosure Commissioners, in relation to applications for improvement loans, sought to attract enterprising tenants by the quality of their farmhouses. He cites the example of the Londesborough estate in East Yorkshire where large and commodious farmhouses were erected in an attempt to attract educated and improving farmers. He also notes that estates endeavoured to provide residences for their farm tenants which were distinct from those of farm labourers and in keeping with the status of the farm, reflecting the rent paid.[325] This form of social differentiation was an expression of the industrial capitalist character of high farming. Rawding discusses changes in farmers' lifestyle in the nineteenth century, quoting a contemporary ballad which tells of farmers delighting in hunting instead of ploughing and sowing, and their daughters playing the piano instead of spinning. He identifies an increasing social divide between farmer and labourer

[322] B. A. Holderness, 'Investment, Accumulation and Credit' in Collins (ed), The Agrarian History of England and Wales, (2000) p. 914.
[323] G. E. Mingay, 'The Farmer', in Collins (ed), The Agrarian History of England and Wales, (2000) p.788.
[324] Denton, Farmhomesteads of England, (1864) p. 103.
[325] Phillips, 'Landlord Investment in Farm Buildings', in Holderness and Turner, Land, Labour and Agriculture, (1991) p. 200.

as large farmers withdrew from village society, although not from village politics and local government.[326]

Farmhouses reflected the increased status of wealthy tenant farmers in their size, appointment, polite architecture and in their orientation in relation to the steading. Whereas eighteenth-century farmhouses stood amongst the farm buildings and often looked out over the farmyard, as is the case with farmhouses on the Lowther estate in Cumbria, the nineteenth-century buildings of high farming were characterised by farmhouses which faced away from the working buildings, often with a separate carriage entrance sweeping round to an elegant front door.[327] Chaplin's 1823 farmhouse at Thompson's Bottom, on the heath south of Lincoln (Plate 31), is a fine example of such a house. The 'Scottish baronial' farmhouse designed by Edinburgh architects Peddie and Kinnear, at Sunnyside Farm, East Linton, near Haddington in East Lothian (Plate 32), is a good Scottish example from an area known for its progressive farming and substantial tenants.

Internal features also promoted the distancing of the farmer from his labourers. Whereas the farmer and his family might once have lived alongside the 'servants in husbandry' who boarded in the farmhouse, domestic arrangements in high status farmhouses imposed strict segregation between the farmer's family and live-in labourers and domestic servants. The farmer and his family would have a dining room in which to take their meals separately from the labourers who would eat in the kitchen. After their meal the men would retire to bed up a separate staircase in the back part of the house. This gave access to first floor bedrooms from which there was no communication with the farmer's part of the house except perhaps a hatch through which the master could

[326] Rawding, The Lincolnshire Wolds, (2001) p. 144.
[327] For example the new farm for the Rogersceugh estate, Walkers Low Moor (1797) and Dallas Bank illustrated in P. Messenger, 'Lowther Farmstead Plans: A Preliminary Survey', Cumberland and Westmorland Antiquarian and Archaeological Society Transactions, 75 (1975) pp. 335, 337.

observe their activities and issue a morning call. An example of such a hatch was observed at Manor Farm, East Firsby, on the heath north of Lincoln.[328]

Notions of social control were strong. In his functionally-differentiated workplace, undertaking specialised tasks within particular units of time as part of an integrated system of production, the Victorian farmworker was closely supervised; unremitting toil would protect him from the evils of idleness. Whilst social cachet was bestowed by the front elevation of the farmhouse, which faced away from the farm buildings, it was recommended that the rooms most frequently occupied by the farmer should face the steading.[329] The design submitted by land agents C. and J. Cadle of Gloucester, for the Farm Plans competition at the London International Exhibition of 1879, was entitled 'The Eye of the Master is necessary to the due Economy of Labour'. Here it was advocated that the farmhouse should stand to the south of the yard with the sitting room and kitchen in the north-west and north-east corners respectively, thereby affording the maximum opportunity for observation and supervision of the workforce.[330] In this way the advantages of productivity and profit were secured at the same time as the discharge of a social and moral responsibility for the labouring class.

Yet another hallmark of the buildings of high farming was the permanence of their construction. As part of the built environment of a landowner's estate and an expression of the permanence and legitimacy of his land holding and social standing, he took care that his farm buildings were constructed in a substantial manner. The preoccupation with permanence of construction was also an expression of the cultural and ideological assumption of industrial capitalism, identified by King. He noted the belief that wealth was best invested in the form of property rather than in jewellery, rural land or in kin as

[328] Manor Farm, East Firsby (TF 007 854) visited Spring 1990.
[329] Denton, Farmhomesteads of England, (1864) p. 108.
[330] Denton, 'Report of the Judges of Farm Plans, 1879', JRASE, 2nd ser. 15 (1879) pp. 779, 817.

a means of providing for the future, as in parts of Asia.[331] Denton observed in his introduction to *The Farmhomesteads of England* that:

> In quarters where Farm Architecture has ceased to be treated as a mere matter of taste, and where the prosperity of the tenant has been shown to depend in a great measure upon the sufficiency and completeness of the accommodation afforded by the homestead, its buildings have been designed with the requisite fitness for the farm, and constructed with a view to durability.[332]

Many steadings on settled estates were erected with loan capital from one of a number of land improvement companies. Although the money was provided by these companies, the loans were controlled by the Inclosure Commissioners who took over the responsibility for protecting the interests of the tenants in tail under the settlement, from the Court of Chancery. This meant that they too were concerned with the need for farm buildings to remain sound and serviceable over a long period. The term of repayment for some loans was as many as 40 years and it was considered vital that the buildings erected should last, at least, until the capital expended upon them had been repaid. A minute of the Inclosure Commissioners for England and Wales, issued in November 1864, stated that 'All buildings should be erected in a substantial and durable manner'. It gave detailed specifications regarding the quality of materials to be used in the construction of buildings to be funded, stipulating such things as the types of timber to be used for various aspects of the roof construction, the size of slates and the weight of lead for the gutters.[333] Compliance with these regulations was monitored by inspectors who visited the buildings whilst in construction and whose certification that the work had been completed to the required standard was necessary before the loan

[331] King, 'The Vacation House', in King, Buildings and Society, (1980) pp. 216-7.
[332] Denton, Farmhomesteads of England, (1864) p. vi.
[333] 'Minute of the Inclosure Commissioners for England and Wales with reference to the Erection of Farm Buildings and Labourers Cottages in England uder the Several Acts for the Improvement of Land', November 1864, LA BS/13/1/5/3

capital could be released to the landowner.[334]

To summarise the foregoing discussion on the nature of the buildings of high farming; they were characterised by integrated, planned layouts, with clearly designated spaces for particular tasks, designed to utilise the latest advances in scientific knowledge and technological innovation. Whilst the steading itself might have an industrial appearance, the farmhouse would be aesthetically pleasing and commodiously appointed, designed to attract a tenant with capital who would farm high. The position of the farmhouse in relation to the working buildings of the steading would combine the need for supervision of the workforce with the status appropriate to the social position of the Victorian tenant farmer. The construction of the buildings of high farming would be substantial and durable, so as to ensure the permanence of this manifestation of the common lifestyle and ideology of the nineteenth-century landowner and substantial tenant farmer.

This section of the thesis has concentrated on examining why the buildings of high farming were constructed in their characteristic form and location. Following on from the discussion in Chapter 2, of who the high farmers of Lincolnshire were, and what distinguished their way of life, this chapter has demonstrated how the high farming ideology evolved and how it was transmitted through certain signs, symbols and codes in the built environment. In the next section archaeological and documentary evidence of what was built will be presented and discussed. When and where farmsteads were erected will also be considered, placing the buildings of high farming in the context of the last of Rapoport's three ways of defining culture: as a set of adaptive strategies for survival, related to ecology and resources.

[334] Evidence of Mr George Ridley, Inclosure Commissioner, Report from the Select Committee of the House of Lords on the Improvement of Land, (1873) pp. 11-13; Phillips, The Staffordshire Reports of Andrew Thompson to the Enclosure Commissioners, (1996) p. 10.

The Buildings of High Farming: Lincolnshire Farm Buildings 1840-1910

PART 2

EMPIRICAL EVIDENCE

Chapter 4

The Buildings of High Farming in Lincolnshire

In the first section of the thesis a theoretical framework has been established which enables an understanding of the buildings of high farming in Lincolnshire in their cultural context. In support of the premise that culture involves values and ideas which engender a way of life typical of a particular group, identifying them and distinguishing them from others, the social group which was responsible for the construction of the county's nineteenth century farm buildings has been identified and the information environment which shaped their thinking has been explored. The evolution of the high farming ideology and the ways in which it was expressed in the landscape created by this particular social group have also been examined, identifying the signs, symbols and cues within the built environment which conveyed their shared view of life. Having established their cultural context, it is now appropriate to turn to examples of the buildings of high farming in Lincolnshire and the various documentary sources which support their study, to examine the evidence for the culture of high farming which is contained within the buildings themselves.

Over a period of fifteen years an extensive programme of fieldwork was undertaken which involved visiting Lincolnshire farmsteads, recording them and identifying other sources to assist in their interpretation. The level of record approximated to 'Level 3' of the RCHME specifications for recording historic buildings.[335] It took the form of black

[335] RCHME, Recording Historic Buildings: A Descriptive Specification, 3rd edn. (Swindon, 1996) pp. 1-5.

and white photographs and a visual survey of the interior and exterior of all the agricultural buildings of the farmstead, and photographs and an external survey of the farmhouse and cottages. The relationship of the buildings to the surrounding landscape was also considered. The extent of recording fell short of RCHME 'Level 3' in that the amount of drawing made was limited to rough sketch plans of the layout of the buildings, noting their use. No measured drawings or three-dimensional sketches were attempted. However, recording exceeded RCHME 'Level 3' in that a full range of other sources of information about the buildings was explored. The principal supporting sources which accompanied the field study of the buildings were oral testimony, maps, estate records, family papers and sale particulars. The documentation relating to loans taken out from various land improvement companies was also thoroughly investigated. Information regarding borrowing for farm building improvements is considered in the following chapter.

Oral testimony is very important in enabling interpretation of how farm buildings were used and in identifying the function of various features and so careful note was made of what those who had lived and worked on the farms had to say. Of the associated documentary sources, Ordnance Survey (OS) maps are possibly the most important for the study of farm buildings because their coverage is universal. The first edition of the OS of Lincolnshire was published 1816-24 and the series of OS maps of the county from then onwards enabled the evolution of the farmsteads in the survey to be understood and the certain date by which a particular building was in existence to be established.[336] Other maps such as tithe maps and estate maps, where available, were introduced into the series to augment the interpretation of the evolution of a steading. The Royal Commission made use of OS and other maps in this way in their survey of

[336] J. B. Harley, Cartographic notes on Reprint of the first one inch Ordnance Survey of England and Wales, Sheet 29, Lincoln, (Newton Abbot, 1970); Harry Margary, The Old Series Ordnance Survey Maps of England and Wales Vol. 5, Lincolnshire, Rutland and East Anglia, (Lympe Castle, 1987) p. 36.

English farmsteads.[337] After visiting a farmstead the 25 inch Second Edition of the OS was used to examine the layout of the buildings and to allow further consideration of the steading within the context of its surrounding area.

The principal characteristics of the buildings of high farming were identified in the previous chapter as being exemplified by farmsteads of an industrial appearance designed to function as a manufactory, with a planned layout within which an integrated system of production operated. Spaces within such buildings were clearly designated for particular tasks and economy of labour was promoted by communication between buildings and the mechanisation of processes. High farming involved the latest scientific innovations and buildings were designed to accommodate new technologies. The tenant capital required for such farming was considerable so, in an attempt to attract men of capital and education who would have the imagination and resources to 'farm high', landowners erected fine farmhouses to accommodate the lifestyle of such men and reflect their social standing. Great stress was laid on the tenet that all buildings should be constructed in a substantial and durable manner. As a result of this the landscape of Lincolnshire is studded with surviving examples of the buildings of high farming. However, because they were constructed to serve such clearly-defined processes, they are not adaptable and many now stand abandoned and disintegrating. The need to record them is urgent.

The incidence of the characteristics of buildings of high farming outlined above, within the farmsteads of Lincolnshire, should be regarded as a continuum rather than as a category within which buildings either fall or do not. Not all farmsteads manifest all the characteristics described but many display some of them. Farmsteads exhibiting the characteristics most fully lie at one end of the spectrum and those with fewest of the

[337] See, for instance, Barnwell and Giles, English Farmsteads, (1997) pp. 46-7 for examples of series of plans showing the evolution of farmsteads at Swaton and Newton in the areas studied east of Grantham and south of Sleaford, in Lincolnshire.

characteristics at the other. Some of the field surveys and documentary investigations to be discussed in detail below relate to the large number of farmsteads and cottages erected by Christopher Turnor on his estates across the county of Lincolnshire, many of which are text-book examples of the buildings of high farming, embodying all the characteristics noted above. However, other nineteenth-century Lincolnshire farm buildings exemplify a number of the characteristics of high farming very clearly and it is to these that we turn first.

It should be noted that the farmsteads discussed in this chapter are considered sequentially, as discrete units; so the evidence they contain has not been synthesised and presented thematically. This is because the information gathered constitutes an important record of this ephemeral historical source and the record is more accessible if the account of each farmstead is kept separate. In some instances the written description and photographs taken in the course of field study visits are now the only surviving evidence of buildings which have since fallen down or been converted. It is for the purpose of placing this evidence on record, as well as in the interests of clarifying the points being made, that a detailed photographic record is presented as part of the thesis.

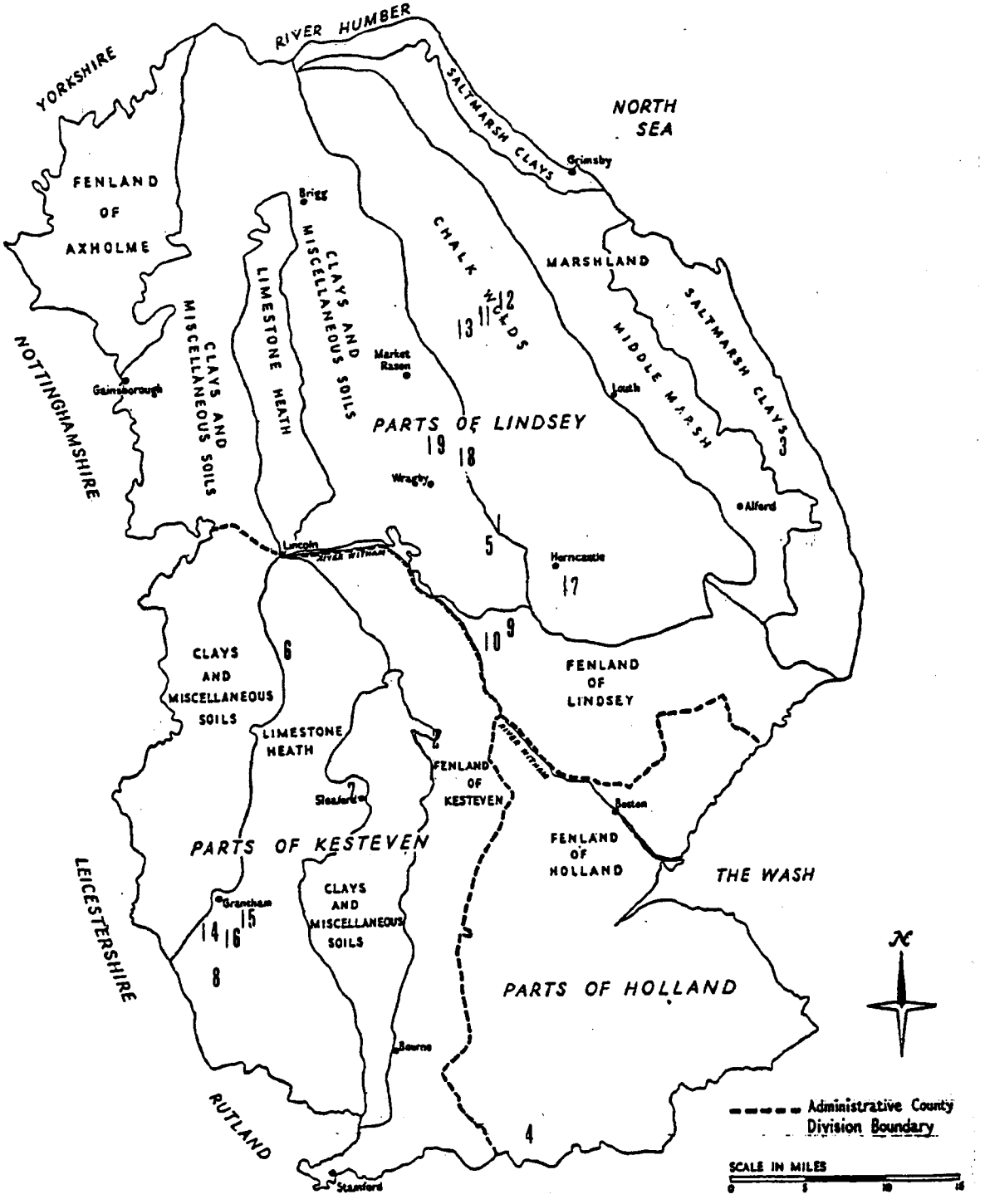
The first farmstead to be considered is the Home Farm at Stourton Hall, Great Sturton, near Horncastle (TF 210 756). The steading is situated on the boulder clays of the South-Western Semi-Wolds (Fig. 6) and was the property of Joseph Montague Livesey.[338] The evidence contained in the remains of the buildings is supplemented by a remarkable photographic record which demonstrates the extent to which this Lincolnshire landowner embraced scientific and technological innovations and applied

[338] The land use regions and land classifications used in this chapter are those of the twentieth-century Land Utilisation Survey of Britain in L. Dudley Stamp ed., The Land of Britain: The Report of the Land Utilisation Survey of Britain, Part 69 Lincolnshire (Parts of Holland), (1937); L. Dudley Stamp ed., The Land of Britain: The Report of the Land Utilisation Survey of Britain, Parts 76-77 Lincolnshire (Parts of Lindsey and Kesteven), (1942); OS, 1 mile:1 inch Land Utilisation Survey of Britain, Sheet 47 (not dated but checked and revised 1937-9); OS, 1:625,000 Land Classification, Great Britain Sheet 2, (1944). The location of each farmstead discussed is indicated on the map in Figure 6.

Figure 6

Location of Farmsteads Discussed in Detail

Adapted from Thirsk, English Peasant Farming, (1957) p.50



1. Home Farm, Great Sturton
2. Sandpit Farm, North Kyme
3. Home Farm, Trusthorpe
4. Postland Farm, Crowland
5. Hill Farm, Wispington
6. Hall Farm, Coleby
7. Hall Farm, South Rauceby
8. Home Farm, Stoke Rochford
9. Abbey Farm, Stixwould
10. Newstead Farm, Stixwould
11. Binbrook Top, Binbrook
12. Binbrook Villa, Binbrook
13. Manor Farm, Kirmond
14. Grange Farm, Little Ponton
15. Woodnook, Little Ponton
16. Valley Farm, Little Ponton
17. Grange Farm, Mareham on the Hill
18. Grange Farm, East Barkwith
19. Ivy House, East Torrington

them on his estate and home farm.[339] Joseph Montague Livesey (Plate 33) was the great-grandson of Thomas Livesey, an eighteenth-century Blackburn wool merchant.[340] Along with many others who prospered as a result of this Lancashire town's economic growth, Thomas Livesey invested his wealth in a country estate distant from his native Blackburn.[341] His great-grandson, Joseph, wrongly given as Joshua in the 1873 Return of Owners of Land, continued to have an income of £1,400 a year from Lancashire although he held no land there, according to John Bateman's *Great Landowners of Great Britain and Northern Ireland.*[342] This suggests that his activities on his 5,571 acre Lincolnshire estate in Sturton, Hemingby, Baumber, Ludborough, Grainthorpe and Farlesthorpe were financed, in part, by money from commercial activities in Blackburn.[343]

Joseph Montague Livesey was an enthusiastic collector and had considerable scientific and technical ability. He was an Associate of the Institute of Civil Engineers, Fellow of the Society of Antiquaries and a member of the Horological Institute, having a whole room of his mansion filled with clocks.[344] There is a family memory of stuffed animals and a cupboard full of mechanical toys.[345] An album of photographs of machines, railway engines, engineering models and pencilled sketches, believed to have been prepared for the Golden Jubilee of the Stockton and Darlington Railway in 1875, was discovered in a Leeds bookshop in 1948 and traced to J. M. Livesey of Stourton Hall.[346] Plate 34 shows a collection of Livesey's engineering models displayed on a table outside the main entrance to his mansion. These, then, were the interests and abilities of the man

[339] Photograph album in the possession of Angela Clark, née Livesey
[340] Livesey family tree in the possession of Angela Clark, née Livesey.
[341] Derek Beattie, Blackburn: the development of a Lancashire Town, (Halifax, 1992) pp. 31-2.
[342] Return of Owners of Land 1873, p.60; John Bateman, The Great Landowners of Great Britain and Ireland, repr. of 1883 4th edn. (Leicester, 1971) p. 273.
[343] Bateman gives a different acreage for Livesey's Lincolnshire estate and a different annual value, to those in the Return of Owners of Land. This is because Bateman included landowners' corrections of the entries in the original return. The figures given here are Bateman's; Bateman, Great Landowners, 4th edn., p. 273.
[344] Terence R. Leach and Robert Pacey, Lost Lincolnshire Country Houses, Vol. 1 (Burgh le Marsh, Lincs, 1990) p. 29.
[345] Interview with Angela Clark, Livesey's great-grandaughter, 27th January 1998.
[346] Photocopy of newspaper article, 'Old photo album revealed little known secrets of Stourton', Horncastle News, Thursday, November 27 1980, page number illegible.

who came into possession of the home farm at Stourton Hall when he came of age in 1872.[347]

Evidence for dating the buildings was also contained in the album found in the Leeds bookshop; it was traced to Stourton from the name plate on a steam engine pictured outside farm buildings (Plate 35).[348] If the album was prepared for the Stockton and Darlington jubilee in 1875 then the buildings must have been erected before that date. However, it is uncertain as to whether they were erected by Livesey himself when he came into his inheritance or at an earlier date, by his uncle the Rev. Thomas Livesey, who was Joseph Montague's guardian after the tragic death of his parents. Interest in improving Stourton had been shown in the early 1850s. Joseph Montague's father, also Joseph, had visited Mechi's experimental farm at Tiptree in May 1852.[349] The following year he had applied for loans of over £6,500 from the General Land Drainage Company, for draining, irrigation and farm buildings on his estate at Baumber, Sturton and Hemingby.[350] His premature death in 1854 cut short his plans and meant that the loans were not proceeded with. We do not know if the Rev. Thomas continued his brother's programme of improvements but there is evidence that the he took his duty to the family estate seriously; he was a member of the LAS and a life member of the RASE.[351] After he came into possession of his estate, Joseph Montague (hereafter referred to as Livesey) extended his Georgian mansion adding conservatories and a fine Italianate front (Plate 36). If they were not erected earlier, it is probable that the buildings either replacing or improving those of the home farm, were constructed at this time.

A comparison of the photographs from the family album with the extant remains of the

[347] Livesey was orphaned at the age of two and raised by his grandmother and uncle, the Rev. Thomas Livesey.
[348] 'Old photo album', Horncastle News, 1980.
[349] 'List of Visitors to Tiptree Hall Farm', f. 107[V].
[350] NA MAF66/1/8.
[351] 'LAS Annual Report', (1871) p. 69; 'Members of RASE' JRASE 2nd ser 9 (1873) p. xxii.

farm buildings at Home Farm, Stourton Hall, was undertaken.[352] The farmstead was of brick and slate and had an industrial appearance. This was particularly emphasised by the 100 foot (30.48 m.) high chimney which dominated the steading (Plate 37) and was reminiscent of those found in the high farming district of East Lothian, in Scotland (Plates 38 & 39).[353] Livesey was reputed to be very proud of his chimney and to have remarked, as he looked back up the line, whenever he alighted from a train at King's Cross, 'Aha! I can still see my chimney at Great Sturton'.[354] The chimney served a gas works which was incorporated in the buildings of the home farm. The furnace was housed in a building which had no timbers in its roof, non-flammable iron being used instead (Plate 40). Terence Leach and Robert Pacey suggest the gas was produced from chicken manure.[355] This may have been the case at a later date but the presence of a coal house (Plate 41), conveniently opening onto the roadway to accept deliveries from the nearest station, suggested that the buildings were designed to burn fossil fuel. There was a nearby pit in which tar, a by-product of burning coal, was collected and into which wooden posts were dipped to preserve them.[356] The gasometer, where the manufactured gas was stored, occupied a 20 foot (6 m.) deep pit next to the furnace house (Plate 42). The farm buildings, stable yard and nearby cottages were lit with gas, as were Lawson's Mechi Farm at Blennerhasset in Cumbria and Crossroads Farm at Belper in Derbyshire, on the Strutt estate, where industrial principles were also applied to the design and construction of farm buildings.[357]

The gas produced on the home farm at Stourton served a further purpose: it was used to generate electricity. Gas powered a Tangye Patent Engine used to produce the electricity

[352] Field visit, Home Farm, Great Sturton, 27th January, 1998.
[353] The very dark photograph of the buildings at West Fenton Farm, North Berwick, East Lothian is included because at the time of the field visit it was in the process of being converted into dwellings. Therefore this photograph is an unrepeatable image of the Victorian farmstead. Furthermore, even in silhouette, the similarity of its chimney to that at Home Farm, Great Sturton, is apparent.
[354] Interview with Angela Clark, 1998.
[355] Leach and Pacey, Lost Lincolnshire Country Houses, Vol. 1 (1990) p. 29
[356] Interview with Mr Sams who now lives in the remains of the buildings and is converting them, 27th January 1998.
[357] supra. Chapter 2; Susanna Wade Martins, Adam Menuge and Anne Storer, 'The Strutt Farms of the Derwent Valley, Derbyshire', JHFBG, 17 (2003) pp. 11-13, 29.

with which Livesey's mansion was lit (Plates 43 & 44). Livesey's pride in his engine is demonstrated in the number of pictures of it in the family album, and the presence of technical drawings of the machinery in a frame on the wall behind the engine (Plate 43) demonstrates his interest in, and knowledge of, its workings. In the 1870s gas was being used in factories, large shops and banks to generate electricity and by 1878 more than a dozen gas companies had applied to generate electricity for lighting.[358] The great Victorian entrepreneur, Lord Armstrong, pioneered the use of electric lighting at Cragside, his Northumberland residence. The original generator was powered by a water engine but in 1895 he established the Rothbury Town Gas Works and installed a Tangye engine in his Power House at Burnfoot, to meet the increased demand for electricity in his home.[359] Livesey was therefore experimenting with the same scientific advances as this eminent Victorian industrialist.

Gas was not the only source of power which Livesey utilised on his estate; he was also known as a great enthusiast for extending the use of steam as a motive power.[360] It is Livesey himself who is photographed at the helm of his steam engine (Plate 35) and of his steam yacht on the lake at Stourton (Plate 45). The industrial nature of his activities is further displayed in the appearance of the dairy on the home farm. The building has what looks like a railway water tank on its roof (Plates 46 & 47). This was indeed a water store which was filled from the lake by a hydraulic ram, but its presence on the roof of the dairy served another purpose; that of keeping the dairy premises cool. The appearance of the building is similar to that of the water tower at Enholes Farm, Patrington, East Yorkshire, constructed in 1849 by William Marshall, of the prominent Leeds firm of flax and linen manufacturers. Marshalls, major entrepreneurs of the Industrial Revolution in the West Riding of Yorkshire, had recently constructed their

[358] Trevor I. Williams, A History of the British Gas Industry, (Oxford, 1981) p. 38.
[359] National Trust, Cragside, Northumberland, (1992) pp. 31-4.
[360] 'Old photo album', Horncastle News, 1980.

fire-proof Temple Mills in Leeds, in spectacular Egyptian style.[361] Although a generation apart, Livesey and Marshall were men with a similar innovative approach to farmsteads as industrial buildings.

Whilst the entrepreneurial spirit of the late nineteenth-century owner of Home Farm, Great Sturton, may have been reflected in the industrial appearance of the buildings, their utilisation of gas and steam power and the durability of their construction, in other ways they do not match the high farming ideal. As it was a home farm there was no farmhouse, so the criteria relating to farmhouses do not apply. There is, however, a lack of regularity in their layout which may be an indication that they were extended and improved over a period, rather than being completely reconstructed by Livesey. Plate 37 reveals a jumbled assortment of buildings without any obvious plan-form. This impression was also gained from the field study visit to the farmstead and is apparent in its footprint on the 1906 25 inch OS map (Fig. 7).[362]

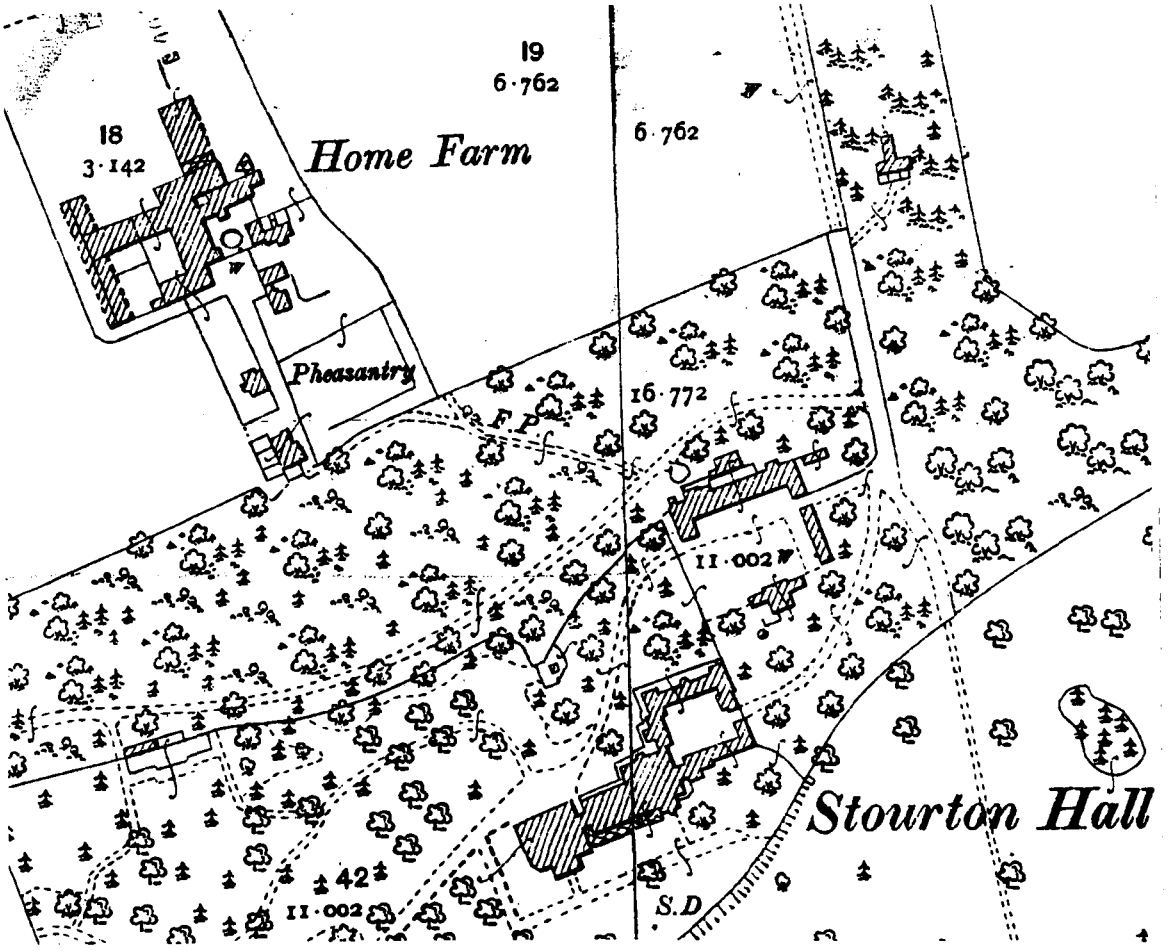
This does not mean that the layout of the buildings at Home Farm did not have logic in terms of processes and flow of activity. The connection between the buildings of the gas works was coherent, with the coal being delivered conveniently from the road at one end and the process following through to the gasometer at the other. Also, the system for distributing food to the cattle was integrated and ingenious. A visitor to Stourton in the 1870s or 80s described the arrangements thus: 'At the back of the cattle sheds ran a tramway of small trucks; doors opened at the back of the crib of each stall, and the trucks conveyed the exact modicum of provender, and it was injected into each separate crib, periodically, for the animals which were there fed.'[363] Yet again Livesey's technical expertise was being applied to his farming activities; the Institute of Civil Engineers has

[361] Colum Giles, 'Enholes Farm, Patrington', JHFBG, 13 (1999) p. 33, Fig. 2, p.39.
[362] OS 1:2,500 County Series, Lincolnshire Sheet 63.16, Second Edition (1906). All 1:2,500 maps presented in the thesis are reproduced at the same scale and N/S orientation as the original.
[363] J. C. Walter, Records, Historical and Antiquarian, of Parishes around Horncastle, (Horncastle, 1904) p. 22. (I am grateful to Ann Keighley, a fellow student on the Hull BA course, for drawing my attention to this reference.)

Figure 7

1:2,500 OS Footprint of Home Farm, Great Sturton

Source: OS 1:2,500 County Series, Lincolnshire Sheets 63.16, Second Edition (1905); 64.13, Second Edition (1905).



records of J. Livesey taking part in discussion regarding iron permanent way, in 1881-2.[364]

Physical evidence for the tramways and cribs was hard to discover. The current owner

[364] Quick name search, keyword Livesey, of the Institute of Civil Engineers' database undertaken by acting Archivist, Carol Arrowsmith, 29/6/98.

had sold the rails and the metal water tank from the roof of the dairy for scrap. However, he was able to point out the passageway along which the tramway ran (Plate 48) and a remaining crib (Plate 49).[365] Careful investigation revealed what may have been one of the doors which hung at the back of the stall, through which the food was delivered (Plate 50). There was no evidence of any of the trucks which ran on the tramways; it is unusual for these to survive. A rare example is extant at Court Farm, Hartpury, Gloucestershire (SO 780 236), in a fifteenth-century tithe barn, where the tramway also survives (Plate 51). 'Railways for farms and estate improvements' are discussed in a chapter of Robert E. Brown's *The Book of the Landed Estate*, published in 1869.[366]

The photographic record accompanying this discussion illustrates the field visit discovery that the archaeological evidence for the remarkable steading at Stourton Hall had been all-but destroyed. The crewyards had been converted for residential use; the only evidence for the former identity of the buildings as animal housing being the distinctive pattern of slates on the roofs, laid in such a way as to provide ventilation in the buildings below (Plates 52 & 53). Livesey's proud chimney had also been demolished by the time of the field visit in 1998 (Plate 54) although it was still in existence, reduced in height, some ten years earlier.[367] Losses of this nature emphasise the crucial need to capture images and make notes on the buildings of high farming before they disappear altogether.

In his enthusiasm for gas and steam engines and in the extravagance and innovation of his farming activities, Livesey resembled Mechi and Lawson and, as with each of these men, his activities eventually foundered on the rocks of financial distress. Lawson wrote 'Tis better to have farmed and lost than never to have farmed at all', although he conceded

[365] Sams, 27th January 1998.
[366] Robert E. Brown, The Book of the Landed Estate: Containing Directions for the Management and Development of the Resources of Landed Property, (1869) pp. 137-45.
[367] Photographed by Ann Keighley, 1987.

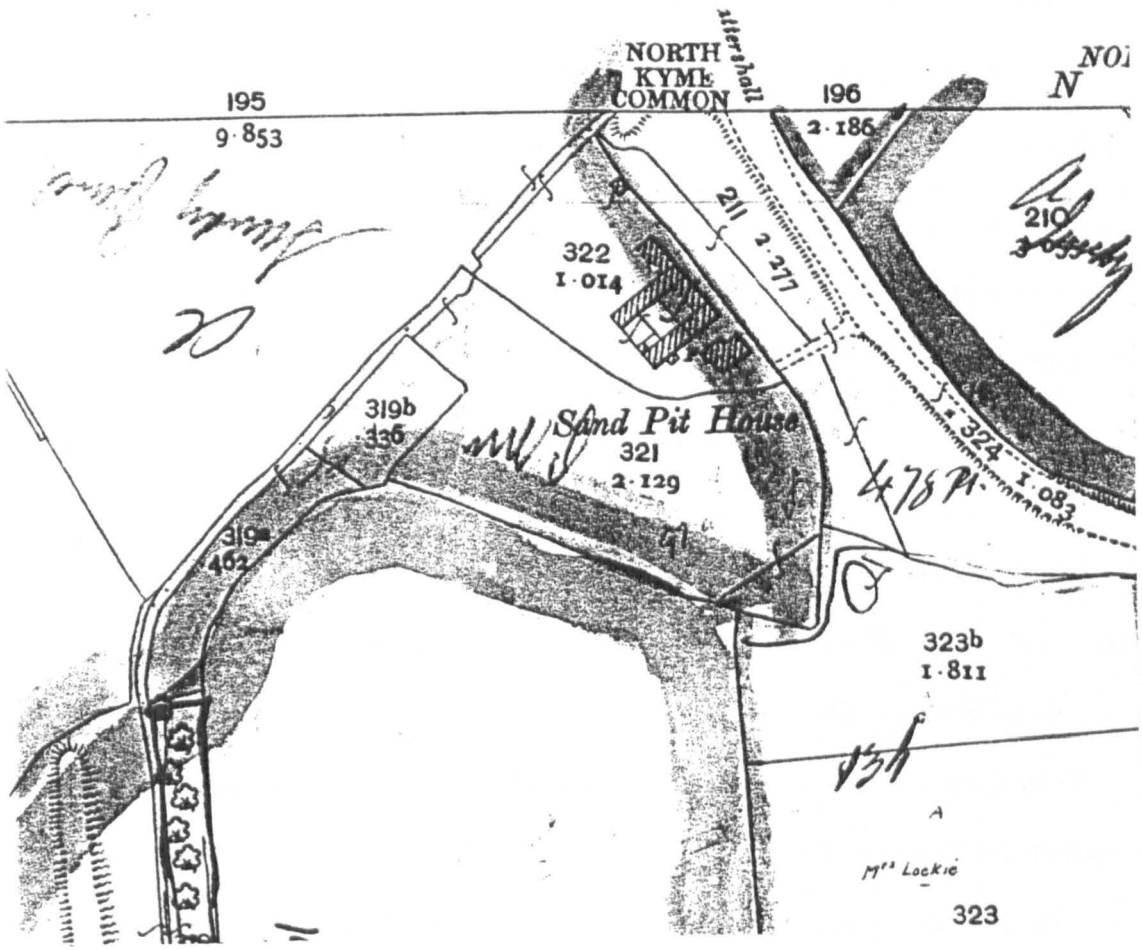
that this was 'true as regards some men who can afford that excellent experience; it being one of the advantages of the rich, that they are able to test that, which, because of its uncertainty and expensiveness, few can try'.[368] In 1891 all Livesey's clocks were sold and it is thought that the rest of his furniture and collections followed. He retired to Dover suffering from ill-health and, after his untimely death in 1902, it is said that his son Algernon inherited Stourton Hall 'without a stick of furniture in it'.[369]

The steading at Sandpit Farm, North Kyme (TF 148 531) is an example of a farmstead of much more modest proportions, which was erected in line with the characteristics of the buildings of high farming by a man whose means may also have been unequal to the outlay. The farm lies at the very end of the sand and gravel isthmus known as the barff (Fig. 6, (p. 122)), which is part of the Kesteven Fen Border Region. It is a dated steading of modest proportions built by a local farmer, Robert Forman, in 1876 (Plate 55). The 1881 census gives Forman as a farmer of 390 acres employing five labourers and two lads, living at Grange Farm, South Kyme.[370] Forman's teenage daughters are recorded in the 1881 census as having been born at Langrick so it is probable that he is the same Robert Forman who is recorded in the 1873 Return of Owners of Land, owning 99 acres at Langrickville, and in the 1871 LAS membership list, living at Langrick.[371] Although a member of the county society, Forman was not a member of the RASE.

A visual survey of the buildings at North Kyme revealed a regular, U-shaped arrangement of three ranges of buildings around a crewyard which faced south-west (Fig. 8).[372] A modern sliding door had been inserted in the gable end of the north-west range but other than this, some blocked openings and the replacement of some of the slate roofs with concrete tiles, the buildings retained much of their original character (Plate

[368] Lawson, Ten Years of Gentleman Farming, (1874) p. 147.
[369] Angela Clark, 27th January 1998.
[370] 1881 Census, South Kyme, RG11/3225/4.
[371] Return of Owners of Land 1873, p.36; 'LAS Annual Report', (1871) p. 65.
[372] Field visit, Sandpit Farm, North Kyme, 11th January, 2000.

Figure 8
1:2,500 OS Footprint of Sandpit Farm, North Kyme
Source: OS 1:2,500 County Series, Lincolnshire Sheet 98.6, Second Edition (1905)



56). There was an additional range extending into the stack yard from the exterior of the northern corner of the buildings around the crew, which housed an implement and cart shed (Plate 57). The positioning of the single-storey barn in one of the side ranges, between the working horse stables and the shelter sheds, is evidence of the change in use of the barn in Lincolnshire in the second half of the nineteenth century, which was noted by Barnwell and Giles in their South Lincolnshire study area.[373] It was clear from the lack of provision for hand threshing and storing unthreshed corn, as well as from the convenient positioning of the barn between the accommodation for horses and for cattle, that it was intended to be used as a feed preparation area and not as a threshing barn.

[373] Barnwell and Giles, English Farmsteads, (1997) pp.49-50.

This careful positioning of buildings in relation to one another is one of the characteristics of the buildings of high farming. Another is the industrial appearance of buildings. The use of slate on the roofs and cast iron for the windows (Plate 58) at Sandpit Farm reflects this characteristic. The buildings were erected in a substantial and durable manner with pride being taken in their appearance as was evident in the inclusion of a dated and initialled keystone (Plate 55) and in the fine brick detail (Plate 59). The house at Sandpit Farm was a comfortable double pile plan dwelling facing away from the steading towards the access road (Plate 60).

Oral tradition in the village has it that Forman committed suicide by throwing himself into a drain, having over-reached himself financially in constructing the farmstead.[374] The report of his death in the Sleaford Gazette refers to him as 'an opulent farmer' and makes no suggestion of suicide, reporting that his death was accidental, as a result of being thrown from his trap whilst driving beside a drain on his home farm.[375] His burial entry, in the South Kyme burial register on 28th April 1881, makes no mention of anything untoward even though the Rev. E. Garvey was in the habit of recording comments in its margin if there were any unusual circumstances.[376] This may not be conclusive evidence, however, because it is quite conceivable that the disgrace of suicide would have been covered up by those of similar social standing to the deceased. The coroner's records for the Boston District for this period have not survived, so details of the inquest were unavailable

Evidence for the demise of William Loft is more conclusive. Loft was owner occupier of an estate of around 482 acres at Trusthorpe and Sutton on the Salt Marsh Clays near Mablethorpe (Fig. 6 (p. 122)). His residence was Trusthorpe Hall, known as

[374] Mr Dring, Sandpit Farm, North Kyme, 11th January 2000.
[375] Sleaford Gazette, 30th April 1881.
[376] South Kyme Burials 1866-89, LA 22 22 014 01A.

Trusthorpe Thorpe in the nineteenth century (TF 503 820). As was noted in Chapter 2, Loft was a leading agent for change in the Alford area. He was a committee member of Lord Yarborough's North Lincolnshire Agricultural Society, founded in 1836 and, in 1838, founded the Alford Agricultural Society of which he was first president.[377] His exposure to ideas of improvement promulgated by these societies may have led to his visit to Mechi's experimental farm at Tiptree in Essex, in August 1848.[378] Two years later, in 1850, a 'General View and Ground Plan of the Farm Buildings at Trusthorpe Lincolnshire, belonging to William Loft Esq.' was published in the *Farmers Magazine* (Fig. 9).[379] This was Loft's home farm which he erected opposite his residence at Trusthorpe.

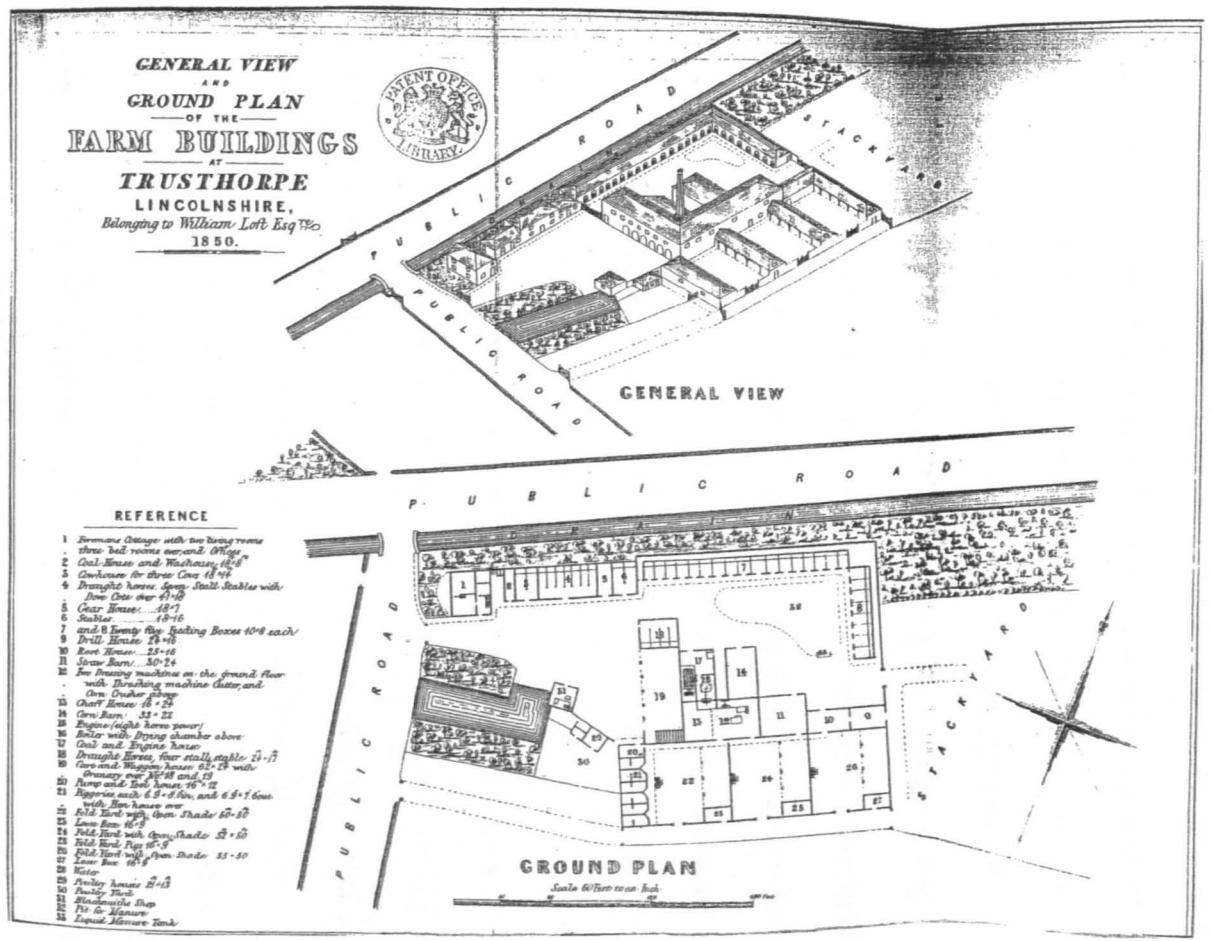
Careful examination of the general view and ground plan of Loft's steading, using the key to the designation of each building, reveals an impressive range of industrial buildings. The numbers on the 1850 plan (Fig. 9) are given in brackets in the following discussion. At the heart of the complex, dominating it with its tall chimney, was an eight horse power, fixed steam engine (15, 16, 17). This powered threshing and feed preparation machinery in the adjacent building (12). Next to this were the corn bin (14) and the chaff house, straw barn and root house (13, 11 10), accommodated in a two-storey building which formed the rear wall of the crewyards, affording shelter in the yards and easy access for the distribution of fodder and bedding. The cow house (3), working horse stables (4), riding horse stables (6) and extensive ranges of feeding boxes (7 & 8), were less conveniently placed and would require fodder and bedding to be carried a distance across an unprotected area, to reach the 37 horses and cattle which they were intended to house. There is no sign of any tramway to reduce the amount of labour expended in this process and the damage to fodder and bedding in wet weather.

[377] Skehel, Tales from the Showyard, (1999) pp. 119-20.
[378] 'List of Visitors to Tiptree Hall Farm', f. 49.
[379] 'General View and Ground Plan of the Farm Buildings at Trusthorpe Lincolnshire, belonging to William Loft Esq.', Farmers Magazine, 2nd ser. 22, (1850).

Figure 9
General View and Ground Plan of William Loft's Home Farm at Trusthorpe

Source: Farmers' Magazine 1850

Note: A magnifying glass is required to view the key to the ground plan



The plan of Loft's farmstead reveals industrial capitalist influences on high farming in the careful differentiation of each space within the buildings. 1850, the year his plans were published, was the year in which the *JRASE* held a Prize Essay competition for the design of farm buildings. The use of steam power and the centrality of housing for the storage and preparation of feed on Loft's farm would have met with the approval of the judges. Tancred, the winner of the competition, considered that these buildings were the 'kitchen' of the farmery and emphasised that they should be positioned centrally.[380] This point was also made by Thompson, one of the judges, in a letter to Pusey, the editor.[381] The judges would not have looked as favourably on the inconvenience of communication between the central area where feed and bedding were stored and the feeding boxes (7 & 8). Thomas Sturgess, another entrant in the competition, designed the layout of his entry with 'the acquisition of convenient foddering and littering without going out into the open yard' as one of his foremost considerations.[382] Thompson noted 'the great inconvenience of moving straw any distance, especially on a windy day'.[383]

As Loft's steading was a home farm there was no farmhouse designed to attract a suitable tenant. Instead there was a foreman's cottage (1) and the positioning of this, by the entrance to the farmstead, looking into the yard and towards the buildings, would have elicited the approval of another pair of contestants, W. C. Spooner and John Elliott. They considered it 'very desirable that the farm-buildings, as well as the rick-yards, should be constantly under the watchful care of the yardman' and proposed that 'his cottage should be so placed as to command the whole of the rick-yard and the farm buildings'.[384] Again Loft's arrangements fell short of the ideal; the rickyard and far side of the buildings were out of sight.

[380] Tancred, 'Essay on the Construction of Farm-Buildings', JRASE, 11 (1850) p.195.
[381] H. S. Thompson, 'Farm Buildings', JRASE, 11 (1850) p. 187.
[382] Thomas Sturgess, 'Farm Buildings', JRASE, 11 (1850) p.290.
[383] H. S. Thompson, 'Farm Buildings', JRASE, 11 (1850) p. 188.
[384] W. C. Spooner and John Elliott, 'On the Construction of Farm Buildings', JRASE, 11 (1850) p.277.

Loft's steading at Trusthorpe Thorpe was visited by Ruth Neller in Spring 1999. She found few of his buildings still standing and those which were appeared to be in a poor state of repair. The foreman's house (1) had been replaced by a modern farmhouse; the stable range and cowhouse (2-6) were garages and a workshop; the blacksmith's shop (31) was a fuel store and the poultry house (29) had been extended to house a games room. The only original buildings still in agricultural use were the far north-east yard and shelter shed (26) bounded by the drill house and root house (9 & 10), with a loose box (27) in the corner. These were being used to house calves and dairy cows. Modern farm buildings had been erected in place of the other nineteenth-century buildings to accommodate the rest of the present-day farming enterprise.[385]

The disappearance of Loft's model farmstead was not a consequence of modern farming activities; his fine steading had a far shorter life than that. Whilst it was impossible to be sure of the human cost of Forman's investment in his farmstead at North Kyme from written evidence, the documentary record clearly charts the demise of William Loft. In 1854, only four years after he proudly displayed his new steading in the Farmer's Magazine, his entire estate was advertised for sale (Fig. 10). The farm buildings were advertised as 'having been recently built of the best materials in a most substantial manner, on a very complete and comprehensive scale, and upon the most approved principles of construction'. His 'newly-erected, substantially-built, and very commodious' mansion at Trusthorpe Thorpe was also included in the sale.[386] The sale particulars reveal that the grounds of the residence contained a 'tower gazebo, commanding extensive views'.[387] Oral testimony suggested that Loft used this vantage point to observe the farming activities on his estate and survey the growth of his crops.[388] This reflects the high farming attitude towards the labour force, an attitude also

[385] Ruth Neller, essay submitted for Hull BA (Hons) course, (Tutor: Shirley Brook) 10th April, 1999.
[386] Notice of Auction of Freehold Estate at Trusthorpe, LA Dixon 20/1/11.
[387] ibid.
[388] Member of the audience at Shirley Brook, 'Victorian Farm Buildings in Lincolnshire', Louth Wildlife Trust, Conoco Rooms, Louth, 15th October 2004.

Figure 10
Notice of Auction of Freehold Estate at Trusthorpe
Source: LA Dixon 20/1/11

TRUSTHORPE AND SUTTON,

NEAR ALFORD, LINCOLNSHIRE.

Particulars of a very valuable

FREEHOLD ESTATE,

Situate in the Parishes of Trusthorpe & Sutton, in the County of Lincoln;

CONSISTING OF A

NEWLY-ERECTED, SUBSTANTIALLY-BUILT, AND VERY COMMODIOUS

MESSUAGE OR MANSION

CALLED "TRUSTHORPE THORPE,"

COMPRISING HANDSOME ENTRANCE HALL, LARGE DINING AND DRAWING ROOM, BREAKFAST ROOM, STUDY, NURSERIES, NINE BED ROOMS, TWO GOOD KITCHENS, CELLARS, AND COMPLETE IN-DOOR AND OUT-DOOR DOMESTIC OFFICES;

Two capacious Coach-Houses, excellent Stables and Horse-Boxes, Carpenter's Shop, Butcher's Shop, Cow-House, and Piggery;

TOWER GAZEBO, COMMANDING EXTENSIVE VIEWS,

Spacious Yards, Hot-House, Walled Fruit & Kitchen Garden, Pleasure Gardens,

THRIVING SHRUBBERIES, ORNAMENTAL PLANTATIONS, FULL-BEARING & PRODUCTIVE ORCHARD, AND WELL-STOCKED FISH-PONDS.

ALSO A MOST

COMPLETE MODEL FARMSTEAD,

COMPRISING A WELL-BUILT

BRICK-AND-SLATE BAILIFF'S DWELLING-HOUSE,

DAIRY, WELL-STOCKED DOVE-COTE, EXTENSIVE FARM-YARD, BARNS, STABLES, WAGGON-HOUSES, 25 BOXES FOR FEEDING CATTLE, BEAST-SHEDS, CREWS, PIGGERY, POULTRY-HOUSES, AND OTHER NECESSARY FARM BUILDINGS,

INCLUDING A LARGE GRANARY,

AND PERFECT STEAM MACHINERY OF TEN-HORSE POWER,

For Thrashing and Dressing Corn, Cutting Food for Cattle, Grinding, and other purposes:

THE WHOLE OF THE BUILDINGS HAVING BEEN RECENTLY BUILT OF THE BEST MATERIALS IN A MOST SUBSTANTIAL MANNER, ON A VERY COMPLETE AND COMPREHENSIVE SCALE, AND UPON THE MOST APPROVED PRINCIPLES OF CONSTRUCTION;

ALSO EIGHT WELL-BUILT LABOURERS' COTTAGES,
With Gardens, and all necessary Conveniences adjoining thereto.

AND SEVERAL CLOSES OF RICH

ARABLE, MEADOW, PASTURE, AND FEEDING LAND,

WITH PLANTATIONS—THE WHOLE

Containing 432A. 3R. 28P. (more or less);

WHICH

WILL BE SOLD BY AUCTION,

By Messrs. Winder and Mason,

AT THE WIND-MILL INN, IN ALFORD,

On TUESDAY, 31st OCTOBER, 1854, at Four o'clock in the Afternoon,

IN THE FOLLOWING LOTS, AND SUBJECT TO SUCH CONDITIONS AS WILL BE PRODUCED AT THE TIME OF SALE.

J. AND T. JACKSON, PRINTERS, MARKET-PLACE, LOUTH.

revealed in the name of one of the entries in the 1879 farm plans competition, which was entitled 'The Eye of the Master is necessary to the due Economy of Labour'.

There may have been another influence on Loft, inspiring his gazebo: at this time the area around the nearby market town of Louth was in the grip of 'panoramania'. The viewing of paintings depicting 360° panoramas of the surrounding landscape was all the rage in the early decades of the nineteenth century. The first of these was exhibited in London in a rotunda in Leicester Square. In 1829 the Regent's Park Colosseum was constructed for the purpose of viewing a panorama of the city and when the *Illustrated London News* was launched in May 1842, by Henry Ingram of Boston, subscribers were promised a 'wood-engraved Colosseum View (Panorama) of London'. The engravings were duly distributed with the magazine in January 1843.[389] This craze is thought by David Robinson and Christopher Sturman to have been the inspiration for William Brown's panorama of Louth, painted from drawings made from the top of the 288 foot (87.78 m.) spire of Louth parish church in 1844, when it was encased in scaffolding for repairs. Brown's panorama was exhibited in the Mansion House in Louth in July and August 1847.[390]

It is quite possible that Loft saw a copy of the engravings distributed with the *Illustrated London News* and that he visited the Louth Panorama when it was displayed in the town. His activities suggest he was a man who was readily gripped by a new enthusiasm; it was a characteristic of nineteenth-century high farmers. Sadly, in the case of his commodious mansion, tower gazebo and model farm buildings, his enthusiasm carried him too far. The diary of a local man records:

> Willm Loft Esqr Trusthorpe died Fridy morning 5 o'clock aged 56 May 13 1854.

[389] David Robinson and Christopher Sturman, William Brown and the Louth Panorama, (Louth, 2001) p.12.
[390] ibid. pp.13-14; 17-19; 35.

> He was a man of the world and lived acordg to the desires of his own sinful pasions. He took a grate interest in agricultural persuits and built a modle farm after which it did not afford that amount of happiness he expected and very much depleted his means that he had determined on selling it and taking one on rental in the southern part of the country and was in a short time going to enter in upon it. But death arested him, he was at Alford 3 days successively on the week he died. I noticed the last day how dejected he looked, and expresed my beleve that he would not live long little did I then think that he had but one day more to spend on earth.[391]

It seems that Loft's estate did not sell in October 1854 as it was advertised for sale again in February 1855. This time it was to be sold in 27 lots and the advertisement stated 'The steam thrashing machine and apparatus, and a considerable portion of the buildings comprising the Model Farmstead, will be sold by auction, in lots, to be removed'.[392] This, then, is the explanation for the disappearance of Loft's model farmstead. On the 1907 6 inch OS map the only buildings remaining are those now occupied by the modern farm and it is possible that they were the only ones left standing after the 1855 sale.[393]

Loft's model farmstead was discovered from the 'General View and Plan' published in the *Farmers Magazine*. Taking the literary record as a starting point, other Lincolnshire buildings which feature in nineteenth-century publications, were explored. James Martin of Wainfleet, the land agent whose involvement in promoting various agricultural societies and activities is discussed above, had his work mentioned twice in articles in the *JRASE*.[394] His family has a high score in the Network of Lincolnshire Improvers (Table 4 (pp. 66-74)). Martin himself was, by turns, a committee member, steward, judge and honorary director of the LAS, a life member of RASE and an active member of the Wrangle and East Lincolnshire Agricultural Association.[395] In 1878 his prize-winning

[391] Diary of Robert Mason of Alford, LA Misc. Don. 1053.
[392] Notice of Auction, LA PAD 3/200.
[393] OS 1:10,560, Lincolnshire Sheet 58.SW, Second Edition (1907).
[394] supra. Chapter 2.
[395] 'Members of RASE' JRASE 2nd ser 9 (1873) p. xxii; 'LAS Annual Report', (1871) p. 57; Skehel, Tales from the Showyard, (1999) p. 111.

design for labourers' cottages was published in the *JRASE* and the following year his entry in the farm plans competition at the London International Exhibition was discussed, also in the *JRASE*.[396]

Martin's cottage plans (Fig. 11) display features thought important in promoting the well-being of the labourer and his family so that he would have energy and strength for his work and be encouraged to stay in the same employment. Stability and productivity were two characteristics of high farming which, as we have seen, were promoted by farmers and landowners through local agricultural societies. They also sought to promote them through their building provision. A witness before the Select Committee of the House of Lords on the Improvement of Land, who said he had built between 40 and 50 cottages for various landowners with improvement loan funding, stated that 'interest on the outlay is not looked for so much as making their workpeople's homes thoroughly healthy and comfortable; they accommodate a superior class of tenants who become more steady and attached to their employers when properly housed'.[397] Thus the plans show cottages with an adequate water supply and sanitation, which have provision for keeping and preparing food and dry storage of fuel.

Concerns for the moral well-being of the labourer were also addressed in the provision of three bedrooms in cottages, enabling parents and children of different sexes to have separate sleeping accommodation. 'Modesty must be an unknown virtue, decency an unimaginable thing, where, in one small chamber, with the beds lying as thickly as they could be packed, father, mother, young men, lads, grown and growing girls.....are herded promiscuously', reported Assistant Commissioner the Rev. James Fraser, in 1867.[398] In line with ideas about the virtue of hard work and the evils of gossip, the doors were at

[396] H. J. Little, 'The Agricultural Labourer', JRASE, 2nd ser. 14 (1878) 780-3; Denton, 'Report of the Judges of Farm Plans, 1879', JRASE, 2nd ser. 15 (1879) p. 780.
[397] Mr J. Birch, witness, Report of Select Committee on the Improvement of Land, (1873) pp. 223; 230.
[398] Report by the Rev. James Fraser on the counties of Norfolk, Essex, Sussex and Gloucester, Report of the Royal Commission on the Employment of Children, Young Persons and Women in Agriculture, 1867, Appendix Part I, p.36, quoted by Brigden in Victorian Farms, (1986) p.102.

Figure 11
James Martin's Prize-Winning Design for Labourers' Cottages
Source: H. J. Little, 'The Agricultural Labourer', JRASE, 2nd ser. 14 (1878) 780-3

Fig. 1.—*Front Elevation.*

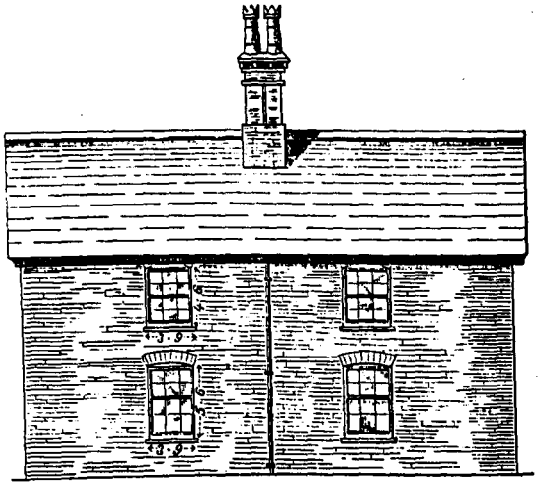


Fig. 2.—*Ground Plan.*

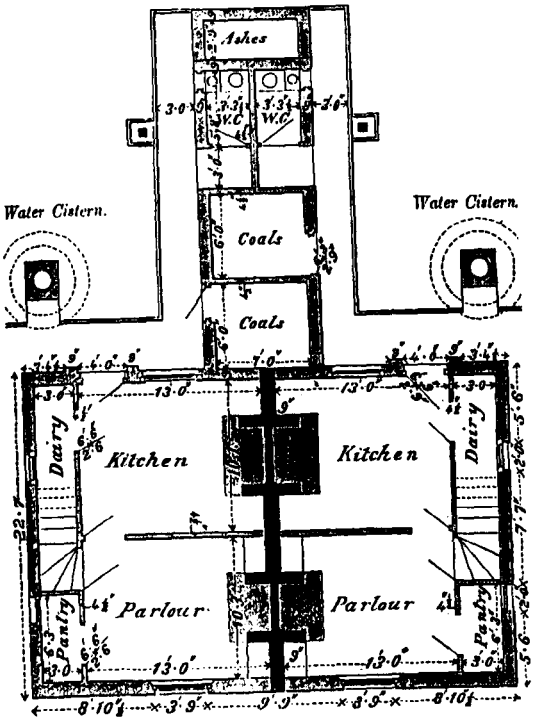
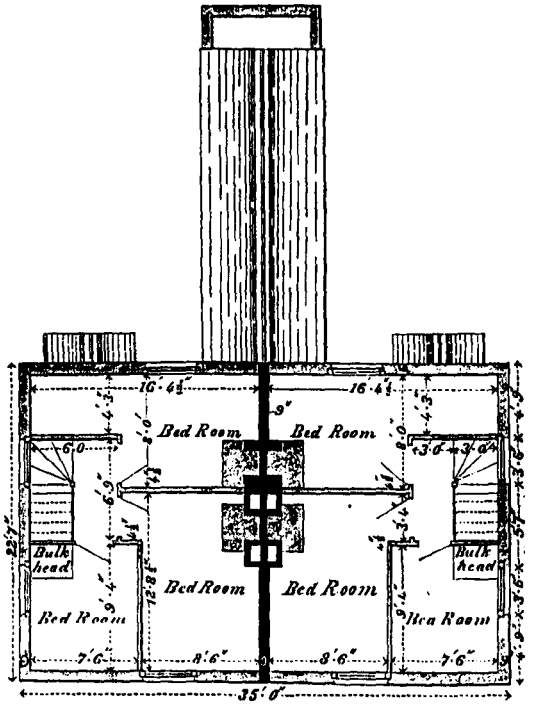


Fig. 3.—*Chamber Plan.*



the rear of the cottages, leading out from the kitchen and not at the front where the neighbours might be encountered. A standing example of Martin's cottages (Plate 61) is to be found at Hungram Yard, Baumber (TF 201 747). They are attached to an off-yard (Plate 62) which is also thought to have been designed by Martin.[399] It is not, however, constructed along the lines of the plan for farm buildings which he submitted in the 1879 competition. This was in the form of a long parallelogram with shelter sheds dividing a series of yards.[400]

The high regard in which Lincolnshire farming was held in the mid-nineteenth century is reflected in the number of mentions the agriculture of the county receives in contemporary publications. Amongst the 27 farmsteads discussed in detail in his *Farmhomesteads of England*, Denton chose to discuss two Lincolnshire examples; Postland Farm, Crowland, on the first class alluvial soils of the Holland fenland, in the northern district of the Bedford Level, and Wispington Farm, now known as Hill Farm, Wispington, on the Upper Ancholme and Middle Witham Clays (Fig. 6 (p. 122)).[401] Denton stated that his chosen steadings were 'carefully selected from the most approved specimens of farm architecture'.[402] Unfortunately the survival of these two important examples of the buildings of high farming in Lincolnshire is almost nil, rendering Denton's plans and descriptions invaluable in furthering our knowledge of them.

Denton tells us that Postland Farm (TF 267 107), on the estate of the Marquis of Exeter, was erected during the summer of 1852 by the Stamford architect Edward Browning, at a cost of £1,250.[403] An 'Isometrical View' and 'Ground Plan' of each steading is included along with a description of the buildings, land type and farming

[399] Letter from R. M. Battle, Jas. Martin and Co. 15th December 1999.
[400] Field visit, Hungram Yard, Baumber, 10th March, 2000.
[401] Denton, Farmhomesteads of England, (1864) pp. 20-22; 47-49.
[402] ibid. Frontispiece.
[403] ibid. p. 20.

Figure 12
Isometrical View of Postland Farm, Crowland
Source: Denton, Farmhomesteads of England, 2nd edn. (1865) Plate 10

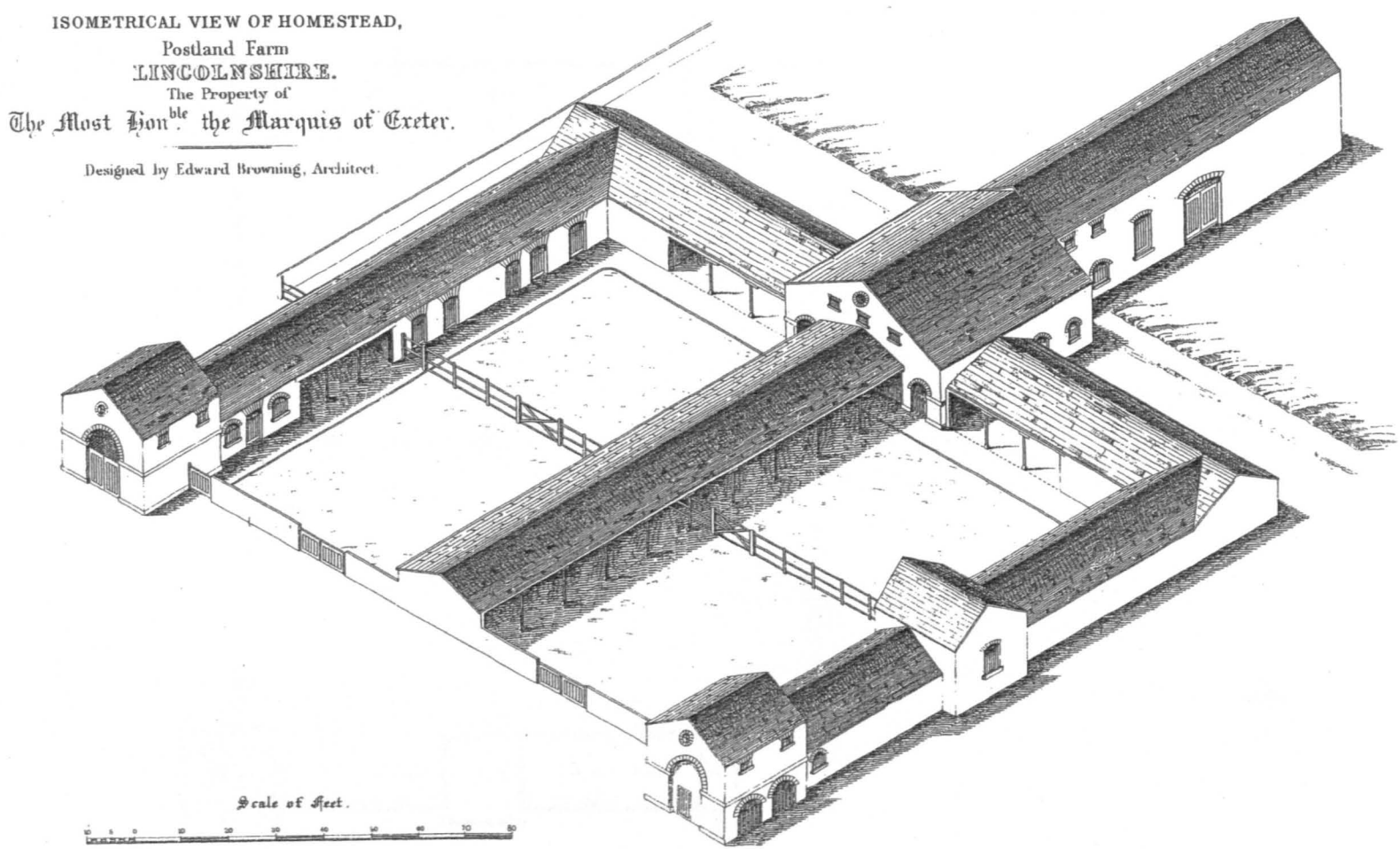
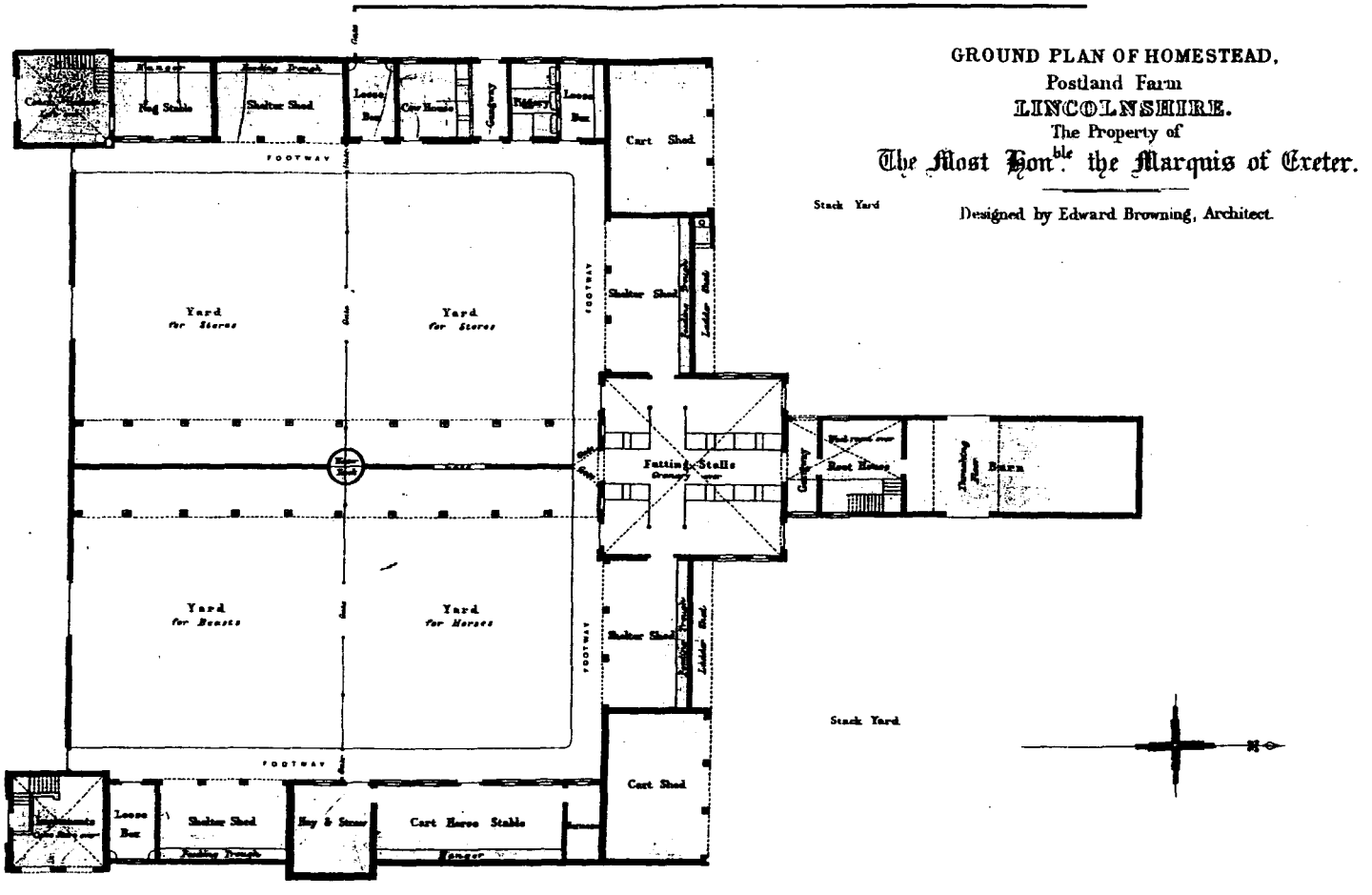


Figure 13
Ground Plan of Postland Farm, Crowland

Source: Denton, Farmhomesteads of England, 2nd edn. (1865) n.p.



regime, for all of Denton's examples. The view and plan for Postland (Figs. 12 & 13) reveal a large steading with a distinctive trident-shaped footprint. Denton's plans show four open yards, three of them for cattle and one for horses. In line with contemporary ideas of best practice the yards faced due south to promote the fattening of beasts kept in them and to enhance the quality of the manure which accumulated there.[404] In the 1850s the transition from threshing barn to feed preparation area, which was evident at Sandpit Farm in 1876, had not been effected and the barn was provided with a threshing floor. It was, however, conveniently situated, projecting into the stackyard. The root house adjoined the fatting stalls and the hay and straw barn was in close proximity to the cart horse stables. There was provision for the collection and distribution of water from the roofs to serve the steading and for liquid manure to be collected and pumped. All of these features reflect a concern with the 'economy of labour and manure' which is one of the characteristics of the buildings of high farming.

In an aerial photograph taken in 1971 (Plate 63), the Victorian steading appears, still intact, its nineteenth-century buildings supplemented by the erection of a number of modern sheds in the stackyard area. Sadly, a fragment of Postland Farm was all that remained when a field visit was made in 2000.[405] Enquiries revealed that the buildings were demolished around 1980 when the farm was in the possession of the Gallagher pension fund. Only the coach house at the front of the west range (Plate 64) was retained, to serve as a garage for the house which is now known as St James' Lodge.[406]

Hill Farm, Wispington (TF 212 706), was given by Denton as an example of suitable buildings for a farm of less than 350 acres. It was erected in 1855, on the Mid-

[404] The requirement for the steading to face south is stressed by a number of those whose entries were published in the farm buildings' competition in the JRASE in 1850: Ewart, 'On the Construction of Farm-buildings', JRASE, 11 (1850) p. 221; Hudson, 'A Plan for Farm Buildings', JRASE, 11 (1850) p. 283; Tebbutt, 'On the Construction of Farm-buildings', JRASE, 11 (1850) p. 301.
[405] Field visit, Postland Farm, Crowland, 11th January, 2000.
[406] Telephone conversation with George Riddington, whose family were former owners of Postland Farm, 18th November 1997.

Lincolnshire estate of Christopher Turnor, to a design by the agent, Mr John Young Macvicar, at a cost of £1,420.[407] The plan of the buildings (Fig. 5 (p. 110)) has already been noted as an example of industrial capitalist notions of specialisation and functional differentiation.[408] It also exhibits careful provision for communication between buildings, thus saving time and labour. In addition to the centrality of the straw barn, which allowed for ease of distribution of this bulky substance to the adjoining yards, other buildings were also logically placed to facilitate the movement of feedstuffs. The chaff house was next to the working horse stables, the cake and turnip house were conveniently located next to the cow house and within a short distance of the crew yards via doors from the passageway into the rear of the shelter sheds. The boiling house was beside the pigsties where the mash would be required. The steading adhered to contemporary notions of best practice and faced due south. Plate 65 shows the farm road and sign, all that is left of Hill Farm, Wispington; it was demolished at about the same time as Postland Farm and the bricks were used as hardcore for the road.[409]

Denton also included two sets of plans for pairs of cottages erected by Christopher Turnor at Stoke, Lincolnshire, in his *Farmhomesteads of England*.[410] Like those of the farmsteads, the plans illustrated had actually been executed. One of the designs was very similar to the first of two pairs of cottages featured in the essay by Macvicar, which won second prize in the competition for plans for labourers' cottages sponsored by the RASE in 1849.[411] Macvicar's preamble in his JRASE essay reflected contemporary concerns regarding 'the evils arising from the crowded state of the dwellings of the poor' and the 'squalid wretchedness resulting from the unavoidable and indiscriminate mingling of their numerous inmates and occupants'.[412] Two variations of the first design were

[407] Denton, Farmhomesteads of England, (1864) pp.47-8.
[408] supra. Chapter 3.
[409] Telephone conversation with Mr Craven, the owner of Hill Farm, Wispington, 18th November, 1997; field visit Hill Farm, Wispington, November 1997.
[410] Denton, Farmhomesteads of England, (1864) Plate 69.
[411] Macvicar, 'Labourers' Cottages', JRASE, 10 (1849)
[412] ibid. p.401.

published; the more ornate version was said to be 'of the style in which cottages have been erected near the residence of the proprietor' and there are, indeed, cottages built to this design in the village at Stoke (Plate 66).[413] Versions of the plainer type are found at locations across the county. Many of these have the 'C. T.' initials and date which, along with the design, identify them as Turnor estate cottages. Plate 67 shows a pair at Stixwould in the north of the county, with the initials C.T., dated 1855. The estate custom of initialling and dating cottages persisted and when Red Cottages, formerly Brickyard Cottages, Stoke, (SK 908 284) were renovated and extended in the mid-twentieth century, the initials of Christopher Turnor's great-granddaughter, Rosemary McCorquodale and the date of the building works, were added beneath the original plaque (Plate 68).

It may be that Denton's *Farmhomesteads of England* was intended as a pattern book of designs 'approved' by the Inclosure Commissioners for loans from the various loan companies. Denton was Chief Engineer of one, the General Land Drainage Company. However, a more general sense of 'approval' by those who shaped the thinking of the Victorian high farming community might also be inferred. The notion of presenting examples of best practice to be emulated was strong in high farming circles and may have been Loft's motivation for publishing the plan of his steading. Articles in *JRASE* and the many other contemporary treatises which published plans for farm buildings, cottages and farmhouses were, in effect, pattern books for landowners seeking suitable designs for building improvements on their estates.

The existence of a pattern book featuring their design, was the explanation first considered for the identical appearance of two, apparently unconnected, sets of farm buildings. These were Hall Farm, Coleby (SK 978 613), on the good quality arable land of the heath a few miles south-west of Lincoln (Fig. 6 (p. 122)) and Cold Harbour Farm,

[413] ibid. p. 411.

Bishop Burton, East Yorkshire (SE 973 387). Both farmsteads had an imposing façade with a central coach and trap house under a tower with a venetian window, dovecote and cupola (Plates 27 & 69). The Lincolnshire steading was not in as good a state of repair as the East Yorkshire one and the owner had told his Yorkshire counterpart that he had removed the cupola from the top of his tower because it had rotted and was letting water in.[414] As well as having identical front elevations, the farmsteads had the same style of fenestration on the side ranges, matching dentilled brick courses at the eaves and the same triangular design of ventilators for the animal houses. There were, however, minor differences in the layout of the buildings, with the Yorkshire example having returns containing a single loose box on the front ends of the side ranges and transverse roof construction mid-range (Plates 70 & 71).[415]

Subsequent research revealed that a pattern book was not the connecting link between the two steadings. Evidence was found which suggested that Cold Harbour Farm, Bishop Burton, was erected to plans drawn up by a local architect. An advertisement was placed in the Beverley Guardian in July 1883 by a Beverley architect, William Hawe of North Bar Street, inviting tenders for a farmstead to be erected at Bishop Burton.[416] The steading at Cold Harbour had an inscription on the lead flashing giving the date of construction as 1884, reinforcing the conclusion that this was the farmstead concerned. It was not possible to date the buildings at Coleby but the fact that they were a simplified version of those at Cold Harbour suggested that the Bishop Burton steading was erected first. This would also accord with the architect being local to Cold Harbour Farm, Bishop Burton, and not Hall Farm, Coleby.

A link between the landowners who commissioned the building of Cold Harbour Farm,

[414] Telephone conversation with John Dunning, Cold Harbour Farm, Bishop Burton, East Yorks, 15th September 1997.
[415] Field visit to Cold Harbour Farm, Bishop Burton, E. Yorks., 22nd June, 2004; field visit to Hall Farm, Coleby, 3rd September, 2005.
[416] Beverley Guardian, 14th July, 1883.

Bishop Burton, and Hall Farm, Coleby, was established. It was discovered that they were owners of neighbouring estates in the Skipton area of North Yorkshire. Hall Farm, Coleby, was part of the Lincolnshire estate of the Tempest family of Broughton Hall near Skipton, North Yorkshire. This was in the same district as the Carrhead estate at Cowling, owned by the Hall-Watt family of Bishop Burton. John Coulthurst of Gargrave, near Skipton, was step-father of Ernest Richard Bradley Hall-Watt, the heir to the Bishop Burton and Carrhead estates. Between 1874 and 1886, during which time Cold Harbour Farm was constructed, Coulthurst acted as squire of the Bishop Burton estate during Hall-Watt's minority.[417] Therefore, the men who commisioned the two farmsteads were neighbours. The close similarity of the steadings at Bishop Burton and Coleby is therefore an example of the functioning of a network of improvers and the dissemination of ideas through social contact.

On some larger estates a leading architect, whose commission was the mansion, might also oversee the erection of buildings on the home farm. This was the case at Hall Farm, South Rauceby (TF 033 457), in the mixed farming area of the heath a few miles west of Sleaford (Fig. 6 (p. 122)). The steading was the home farm and is thought to have been built by the eminent Scottish architect, William Burn, at the same time as Rauceby Hall. The owner was Anthony Peacock Willson, a Sleaford banker, whose father had founded the bank with the father of Henry Handley, the Lincolnshire M.P. who was closely involved with the founding of the RASE.[418] Peacock Willson had purchased Rauceby Hall in 1832 from Adlard Welby and the home farm buildings were renewed by Burn at the same time as he was working on the new mansion. Welby paid a lone visit to his former home in October 1843 and recorded somewhat bitterly, in his diary, 'Of course the house and farmsted I built is all to be removed and in its place there is already

[417] White's 1856 Lincolnshire, repr. (1969) p.336; Margaret Borland and John Dunning, Bishop Burton and its People: a Village History, (Beverley, 1992) p.96.
[418] R. J. Olney, Rural Society and County Government in Nineteenth Century Lincolnshire, (Lincoln 1979) p. 42.

erected a new farmsted and barns, cart stabling, &c.,'.[419]

Copies of Burns' plans for the mansion are deposited at Lincolnshire Archives but no drawings of the farmstead are included.[420] Nevertheless, there are two reasons for considering that the farm buildings were also by Burn. The first is the timing of their erection; the foreman's house which stands beside them is dated 1841 (Plate 72), the beginning of the period when Burn was working at Rauceby, and Welby's diary confirms that the steading was certainly in existence by 1843, the end of the period of construction of the Hall. The second reason for attributing the farmstead to Burn is the evidence of the buildings themselves which are of ashlared stone, well-proportioned and with refined ornamentation, suggesting an architect's hand in their design. Furthermore, the buildings bear a strong resemblance to those which were constructed on the home farm of the Stoke Rochford estate, where Burn was also working on the mansion.

Burn, a former pupil of Robert Smirke, with a practice based in Edinburgh and later London, had a number of commissions in Lincolnshire in the 1830s and 40s. His first was his engagement, in 1838, to complete the spectacular manor house at Harlaxton for Gregory de Ligne Gregory, a commission which Anthony Salvin had begun. In the early 1840s he was commissioned to erect two more mansions in the county; one in the Jacobean style for Christopher Turnor at Stoke Rochford and the other in Elizabethan style for Peacock Willson at South Rauceby. In 1844 he went on to construct a mansion, similar to the one at Rauceby, for J. Banks Stanhope at Revesby and in 1847 he undertook the building of a new residence for the Dean of Lincoln, in Eastgate, Lincoln.[421]

[419] Diary of Adlard Welby, quoted unreferenced in 'Rauceby Hall', Lincolnshire Notes and Queries, 19 (1926-7) pp. 28-9.
[420] LA RIBA 6.
[421] Nikolaus Pevsner and John Harris, The Buildings of England: Lincolnshire, 2nd edn. revised by Nicholas Antram (1989) pp. 362-7, 514, 610, 667, 720-2; Howard Colvin, A Biographical Dictionary of British Architects 1600-1840, 3rd edn. (1995) pp. 182-3, 189, 190. The Deanery in Eastgate, Lincoln is now occupied by the Lincoln Minster School.

Mark Girouard comments that 'In the 1830s if one wanted to find a sensible, hard-working gardener or agent with no nonsense about him, one looked for him in Scotland. If one wanted an architect to design a sensible, hard-wearing country house with no nonsense about it, one went to Scotland too - in particular to William Burn.'[422] Girouard goes on to describe how Burn's country houses provided for the privacy, convenience and comfort of their residents. This innovative architect worked out the lines of communication in a house and thought carefully about how the building would function. It was he who invented the luggage entrance and established the idea of a business room with its attendant waiting room. It was Burn, again, who systematised the domestic offices, dividing them into zones under the butler, the housekeeper and the cook, each with its own separate corridor. He also included that *sine qua non* of Victorian propriety: the separation of sleeping quarters, with independent staircases for male and female servants. He then carefully provided for the necessary meeting of the different classes and genders of servant by placing the steward's room and servants' hall at the point where all these separate zones converged.[423] In all this, as in the buildings of high farming, we see the improving, industrial capitalist notions of specialisation and functional differentiation at work in the designation of particular areas for specific activities. In fact, just as in contemporary farm buildings, the whole layout of a Burn country house was conceived in terms of integrated systems and patterns of movement.

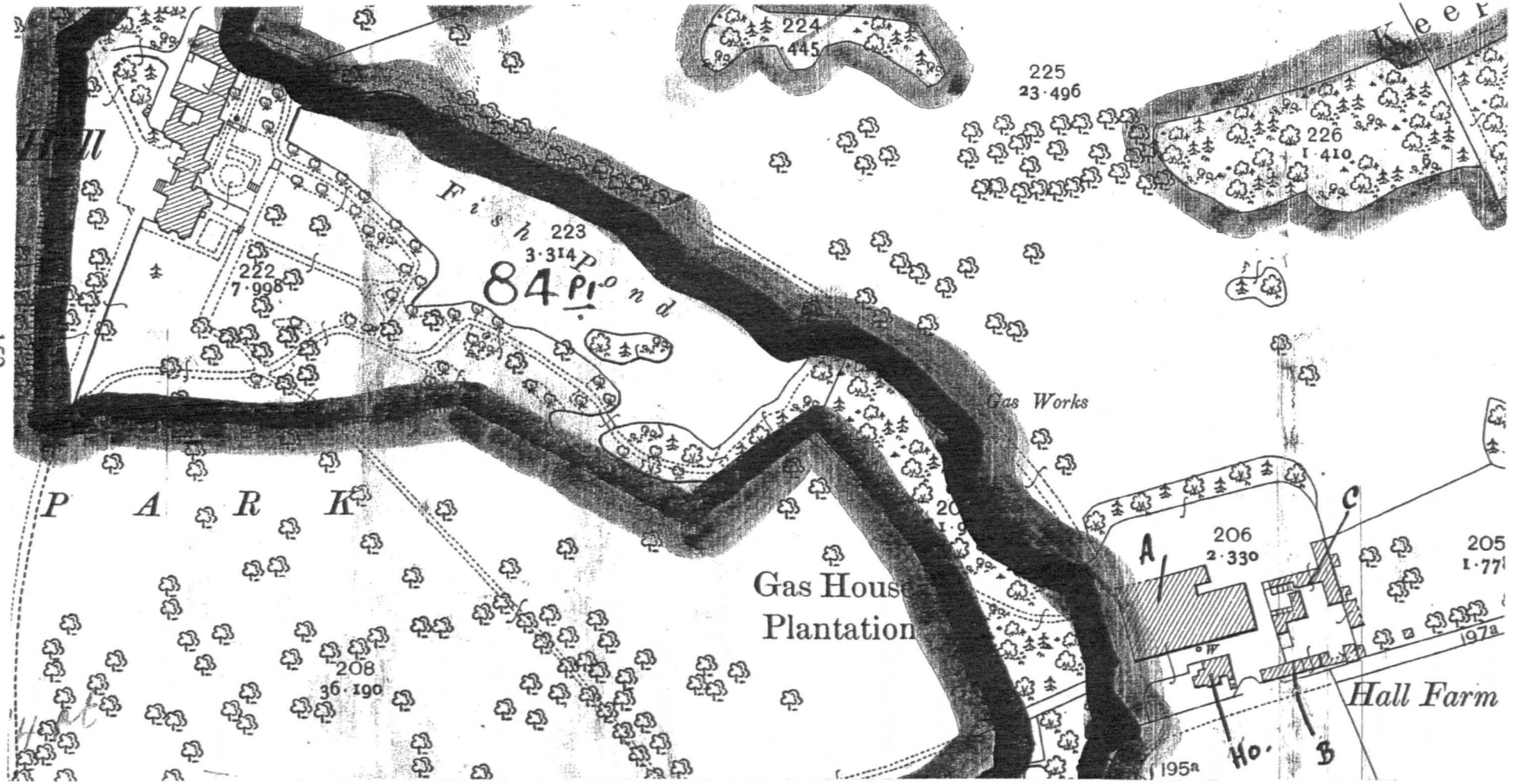
Burn's Elizabethan mansion at Rauceby (Plate 73) stands in landscaped gardens and parkland. A short distance away, screened by trees, is Hall Farm, the home farm (Fig. 14). It is about a quarter of a mile from the house; near enough for an after-dinner stroll with one's visitors, but far enough removed for the gaze of the work force, noise and noxious odours of the steading not to discomfort the residents of the Hall, thus fulfilling Bowick's recommendations in his *JRASE* prize essay on the home farm.[424]

[422] Mark Girouard, The Victorian Country House, 4th edn. (1990) p.33.
[423] ibid.
[424] Bowick, 'On the Management of a Home Farm', JRASE, 23 (1862) p. 248.

Figure 14

1:2,500 OS Footprint of Hall Farm, South Rauceby

Source: OS 1:2,500 County Series, Lincolnshire Sheet **106**.5, Second Edition (1905)



A visual survey of the buildings at Hall Farm revealed a large complex comprising a foreman's house, a main block of agricultural buildings and a neighbouring estate yard which also contained some peripheral agricultural buildings.[425] The foreman's house stood directly in front of the main block of buildings (Plate 74) enabling close supervision of activity in and around the steading, as recommended by Spooner and Elliott.[426] A former resident of the house described the internal arrangements for dairying. There was an outshut at the back, on the cool north side of the house, containing a churning room. The dairy maid was accommodated with the foreman and his family but strict separation of sleeping quarters was achieved by the provision of a wooden ladder, leading up from the kitchen through a trap door, into a bedroom to which there was no access from the rest of the house.[427] This is yet another illustration of the way in which landowners sought to exercise control over their labourers through the buildings they erected.

Close inspection of the central block of buildings revealed that the livestock accommodation had been improved and extended by the addition of covered yards, the original steading having had a south-facing, open crew. The evidence for this was the lower roof height of the east and west ranges of the original buildings, the fact that the gables of the new buildings were topped with ball finials whereas the older ones did not have this ornamentation, and the join in the masonry between the two phases of buildings (Plate 75). This latter was so carefully disguised that, again, there was the sense of high quality, architect-directed building operations. Suspicion that the covered yard might not be part of the original 1841-3 steading was first aroused by the incompatibility of the date of erection, with the diffusion of covered yards. The early 1840s seemed too early, as covered yards only became the subject of debate in the

[425] Field visit, Hall Farm, South Rauceby, 2nd October, 1998.
[426] Spooner and Elliott, 'On the Construction of Farm Buildings', JRASE, 11 (1850) p.277.
[427] David Bellamy, former resident of the foreman's house, Hall Farm, South Rauceby, 2nd October, 1998.

JRASE in later decades.[428] Giles considered the covered cattle accommodation at Enholes Farm, Patrington, built in 1849, to be innovative and noted that it pre-dated the well-known example at Eastwood Manor Farm, East Harptree, Somerset, built in 1858, which Lake considered to be early.[429]

In addition to the covering of the former crewyard with three gabled roofs, more cattle accommodation was provided in further covered housing adjoining the outer wall of the east range of the original steading. The exterior appearance of this building (Plate 76) bore strong similarities to that of the main covered yard as did the internal roof construction (Plates 77 & 78), suggesting that it was erected at the same time. Burn was engaged on a second phase of construction at Rauceby in 1856, when he was commissioned to design new rooms over the 'kitchen offices', housing nurseries, a school room and a day nursery.[430] The year 1856 is a more credible date for the erection of covered yards than 1841 and it is possible that it was during the second phase of work on the mansion that Burn was commissioned to improve and extend the home farm buildings as well.

The interiors of the covered yard and cattle shed were equipped for the stall feeding of beasts, with communicating doors and passageways reminiscent of the interior of Marshall's cattle sheds at Enholes Farm, Patrington, providing for ease of distribution of feedstuffs (Plates 79 & 80).[431] There was no evidence for mechanisation of this process. There was, however, evidence for the use of a portable steam engine to be seen in the

[428] W. Fisher Hobbs, 'On Covered Homestalls', JRASE, 14 (1852) 325-336; Lord Kinnaird, 'On Covered Farm-Steadings', JRASE, 14 (1852) 336-343; W. J. Moscrop, 'Covered Cattle Yards', JRASE, 2nd ser. 1 (1865) 88-99; H. S. Thompson, letter on covered cattle yards, JRASE, 2nd ser. 1 (1865) 222-225; Denton (Junior), 'On the Comparative Cheapness and Advantages of Iron and Wood in the Construction of Roofs for Farm Buildings', JRASE, 2nd ser. 2 (1866) 116-139; Tuckett, 'On the Comparative Cheapness and Advantages of Iron and Wood in the Construction of Roofs for Farm Buildings', JRASE, 2nd ser. 2 (1866) 140-148.

[429] Giles, 'Enholes Farm, Patrington', JHFBG, 13 (1999) p. 34; Lake, Historic Farm Buildings, (1989) pp. 125-7.

[430] LA RIBA 6.

[431] Giles, 'Enholes Farm, Patrington', JHFBG, 13 (1999) Fig. 3, p.39.

remains of a pulley wheel on the exterior of the east wall of the barn range (Plate 81). Inside there was obsolete line shafting with pulley wheels for driving barn machinery (Plate 82). That the barn was originally constructed as a threshing barn is apparent from the height of the doorway and the provision of boards which held back the grain at a lower level and kept out pigs and fowl, whilst allowing for the upper portion of the doors to be opened to secure a through-draught for winnowing. With the development of mechanisation of this process the doors had become redundant and had been partially blocked by the insertion of a wooden loft to provide additional storage, perhaps for feedstuffs, as the barn found a new use as a feed preparation area (Plate 83).

The barn range lay to the north of the original crewyard giving it shelter. On the north elevation, at the west end of the range, there were waggon sheds with a granary over (Plate 84). The barn itself occupied the full height of the building at the east end. Ease of communication and economy of labour were again evident in the provision of a trap door in the floor of the granary, giving onto the waggon shed below to enable convenient loading of grain into a vehicle (Plate 85). The stables in the centre of the east range were lofted, with internal evidence (Plate 86) suggesting that the second storey may have been a later addition, possibly at the time of the covering of the crewyard.

'There ought not to be the slightest convenience on the farm, down to a pigsty, that is not so precisely in the right spot, that to place it anywhere else would be a loss of labour and manure', advised G. A. Dean in his treatise *The Land Steward*, published in 1851.[432] With consideration for the patterns of activity in the steading at Hall Farm, which is characteristic of the buildings of high farming, the buildings which provided for the central activities on the farm were placed in the central block. These were the cattle accommodation, working horse stables, barn, granary, waggon sheds and implement

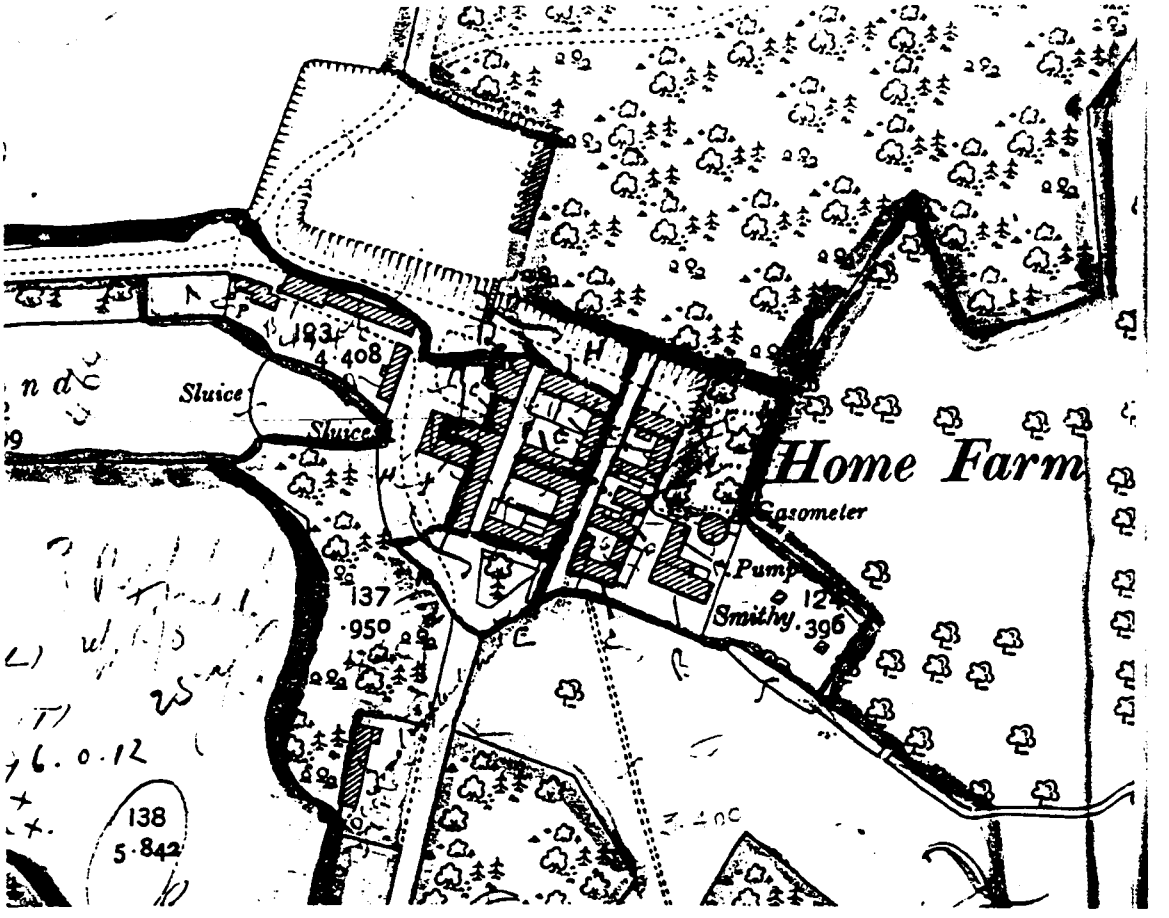
[432] Quoted in Susanna Wade Martins, 'The Industrial Archaeology of High Farming', Journal of the Norfolk Industrial Archaeology Society, Special Conference Edn. (1981) p. 10.

sheds. To the east of the central block of buildings lay a secondary group which served the more peripheral farming activities and acted as an estate yard (Plate 87). Piggeries and cowhouses were visited by women fetching milk for the dairy and waste from the kitchen to feed the pigs and so were set apart from the male domain of the main steading. The pigsties occupied their own yard within the peripheral complex and had their own boiling house identified by its chimney (Plate 88). The cowhouses were part of a separate range which also contained the blacksmith's shop, with a hearth and chimney (Plate 89). Many steadings had a blacksmith's shop where an itinerant blacksmith would visit to shoe horses and repair implements.

Beyond the blacksmith's shop and half demolished, were the remains of a shed housing a saw pit (Plate 90), evidence that this part of the home farm also functioned as an estate yard. There was no sign of a fixed power source for the sawmill; it is possible that it was powered by the same portable steam engine as was used to drive machinery in the barn. Apart from the ready availability of portable engines arising from the proximity of Lincoln and Grantham, major centres for their production, their adaptability gave them another major advantage over fixed engines as it enabled power to be delivered wherever it was required on the farm. The power source at Hall Farm, South Rauceby contrasts with that at Home Farm, Stoke Rochford, the other estate where William Burn was working in the early 1840s. At Stoke Rochford the power source was fixed and occupied buildings central to the steading.

Like Hall Farm, South Rauceby, the steading at Home Farm, Stoke Rochford (SK 913 285), stands about a quarter of a mile distant from the mansion, across the park. This is in an area of good general purpose farmland lying on the west side of the heath, south of Grantham (Fig. 6 (p. 122)). Home Farm is an extensive complex of buildings which embraces the estate yard, home farm and some residential accommodation (Fig. 15).

Figure 15
1:2,500 OS Footprint of Home Farm, Stoke Rochford
Source: OS 1:2,500 County Series, Lincolnshire Sheet 130.4, Second Edition (1904)



There are a number of springs in the vicinity and the buildings stand in a hollow (Plate 91) beside Wyville Brook, a tributary of Cringle Brook, which flows through the three lakes in the park. Wyville Brook was dammed to provide a head of water to drive the water wheel (Plates 92 & 93), the source of power for the steading. The leet ran under the road beside the still pond and drove an undershot wheel (Plate 94), housed in a large T-shaped building on the opposite side of the road to the pond (Plate 95).

It took a number of visits to record and interpret the whole of this extensive complex of buildings and their size made the compilation of a photographic record difficult.[433] The

[433] Field study visits to Home Farm, Stoke Rochford, February 1998, June 1999, August 2003 and September 2004.

T-shaped range, lying on the east of the still pond (Plate 95), was the first to be examined. Looking at the photograph, the right-hand end of the building, with the circular aperture, housed the water wheel and the tall narrow hatch in the wall was for belting to pass through, as at Lodge Farm, North Rauceby (Plate 30). There were two possible purposes for which this facility might have been provided: either to power machinery outside from the water wheel, or to power the machinery inside from a portable engine outside, if water levels were insufficient to operate the wheel. Expert opinion favoured the first of these two interpretations.[434] At the left-hand end of the building, inside the doors which are open on the photograph (Plate 95), was the site of the sawmill. The internal masonry had holes for line shafting to pass through and the outline of a pulley wheel on the wall (Plate 96). These, and an old blade hanging on the wall in the wheelhouse, were the only remaining evidence of the sawing machinery. No line shafting from the water wheel remained *in situ* but pieces of it were stored in the rafters of the loft over the stable. The barn machinery was sited over the wheelhouse and the barn alongside it (Plate 97), providing for the convenient use of water power in threshing and feed preparation.

The question arises as to whether the home farm at Stoke Rochford was the work of Burn as the home farm at South Rauceby is thought to be. The fine stonework of the gables with their ornamental finials was reminiscent of Hall Farm, South Rauceby (Plate 75), and the inclusion of the bailiff's house within the range of buildings which housed the water wheel, barn, granary and stable (Plate 98), echoes the Scottish custom of providing long rows of estate houses rather than individual ones or pairs, as in England. Also the hinge-straps on the doors of this range were wrought in a decorative fashion not characteristic of vernacular buildings'. The use of water power on the steading again suggests the Scottish influence of Burn; water was a common source of power in upland

[434] Members of the Industrial Archaeology team of the Society for Lincolnshire History and Archaeology visiting during Heritage Open Days Weekend, Friday September 10th 2004.

areas such as Scotland, Northumbria, Wales and the West Country.[435]

At Stoke Rochford, as at South Rauceby, there was tangible evidence which confirmed that the construction of the steading was contemporaneous with Burn's work on the mansion. At the entrance to the crewyards, which were immediately to the east of the T-shaped block, stood a drinking tank (Plate 99) which had been let into the wall at the time of its construction. The tank was dated 1840 (Plate 100). Burn was working on the mansion at Stoke from 1841-3 so the water tank evidence places the erection of the steading and sawmill immediately prior to the beginning of work on the house. This is confirmed by a document listing details of expenditure on buildings on the Turnor estates 1830-73 which shows that £4,000 was spent in 1841 on a 'Home Farmstead, Including Bailiff's, Joiner's and Blacksmith's Houses, with Machinery for Sawing, Grinding, Chaff Cutting, Thrashing etc.'.[436] Simon Allum, the current agent for the estate, indicated that if he were embarking on such a major construction project as Stoke Rochford Hall, he would get the sawmill up and running before starting to build.[437] The farm buildings appear on an estate map which can be dated from internal evidence to the mid-1860s.[438] They are shown on the estate map with a gasometer and smithy to the east of the steading demonstrating that, like Joseph Livesey, Christopher Turnor was producing gas on his home farm. By the time of the field visits to record the steading, little evidence of the smithy and gasometer was to be observed.

The size of the farmstead is illustrated in Plates 101 and 102 which show the two ranges of crewyards and other buildings to the south-east of the range housing the water wheel,

[435] Barnwell and Giles, English Farmsteads, (1997) pp.79, 80, 82, 106, 108, 157; field visits Bryn-yr-efail uchaf, Dolbenmaen, Snowdonia and Argoed, Llanfair, Lleyn Peninsula, HFBG Conference, Plas Tan y Bwlch, Snowdonia, 18th-20th September, 1998; field visit Achvrail, Rogart, Sutherland, HFBG Conference, Inverness, 6th-8th September, 2002.
[436] 'Capital Expenditure on Buildings erected on North, Mid and South Lincoln Estates from 1830-1873', Private Collection.
[437] Simon Allum, Shouler and Son, agent for the Stoke Rochford Estate Trust, August 2003.
[438] Estate map, Stoke Rochford Estate Office, South Stoke, Grantham. The North Lodge, dated 1860, appears on the map and the Head Keeper's House, dated 1868, does not appear.

barn, sawmill and bailiff's house. At the centre of the most easterly range is an older building, known as the Columbarium, which is the building with the cupola in Plate 91 above.[439] This was used as a dwelling in the twentieth century and continues to be so. Other than this, the complex had the appearance of being all of one build, with the entire steading being constructed of the same materials, having matching coping stones and rainwater goods. However, caution must be exercised in drawing this conclusion because the estate had its own brickyards, stonepits and workshops which resulted in matching materials being used in the construction of estate buildings over a period of time. The carpenters' workshops and woodstore (Plate 103) lay conveniently adjacent to the sawmill beside the still pond and the brickyard was less than a quarter of a mile away, beside the Skillington road (SK 908 286), giving a concentration of estate maintenance and construction yards in the vicinity of the home farm. There was a stone quarry in the park in what is now Walk Plantation (SK 923 283).[440]

The central range of the western set of crewyards had a double roof running longitudinally (Plate 104) and housed two parallel rows of fattening boxes. This does not appear on the 1860s estate map, so was not part of the original Burn steading, but is recorded on the 1887 6 inch OS.[441] It was most probably the 'Addition to the Home Farm Buildings' undertaken in 1865 at a cost of £250, which was recorded in the document detailing capital expenditure on the estate.[442] There was provision at the rear of the feeding boxes for a labour-saving system of delivering feed from the central passageway, through hatches with sliding doors (Plate 105). Such arrangements were frequently recommended by mid-nineteenth century writers and are a characteristic of the buildings of high farming. More sophisticated arrangements, which involved a manger to which access could be controlled by means of sliding bars moved by pulling a

[439] Columbarium - from the Latin meaning pigeon house.
[440] Information supplied by Mr Warwick Purchase, agent 1953-97, following his father Frederick Edward Purchase who took over as Christopher Hatton Turnor's agent, from C. S. Orwin, in 1913. (Orwin went to Oxford to be the first Professor of Agriculture.)
[441] OS 1:10,560, Lincolnshire Sheet 130.NE, First Edition (1887).
[442] 'Capital Expenditure on Buildings 1830-1873', Private Collection.

handle in the passage outside (Plate 106), were thought to be a twentieth-century addition, perhaps related to Christopher Hatton Turnor's breeding of Lincolnshire Red cattle.[443]

The home farm at Stoke Rochford displays many characteristics of the buildings of high farming. It is located at a convenient distance from the mansion and uses water technology to harness the readily-available power of the brook, to drive both farm and estate yard machinery. It is soundly constructed of substantial and durable materials and is designed with patterns of movement and processes firmly in mind, as demonstrated by the proximity of the barn to the source of power and the provision of a central feeding passage between the feeding boxes. Furthermore, the presence of the bailiff's house at the centre of operations fulfils high farming prescriptions for supervision of men and activities.

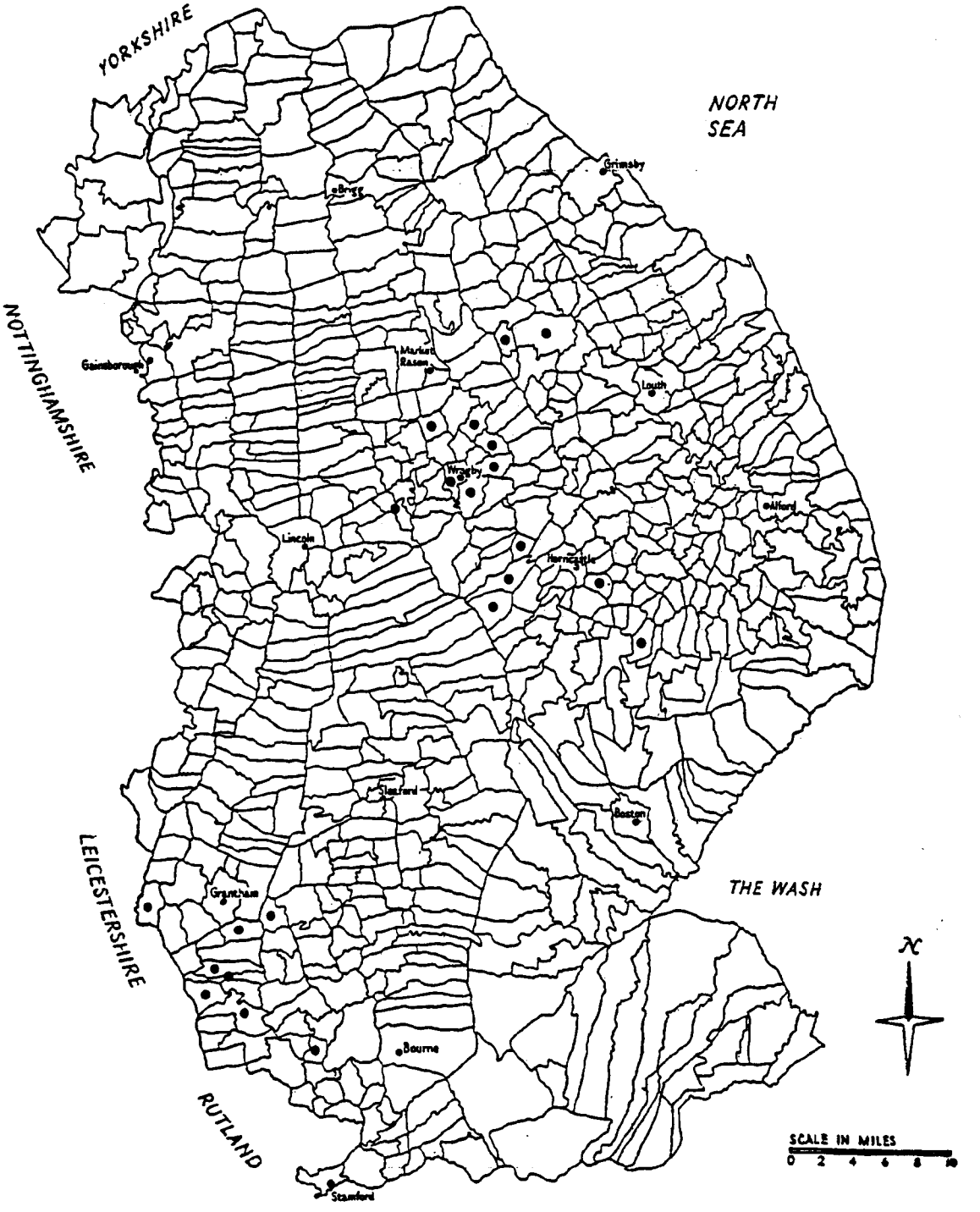
Christopher Turnor (Plate 107), who inherited the Stoke Rochford, Panton and other estates in Lincolnshire in 1829, at the age of 20, was the fourth greatest landowner in Lincolnshire. His estate of 20,665 acres was exceeded only by the Earl of Yarborough with 55,272 acres, Lady Willoughby de Eresby with 24,696 acres and Henry Chaplin with 23,370 acres.[444] Panton Hall near Wragby, some 12 miles north-east of Lincoln, was a second Turnor residence and was, for many years, the home of Christopher's son Edmund. Christopher Turnor, referred to hereafter as Turnor, held land in the parishes of Barlings, Binbrook, East Barkwith, East Kirkby, East Torrington, Horsington, Kirmond le Mire, Langton, Lissington, Mareham on the Hill, Panton, Stixwould, Wispington and Wragby and these lands were often known collectively as his 'Mid-Lincolnshire Estate'. In the south of the county, centred on Stoke Rochford, Turnor held land in Colsterworth, Creeton, Little Ponton, North Stoke, Old Somerby, Skillington,

[443] Simon Allum, agent, August 2003.
[444] Return of Owners of Land 1873, pp. 18, 97, 104, 108.

Figure 16

Lincolnshire Parishes in which Christopher Turnor held land

Source: Thirsk, English Peasant Farming, (1957) p.16; Turnor Rent Books LA 3Turnor



South Stoke and Woolsthorpe (Fig. 16).[445] Both Christopher Turnor and his son Edmund were members of the LAS and the RASE.[446]

Turnor was a prolific builder and he implemented an improvement campaign which resulted in the construction of farmsteads, farmhouses and cottages across the whole of his extensive estates. He began with the construction of the South Lodge at Stoke Rochford, designed by Salvin and dated 1834. At this time Salvin was working on nearby Harlaxton Hall. However, by 1838 Salvin had been replaced at Harlaxton by Burn and it was Burn whom Turnor commissioned to build his new mansion at Stoke (Plate 108) and, as the foregoing discussion suggests, his home farm.[447] Pevsner also attributed the estate village at Stoke to Burn, as did Leach, but this contradicts the evidence of the *JRASE* Second Prize Essay on plans for labourers' cottages by Macvicar, Turnor's agent, in 1849.[448] It has been inferred that these designs were by Macvicar himself although, in relation to a second set of plans which had not, at that point in time, been executed, Macvicar made mention of 'the architect who has drawn out the plans and specifications; and whose able assistance in bringing the author's ideas and wishes into a tangible and practical form, he has great pleasure in acknowledging'.[449] Unfortunately he did not name the architect to whom he was referring.

Further investigation suggested an explanation for this apparent contradiction and for the similarities between Burn's buildings and those on the Turnor estate whose design is attributed to Macvicar, the agent. It is quite possible that Macvicar was a relative of Burn; Burn's wife was Eliza Macvicar and his nephew, J. Macvicar Anderson, worked

[445] 'Capital Expenditure on Buildings 1830-1873', Private Collection; Redmore, transcription of Turnor rent books, LA 3 Turnor

[446] 'Members of RASE' JRASE. 2nd ser. 9 (1873) p. xxiii; Lincolnshire Agricultural Society Annual Report, 1871, p. 76.

[447] Pevsner and Harris, The Buildings of England: Lincolnshire, (1989) pp. 362, 721-2.

[448] Pevsner and Harris, The Buildings of England: Lincolnshire, (1989) p. 722; Terence R. Leach, 'Stoke Rochford and Easton', notes for a Society for Lincolnshire History and Archaeology outing, 24th June 1978, p. 6; Macvicar, 'Labourers' Cottages', JRASE. 10 (1849) p.403, 411.

[449] Brigden, Victorian Farms, (1986) pp.106-7; Macvicar, 'Labourers' Cottages', JRASE. 10 (1849) p. 411.

in partnership with him and continued his practice after his death in 1870.[450] If this is correct it can be postulated that Macvicar was also a relative who worked with Burn and came with him to Stoke Rochford, where his abilities were identified by Turnor and he was taken on as agent. The 1851 census revealed that John Young Macvicar, Land Agent, was living at Barkwith House, East Barkwith, on the Turnor estate, with his wife and family. His eldest child, Isabella aged six, was born at East Barkwith, suggesting that Macvicar and his wife had been resident there since at least 1845 and this is confirmed by reference to a 'single cottage in the occupation of Mr Macvicar's groom' in 1844, in the record of estate expenditure.[451] This places the first evidence for Macvicar's presence on Turnor's Mid-Lincolnshire Estate to be at about the same time as work on the mansion at Stoke Rochford was completed. Furthermore, in his *JRASE* essay, Macvicar chose to quote the Duke of Buccleugh who was Burn's great patron, which adds further weight to the suggestion that Macvicar was closely associated with Burn.[452]

These suggestions were put to Professor David Walker, author of the forthcoming online *Dictionary of Scottish Architects*, and he in turn discussed them with Paul Bradley, who had been studying Burn's English and Irish houses with a view to a doctoral thesis on the subject. Walker considered it safe to assume that John Young Macvicar was Burn's wife's nephew, Macvicar being an unusual name even in Scotland. He thought it likely that Macvicar came to Stoke Rochford as site agent or inspector and made such a good impression that Turnor engaged him as his agent. Walker cited the instance of Burn's commission at Poltalloch, Argyllshire, where a man named Frazer worked as Burn's clerk of works and was subsequently taken on as agent of the estate.[453] If this was indeed what happened at Stoke Rochford it would account for the blurring of the distinction between Burn's work and Macvicar's at Stoke Rochford and for Macvicar's obvious

[450] Colvin, A Biographical Dictionary of British Architects 1600-1840, (1995) p. 182.
[451] 1851 Census, East Barkwith, HD107/2107/40; 'Capital Expenditure on Buildings 1830-1873', Private Collection.
[452] Macvicar, 'Labourers' Cottages', JRASE, 10 (1849) p.403.
[453] Correspondence with Professor David Walker, Edinburgh, November 2002-January 2003.

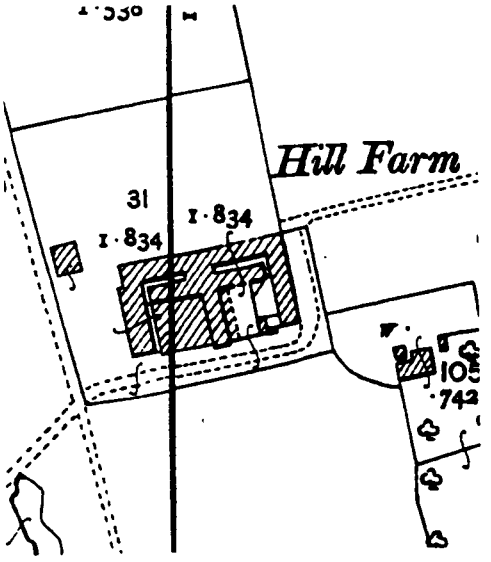
interest and ability in building design.

It was a design by Macvicar which Denton included in his *Farmhomesteads of England* as an example of suitable buildings for a holding of under 350 acres.[454] This was Hill Farm, Wispington, erected in 1855, whose high farming characteristics of specialisation, functional differentiation and provision for ease of communication have already been discussed.[455] Hill Farm, Wispington, was demolished in the 1980s but, in his account of it, Denton stated that he had visited two other Turnor estate farmsteads in nearby Stixwould which were built to a similar plan. These were held by Mr Grantham, whose holding was said to be 500 acres, and Mr Richardson who was said to hold 550 acres.[456]

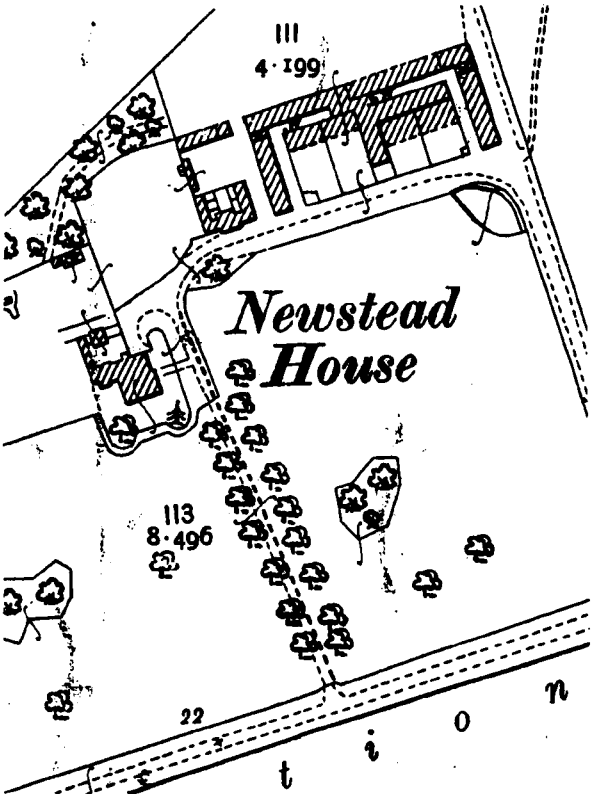
The two farms in Stixwould which share the same distinctive double E plan as Hill Farm, Wispington, are Abbey Farm, in the village itself, and Newstead Farm, about three-quarters of a mile south-west of the village, near the railway station (Fig. 17). Garvis Richardson became Turnor's tenant at Abbey Farm in 1841 and William Grantham his tenant at Newstead Farm, in 1848.[457] Field visits revealed that the buildings at Abbey Farm, Stixwould (TF 174 661) (Fig. 6 (p. 122)), had been altered considerably and their layout masked by the covering of both crewyards with Yorkshire boarded roofs. The cupola had been moved and now sat ignominiously above a garage (Plate 109), although this choice of position may have been influenced, if only subconsciously, by the nineteenth-century practice of placing cupolas and dovecotes above the coach house, as at Coleby and Bishop Burton (Plates 70 & 71). Newstead Farm, however, was still largely unaltered, which meant that it was unsurpassed as an example of a Lincolnshire farmstead visited by Denton and built to one of the designs he included in *The Farmhomesteads of England*.[458]

[454] Denton, Farmhomesteads of England, (1864) pp.47-9
[455] supra. Chapter 3.
[456] Denton, Farmhomesteads of England, (1864) p. 48.
[457] Redmore, transcription of Turnor rent books, LA 3 Turnor.
[458] Abbey Farm, Stixwould, visited 20th November, 1997; Newstead Farm, Stixwould, visited 15th November, 1997 and 13th August, 2002.

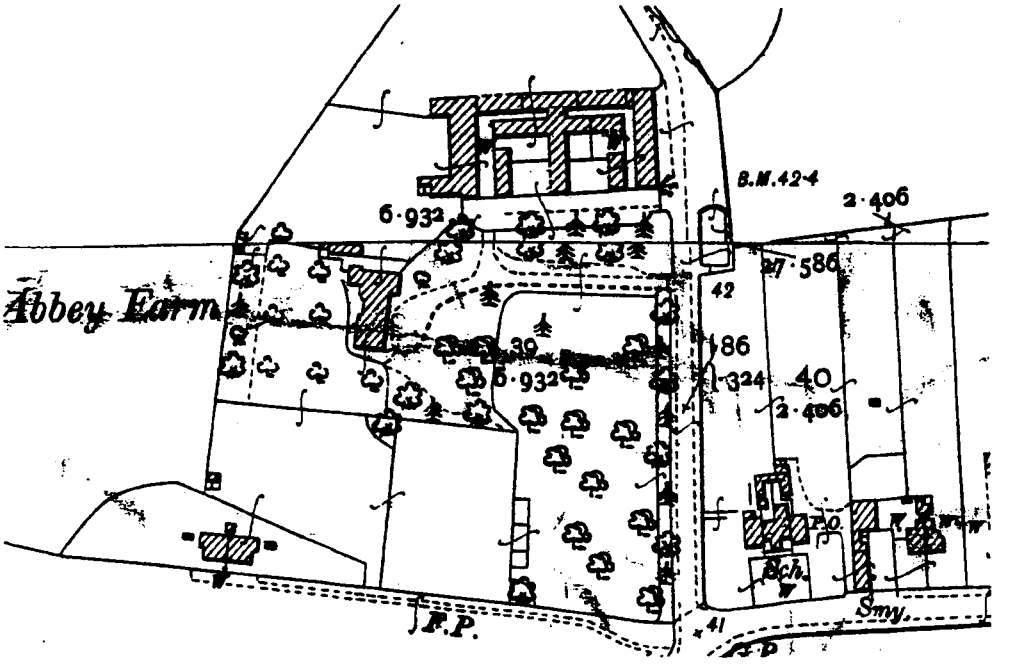
Figure 17
1:2,500 OS Footprint of Hill Farm, Wispington,
Newstead Farm, Stixwould and Abbey Farm, Stixwould
Source: OS 1:2,500 County Series, Lincolnshire Sheets 72.12, Second Edition (1906); 73.9, Second Edition (1906); 80.3, Second Edition (1905); 80.7, Second Edition (1905)



Hill Farm, Wispington

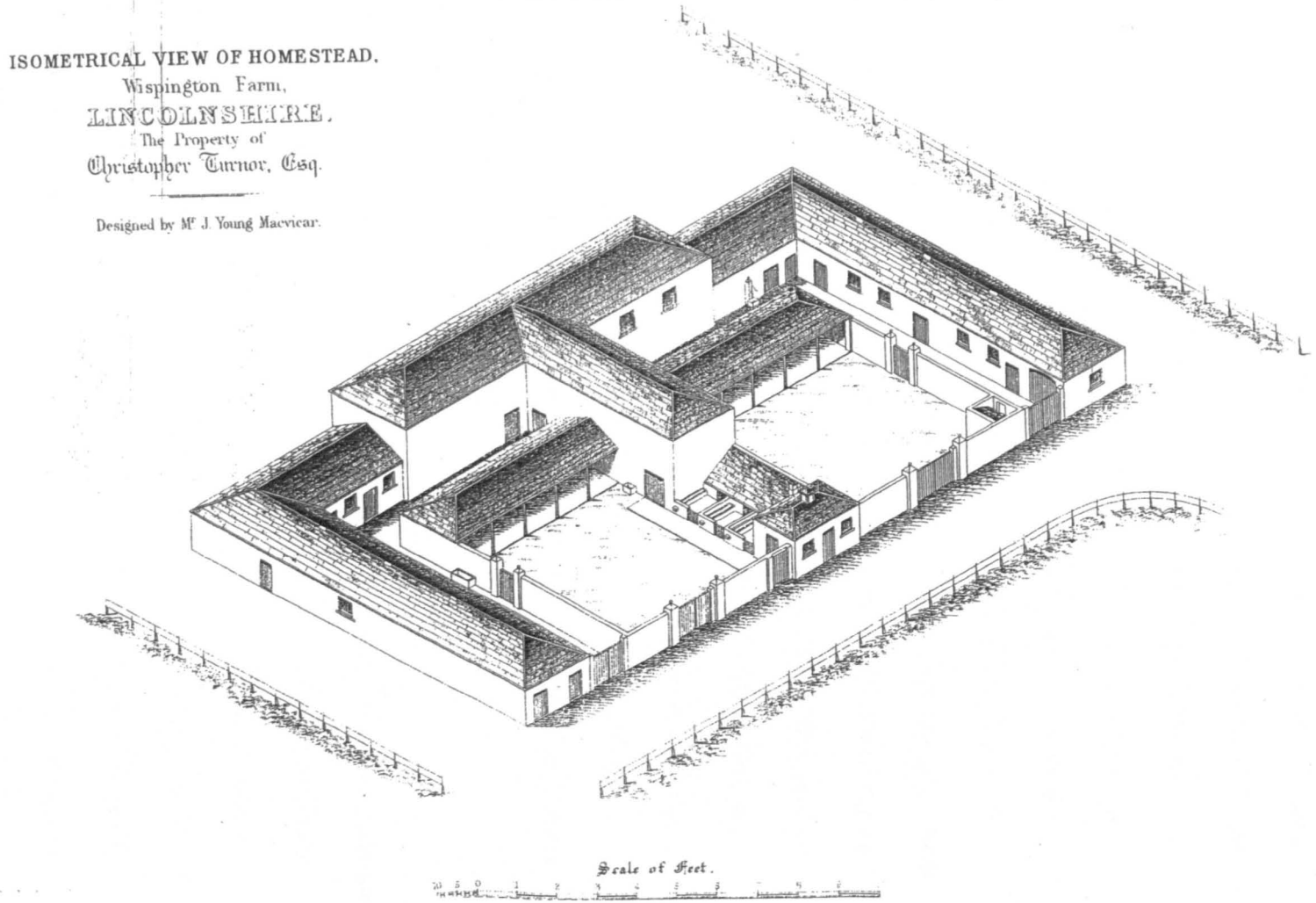


Newstead Farm, Stixwould



Abbey Farm, Stixwould

Figure 18
Denton's Isometrical View of Hill Farm, Wispington
Source: Denton, Farmhomesteads of England, 2nd edn. (1865) n.p.



Comparison of Denton's 'Isometrical View' of Wispington Farm (Fig. 18) and an aerial photograph of Newstead Farm (Plate 110), thought to have been taken in the 1950s, reveals the layouts of the two steadings to be very similar.[459] The only significant difference is the positioning of the central building. At Wispington this was a boiling house behind which were pigsties and then the central straw barn, whereas at Newstead the central building had a dovecote and cupola and was set back against the end of the central straw barn, with a small yard in front. The nature of the yard was no longer apparent when the field visits took place as the evidence had been overlain by the construction of a concrete ramp. Newstead also had additional buildings, housing peripheral activities, beyond the western range of the central block of buildings, which do not appear on the ground plan of Hill Farm, Wispington, in *The Farmhomesteads of England.* Additions to the original nineteenth-century buildings are apparent on the 1950s aerial photograph (Plate 110). Those which impinge on the original Macvicar design are the extensions to the shelter sheds in both crewyards which, in each case, provided a half-covered yard. The shelter sheds in the eastern crewyard (in the foreground on the aerial photograph) had been extended before 1904 when the survey for the Second Edition of the 25 inch OS (Fig. 17) took place.[460]

Newstead Farm (TF 166 653) lies just above the 5m contour on the Lindsey Fen Margin Sands and Gravels (Fig. 6 (p. 122)). The soils here are not as good as in the Kesteven Fen Border Region, such as at North Kyme where Sandpit Farm is located, being a mixture of good and medium quality arable land and poor quality sands and gravels. As the steading contains the only evidence of either of Denton's Lincolnshire examples to survive intact, a careful photographic record was made. Plate 111 shows a general view of the south elevation of the steading with its a high farming status symbol; the dovecote with cupola. This had lost some of its nineteenth-century dominance because of the

[459] Correspondence with Mrs Anne Hoyes, Newstead Farm, Stixwould, December 1997.
[460] OS 1:2,500 County Series, Lincolnshire Sheet 80. 7, Second Edition (1905).

modern shed erected over the western crewyard. The timber and corrugated iron construction of the pre-1904 extension to the shelter sheds in the eastern crewyard (Plate 112) reflected advice given during the Great Depression recommending 'the use of corrugated iron roofing where suitable, and the judicious use of such materials as can be procured on the estate, which, although perhaps of not very lasting quality, may serve until the advent of better times'.[461]

Newstead Farm was constructed of brick and pantile as, we are told by Denton, was the steading at Hill Farm, Wispington.[462] Despite the difference in materials and the reversal of the barn and waggon sheds, the north elevation of the north range at Newstead, which contained the barn and waggon sheds with granary over (Plate 113), had resonances of the north elevation of Burn's north range at Hall Farm, South Rauceby (Plate 84). There were also similarities between the brick arched windows and doors of the stable range at Newstead (Plate 114), the same range at Abbey Farm, Stixwould (Plate 115), and the inner brick face of Burn's west range at South Rauceby, which would originally have faced onto the open crewyard (Plate 78). These similarities lend further weight to the suggestion that Macvicar had worked with Burn before becoming Turnor's agent. The 1847 date over the barn doors at Newstead (Plate 116) shows that Macvicar was working as Turnor's agent soon after Burn completed his work on the mansion at Stoke Rochford.

Plate 114 also shows the width of the connecting passageway which ran behind the central crewyards in Macvicar's farmstead design. This arrangement was a particular feature of Macvicar's steadings and produced the characteristic double E footprint of his plan. It provided for ease of communication between buildings and avoided the usual difficulties which arose when the surrounding ranges opened straight into the crewyard,

[461] A. D. Clarke, Modern Farm Buildings: their Construction and Arrangement, 3rd ed., (1899) p. 3, quoted in Brigden, Victorian Farms, (1986) p. 43.
[462] Denton, Farmhomesteads of England, (1864) p. 47.

with its seasonal build-up of muck. Macvicar's plan allowed unobstructed movement right around the back of the crewyards, with the passageway passing through the central straw barn which projected into them (Plate 117). In this way Macvicar's design displayed particular concern for the 'economy of labour' which was so much a preoccupation of nineteenth-century high farming.

The fusion of enlightenment and industrial capitalist influences which manifested themselves in the buildings of high farming laid emphasis on systems and hierarchies. Within the rational and systematic layout of Macvicar's farmstead plan, which provided for the efficient management of labour and materials, the same hierarchy was present as in Burn's design at South Rauceby. The central activity of the steading, the production of organic manure to promote the improvement of corn lands, coupled with the fattening of stock, was placed at the physical centre of the buildings. Supporting activities such as feed storage and preparation, the storing and processing of the corn crop and the housing of the work horses, were provided for in buildings which were placed around the central space but a step back from it. Further out again from the central focus were the buildings which housed activities peripheral to the main thrust of activity. At Newstead, to the west of the main steading, was a separate range of buildings (Plate 118) which housed pigs, fowls and a slaughter house.

As in all classic examples of the buildings of high farming, the house at Newstead was set slightly apart from the farm buildings, facing away from the steading but with the window of the farmhouse kitchen keeping watch over the activities of the labour force (Plate 119). Arrangements in the house followed the characteristic pattern of maintaining strict segregation of the farmer and his family from the farm workers. There were stone stairs from beside the kitchen to rooms over the scullery which housed the unmarried labourers.[463] Also, there were two separate entrances to the farmstead: a farm road led

[463] Oral Testimony, Mr and Mrs Hoyes, Newstead Farm, Stixwould, 15th November, 1997.

from Station Road, Stixwould, to the farm buildings themselves (Plate 120) and an ornate iron gate marked the entrance to an avenue of trees, now lost but visible on the 1905 OS map, which formed a fitting approach to the high status residence (Plate 121). The fact that this entrance was subsequently allowed to disappear is a comment on the changing status of the farmer in the twentieth century.

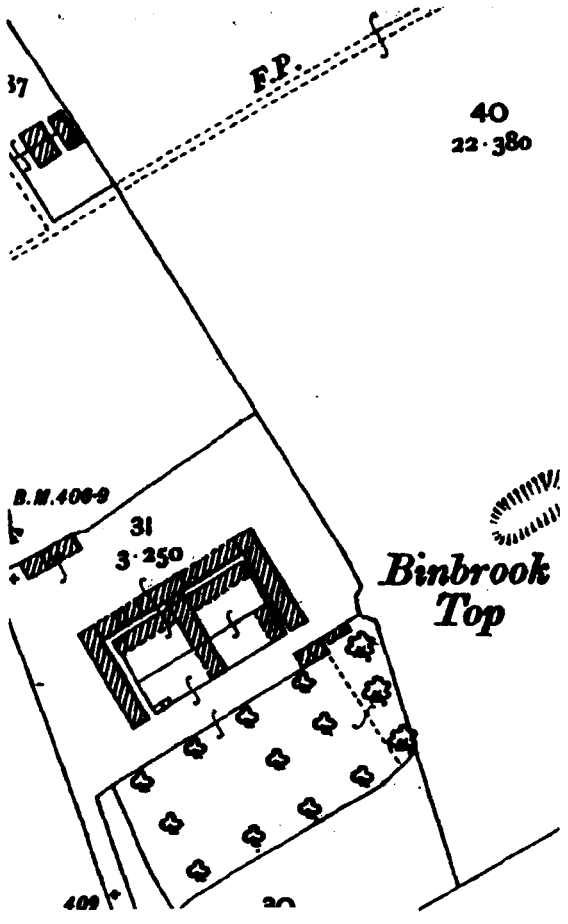
The distinctive double E footprint which identified the farmsteads built to Macvicar's design in Wispington and Stixwould was also found in other locations on Turnor's Mid-Lincolnshire Estate. This accords with Denton's comment that the farmstead at Wispington was 'one of several that Mr Turnor has built on his extensive estate in Lincolnshire, all of which are either enlargements or modifications of the same design'.[464] There were two steadings built to Macvicar's design in Binbrook and another at nearby Kirmond le Mire (Fig. 19). All are on a mixture of good general purpose farmland and chalk downland, on the Central and South-Eastern Wolds (Fig. 6 (p. 122)). Binbrook Top (TF 197 932) , not to be confused with Top Farm, Binbrook, was tenanted by the Johnson/Clarke family who owned a large amount of land in Binbrook and lived in the village, at the Manor.[465] Owing to this arrangement there was no farmhouse at Binbrook Top although there were two pairs of Turnor cottages beside the farm road. Only the north range of the Turnor farmstead dated 1866, which contained the barn, granary and waggon sheds, had survived at Binbrook Top (Plate 122).[466] Details of investment at Binbrook Top and other farms on the Turnor estates are contained in the reports of Andrew Thompson to the Inclosure Commissioners 1857-69, regarding applications for land improvement loans. This material is deposited at Keele University and has been the subject of detailed examination by Phillips.[467] Transcriptions of the correspondence relating to the Turnor estates were made in the course of the research for this study.

[464] Denton, Farmhomesteads of England, (1864) p. 48.
[465] Charles Rawding ed., Binbrook in the 19th Century, (Binbrook, 1989) pp. 14-15.
[466] Field visit Binbrook Top, Binbrook, September 1999.
[467] Phillips, 'Landlord Investment in Farm Buildings in the English Midlands', in Holderness and Turner, Land, Labour and Agriculture, 1700-1920, (1991) pp. 190-210; Phillips, The Staffordshire Reports of Andrew Thompson to the Enclosure Commissioners, 1858-68, (1996).

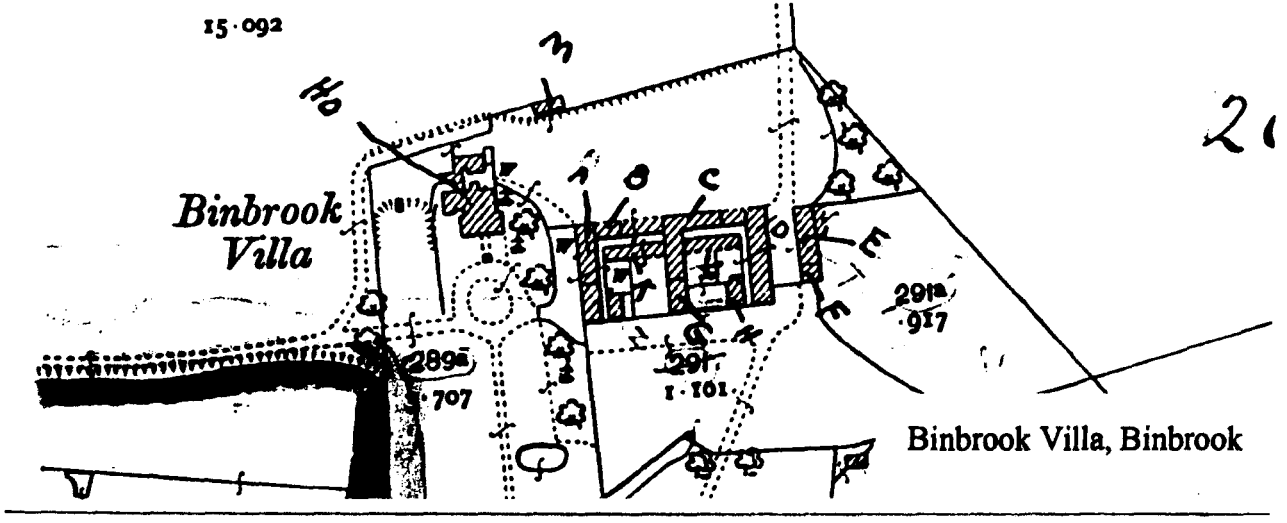
Figure 19

1:2,500 OS Footprint of Double E Plan Steadings at Binbrook and Kirmond le Mire

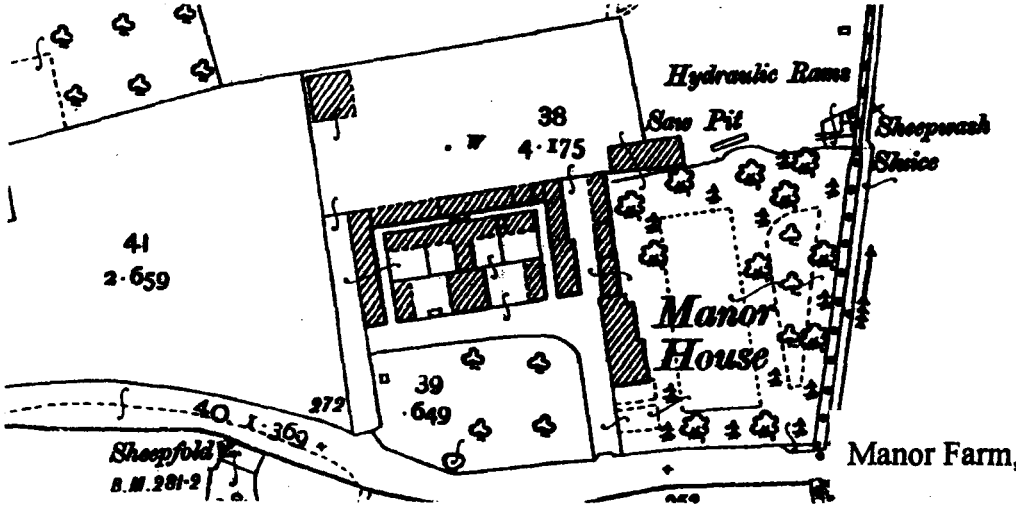
Source: OS 1:2,500 County Series, Lincolnshire Sheets 39.13, Second Edition (1906) and 46.4, Second Edition (1906)



Binbrook Top, Binbrook



Binbrook Villa, Binbrook



Manor Farm, Kirmond le Mire

Letters show that £1,980 was spent on the new farm buildings at Binbrook Top in 1866-7.[468]

Binbrook Villa (TF 216 943), now known as The Chestnuts or Chestnuts Farm but not to be confused with Chestnut Farm, Binbrook, was a much more intact survival. This was rented from Turnor by William Burkinshaw, one of the leading farmers in the village, whose residence was the substantial farmhouse built by Turnor in 1860-1 (Plate 123).[469] The document recording capital expenditure on Turnor's estates showed the cost of the house to have been £1,100.[470] In 1868 outfarm buildings were constructed for Burkinshaw at a cost of £600 and pair of labourers' cottages costing £300.[471] These served a detached portion of the farm about a mile south-west of the main farmstead, known as Burkinshaw's Top. A year later, in 1869, £1,800 was spent on a 'Home Farmstead', bringing the total expenditure on Binbrook Villa to £3,800.

Although overgrown at the time of the first field visit, the farmstead could be seen to be constructed to the same basic plan as Newstead, with the distinctive passageway running between the outer ranges and the central crewyards (Plate 124).[472] There were certain minor differences between the two steadings such as the absence of a dovecote and cupola on the central range at Binbrook Villa (Plate 125) and the reversal of the position of the barn and waggon sheds in the north range (Plate 126). Nevertheless, given that 22 years had elapsed between the erection of Newstead and that of Binbrook Villa, the two steadings were remarkably similar.

The increasing mechanisation of processes in this period was evident at Binbrook in the

[468] KU S3186/59; KU S3186/178.
[469] 1871 Census, Binbrook, RG10/3405/54-5; Rawding, Binbrook in the 19th Century, (1989) pp. 14-15. Burkinshaw followed William Croft, possibly a relative, as tenant at Binbrook Villa in 1861 after the date of the census. Both men seemed to alternate between ownership and tenancy of the farm from Turnor. This was also the case with the Johnson/Clarke family at The Manor.
[470] 'Capital Expenditure on Buildings 1830-1873', Private Collection.
[471] ibid.
[472] Field visits, Binbrook Villa, Binbrook, 14th September 1999, 23rd August 2001 and 9th July 2002.

pulley wheel to be observed on the north face of the north range, outside the barn door (Plate 126) and line shafting within. This testified that, at Binbrook Villa, a portable steam engine was being used to drive barn machinery and, most probably, for threshing in the stackyard which was located to the north of the barn range. In 1871 Burkinshaw's neighbour, Cornelius Stovin, recorded in his diary his use of a steam engine and thrashing apparatus as well as a reaper and a double plough, all of which he considered to be 'Divine gifts to the agriculture of the nineteenth century'. He considered that farming had 'become a scientific as well as an industrial occupation'.[473]

Manor Farm, Kirmond le Mire (TF 187 927), was the largest range of buildings constructed to Macvicar's plan to be identified. The tenancy of the farm was held for most of the nineteenth century by the Fieldsend family, another influential farming family who appear on the list of improvers (Table 4 (pp. 66-74)). At about the same period as he was equipping the farm at Binbrook Villa with new buildings, Turnor was investing at Kirmond. In 1862 he provided a pair of labourers' cottages at a cost of £320, rather more than he spent on those at Binbrook Villa. In 1868, the year before he built the steading at Binbrook Villa, he spent more than twice as much on a new farmstead at Kirmond, the outlay being £2,500. A further pair of cottages was provided in 1872 at a cost of £380 bringing the total investment on Manor Farm to £3,200 according to the record of expenditure on the estate.[474] However, this does not include the cost of the barn and stackyard which were erected in 1871, on the outfarm at Kirmond Top, nor does it include the provision of a new farmhouse. At Manor Farm the old Manor House, which had once been the Turnor family home, was retained as the farmhouse.

Despite being a Grade II Listed Building some of the steading at Manor Farm, Kirmond

[473] Diary of Cornelius Stovin, tenant of Binbrook Hall, quoted in Joan Thirsk, English Peasant Farming: The Agrarian History of Lincolnshire from Tudor to Recent Times, (1957) p. 325.
[474] 'Capital Expenditure on Buildings 1830-1873', Private Collection.

le Mire, is in a state of near-collapse and its condition was observed to have deteriorated significantly in the period between the first and second field visits.[475] The once-magnificent steading with its central tower and dovecote, now bereft of its cupola and finial, occupied a prominent position in full view of the road (Plate 127). Unusually for such a high status farmstead, the house overlooked the steading (Plate 128), but this can be attributed to the continued use of the old house after the new farm buildings were erected.

The particular historical significance of the buildings at Manor Farm is the survival of so many internal fixtures and fittings. It is frequently the case that buildings which have not been used for many years and are therefore in an advanced state of decay owing to lack of maintenance, are the ones which retain most of their original features. This is because they have not been adapted for modern farming. Manor Farm was found to retain a Clayton and Shuttleworth corn mill *in situ* in the barn (Plate 129) as well as a significant length of line shafting with pulley wheels for the belting which drove the barn machinery (Plate 130). All of this was evidence of the mechanisation of processes in line with best high farming practice. There was also evidence of provision for labour-saving feeding arrangements, with hatches in the feeding passage beside the piggeries which slid upwards on counter-balanced cords, in much the same way as a sash window operates (Plate 131). There was also a tack room beside the riding horse stables which retained its saddle racks and harness pegs, as well as the cast-iron fire grate for warming the room and preventing deterioration of the leather from which this valuable equipment was made (Plate 132).

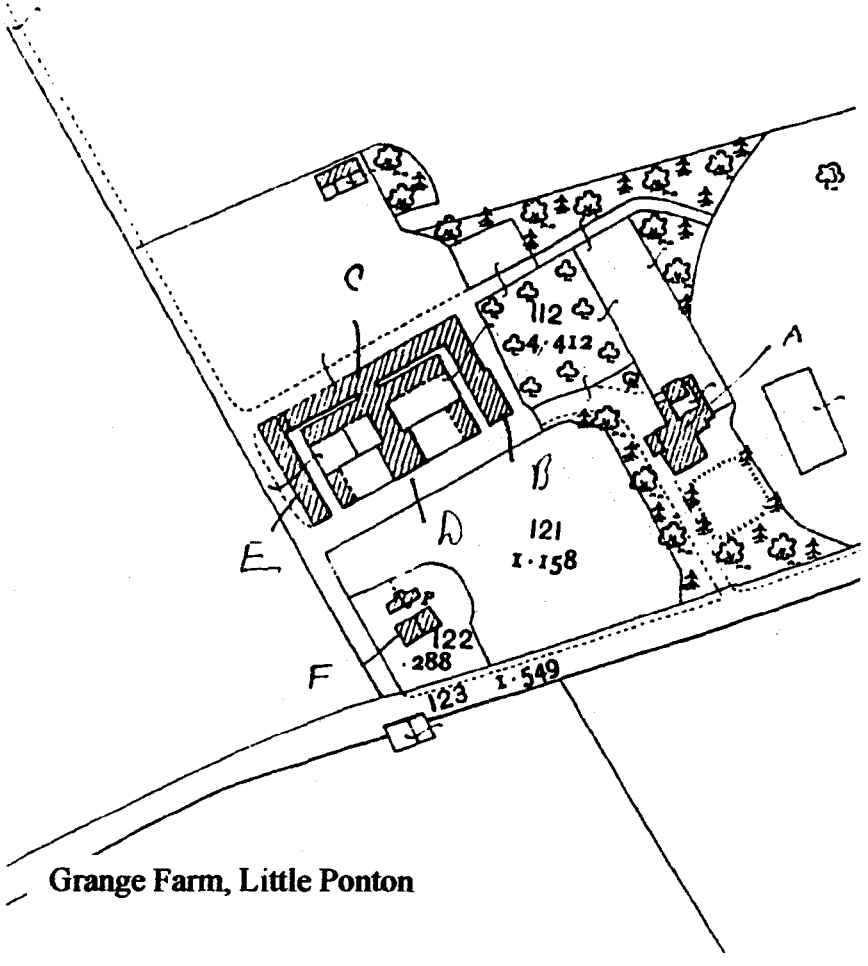
Manor Farm, Kirmond le Mire, on Turnor's Mid-Lincolnshire Estate, was built of brick and slate. It bears a very strong resemblance to Grange Farm, Little Ponton, on his South Lincolnshire Estate, also constructed to Macvicar's design (Fig. 20), although the latter

[475] Field visits to Manor Farm, Kirmond le Mire, 14th September 1999 and 24th September 2002.

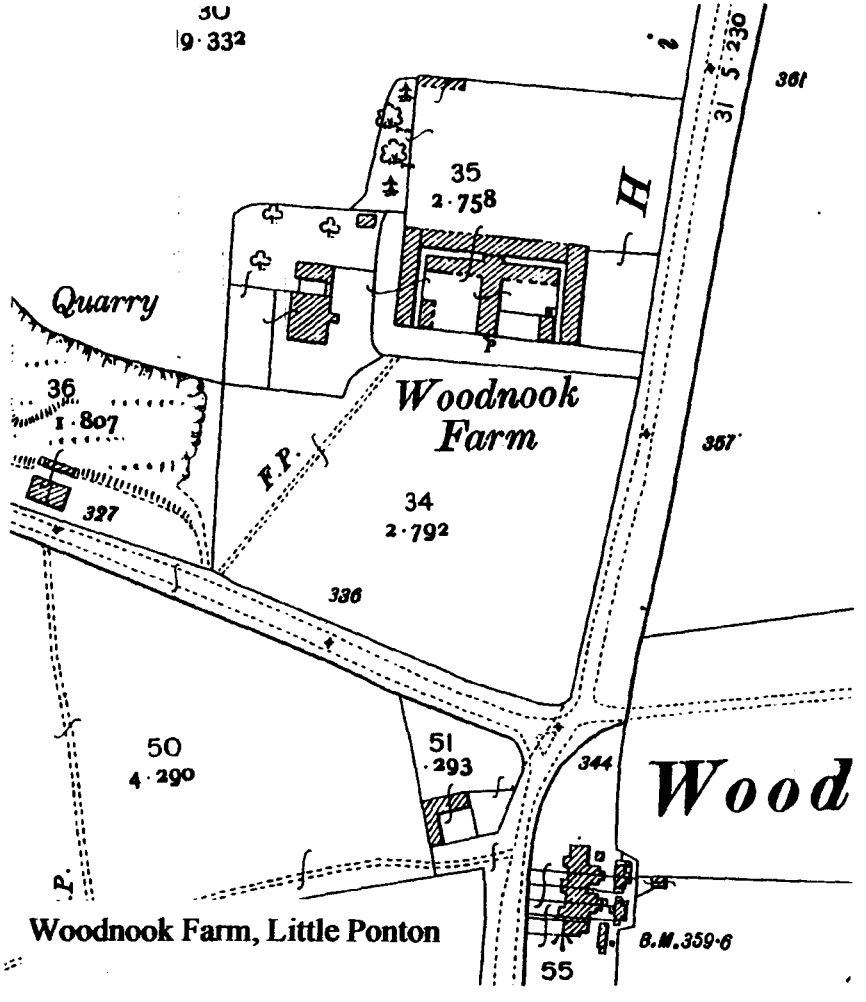
Figure 20

1:2,500 OS Footprint of Double E Plan Steadings at Grange Farm, Little Ponton and Woodnook

Source: OS 1:2,500 County Series, Lincolnshire Sheets 122.8, Second Edition (1904) and 123.5, Second Edition (1904)



Grange Farm, Little Ponton



Woodnook Farm, Little Ponton

had a stone façade and slate roofs (Plate 133).[476] Grange Farm (SK 918 322), on the good general purpose arable land of the heath south of Grantham (Fig. 6 (p. 122)), was built in 1866, two years before Kirmond and cost the same amount, £2,500.[477] The tenant was Robert Wyles who was a member of the RASE but not of the LAS.[478] A decade earlier, in 1855, outfarm buildings and a pair of labourers' double cottages had been provided for the holding at a cost of £900 and £300 respectively and in 1868 a farmhouse costing £1,100 had been erected and second pair of cottages dated 1867 (Plate 134), costing £300.[479] This brought the total amount expended on Grange Farm, Little Ponton, to £5,100, according to the estate record.[480]

In addition to the passageway running between the crewyards and the outer range of buildings, which was the hallmark of Macvicar's farmstead design, Grange Farm was equipped with other labour-saving arrangements. In the central range with its double row of pitched roofs, to be observed in front of the dovecote in Plate 133, a passageway ran between two rows of feeding boxes in an arrangement similar to that in the central range which was added at Home Farm, Stoke Rochford, the previous year. As at Home Farm, there were sliding doors in the wall (Plate 135) which gave access to a manger at the front of each feeding box (Plate 136). Elsewhere in the steading there was an arrangement similar to that at Kirmond le Mire, with hatches which could be raised to give access to troughs in another range of feeding boxes (Plates 137 & 138).[481]

The north elevation of the north range at Grange Farm was very similar to that at Kirmond le Mire with a pulley wheel beside the doors of the barn. This building was

[476] So great is the resemblance between the two steadings that a photograph of Grange Farm, Little Ponton, is wrongly given as Manor Farm, Kirmond le Mire, in Wade Martins, English Model Farm, (2002) pp. 144-5.
[477] 'Capital Expenditure on Buildings 1830-1873', Private Collection.
[478] 'Members of RASE' JRASE, 2nd ser. 9 (1873) p. xxiii.
[479] There is sometimes a discrepancy between the date on the buildings and the date in the financial record. In such instances the date on the buildings is usually a year before that in the accounts.
[480] 'Capital Expenditure on Buildings 1830-1873', Private Collection.
[481] Field visit to Grange Farm, Little Ponton, 26th June 1999.

located conveniently for both of the crewyards, at the centre of the north range behind the straw barn (Plate 139).[482] The modification of Macvicar's original design in which the barn was at one end of the north range, together with the provision of a pulley wheel and line shafting to enable the use of an externally located portable steam engine to drive feed preparation machinery in the barn, is evidence of the transition of the barn from a corn processing house to a feed preparation area, which was also evident at Sandpit Farm, North Kyme. The dates of the Turnor buildings, Newstead (1847) and Wispington (1855), built to the earlier design with no evidence of mechanisation of feed processing, and Grange Farm, Little Ponton (1866) and Kirmond (1868), with the barn in a central position and an external pulley wheel, suggest that this transition took place around 1860.

The elevations of Grange Farm, Little Ponton, which were visible generally, were of stone, but the walls at the back of the crewyards facing into the passageway, were of cheaper brick (Plate 140). This is highly significant for two reasons. The first is that a similar arrangement occurs at Hall Farm, South Rauceby, designed by Burn. There, the inner faces of the ranges surrounding the crewyards were brick (Plate 78), although the body of the steading was stone. The use of the same device at Grange Farm emphasises further the relationship between Burn's work and Macvicar's. A second reason why this feature is so significant is that it reveals a preoccupation with the appearance of the buildings of the steading which had nothing to do with their suitability for the purpose for which they were constructed. This evidence supports the assertion that landowners were seeking, not only to provide buildings which would be of practical use, but also to make a statement about their social and economic status.

Woodnook Farm (SK 944 326) lies on the same good, general purpose farmland of the

[482] Photographs of the north range of Manor farm, Kirmond le Mire are not presented in the thesis because film was damaged in the camera and the buildings are now in too dangerous a condition for safe access to take more photographs.

heath as Grange Farm (Fig. 6 (p. 122)). The farmstead and cottages at Woodnook constitute a hamlet in Little Ponton parish, at the head of a dry valley, just over a mile away from the main village. The steading and cottages lie beside the High Dyke (B6403), as the Roman Ermine Street is known for this section of its length. The tenant at the time the farmstead was constructed was Thomas Minta. The documentary record shows that the farmhouse was erected in 1869 and cost £950. The farm buildings were erected two years later in 1871 at a cost of £2,000 and a pair of labourers' cottages (Plate 141) in 1872 at a cost of £350, slightly less than was expended in the same year on the pair of cottages at Manor Farm, Kirmond le Mire. An investment of £95 on the water supply for the house and steading in 1869, brought the total expended by Turnor on buildings at Woodnook, to £3,395.[483]

At Woodnook Macvicar's farmstead plan (Fig. 20) was executed in a mixture of brick and stone as at Grange Farm (Plates 142 & 143), although at Woodnook more of the inner-facing walls were of brick. By means of this device the impression given to passers-by on the High Dyke was of a substantial stone built, steading with a high status house (Plate 144). The house at Woodnook was a particularly fine, double pile plan house, facing away from the steading (Plate 145), with Turnor's initials and the date over the kitchen door (Plate 146).[484] All of these ostentations are characteristic of the high farming preoccupation with status, substance and property.

Woodnook and Grange Farms, Little Ponton; Manor Farm, Kirmond le Mire; Binbrook Villa and Binbrook Top, Binbrook; Newstead and Abbey Farms, Stixwould, and Hill Farm, Wispington, represent the ultimate in building provision for high farming in Lincolnshire, and Macvicar's double E plan the *beau ideal* of the form such buildings were recommended to take. However, it is important to remember that not all

[483] 'Capital Expenditure on Buildings 1830-1873', Private Collection.
[484] Field visit, Woodnook Farm, Little Ponton, 23rd July 2004.

nineteenth-century farmsteads were equipped with complete sets of new buildings in one single building campaign. Many, if not most, steadings were adapted and extended to incorporate high farming ideas but, because the buildings were not erected all at one time, they did not exhibit the full range of high farming characteristics. This was true of farmsteads on the Turnor estate and of those in the county generally.

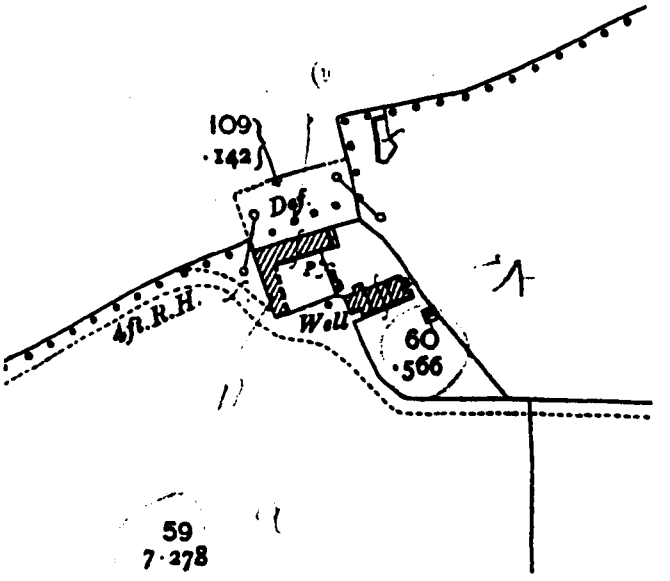
The farmstead at Saxby Cliff (SK 979 858), which was examined in detail for a previous study, is a classic example of a steading which developed in phases, in response to changes in agricultural practice.[485] Here, on the manure-hungry soils of the heath, a series of crewyards were built onto an earlier stone threshing barn (Plate 148). The different phases of construction could be identified from the variety of building materials, roof heights and styles of construction (Plate 147). A similar rough stone barn (Plate 149) served Heslin's Barn Farm at Stoke Rochford (SK 899 275), a small Turnor estate farm in the area of the Kesteven Heath known as Stoke Pasture (Fig. 6 (p. 122)). However, additions to Heslin's barn were not as extensive as those to the barn at Saxby Cliff. The adjacent timber buildings observed on the field visit were modern and the tenant said he was not aware of there ever having been a crewyard attached to the barn.[486] The 1904 25 inch OS shows a single range of shelter sheds attached to the west end of the barn, forming an L-shaped layout (Fig. 21), but not a full crewyard. Given the lack of physical evidence for this extension it is possible it was a relatively temporary construction, built of timber and iron.

Valley Farm, Little Ponton (SK 925 314), is in the same parish as the Macvicar double E plan farmsteads at Woodnook and Grange Farm and on the same good, general purpose farmland of the Kesteven Heath (Fig. 6 (p. 122)). Built of local stone and pantile, it is an example of a set of farm buildings on the Turnor estate which were of vernacular

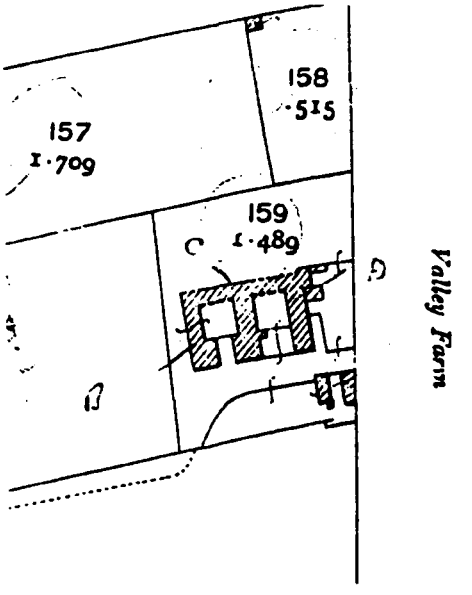
[485] Brook, 'Approaches to the Study of Historic Farm Buildings', (1990) pp.32-57.
[486] Field visit, Heslin's Barn Farm, Stoke Rochford, 19th September, 2005.

Figure 21
1:2,500 OS Footprint of Heslin's Barn Farm, Stoke and Valley Farm, Little Ponton

Source: OS 1:2,500 County Series, Lincolnshire Sheets 130.3, Second Edition (1904) and 122.12, Second Edition (1904)



Heslin's Barn Farm, Stoke



Valley Farm, Little Ponton

materials and construction (Plate 150).[487] The layout was regular (Fig. 21), but the steading departed from the recommended practice of siting the barn to the north of the crewyards, having shelter sheds in this position instead (Plate 151). Although there was a short length of line shafting related to a twentieth-century petrol engine, there was no evidence of nineteenth-century mechanisation. There was, however, ample evidence of hand-operated machinery and of manpower being used in feed preparation and distribution (Plates 152 & 153). Valley Farm, Little Ponton, has been converted into two dwellings since it was visited and recorded: a sharp reminder of the transience of the evidence such buildings contain.

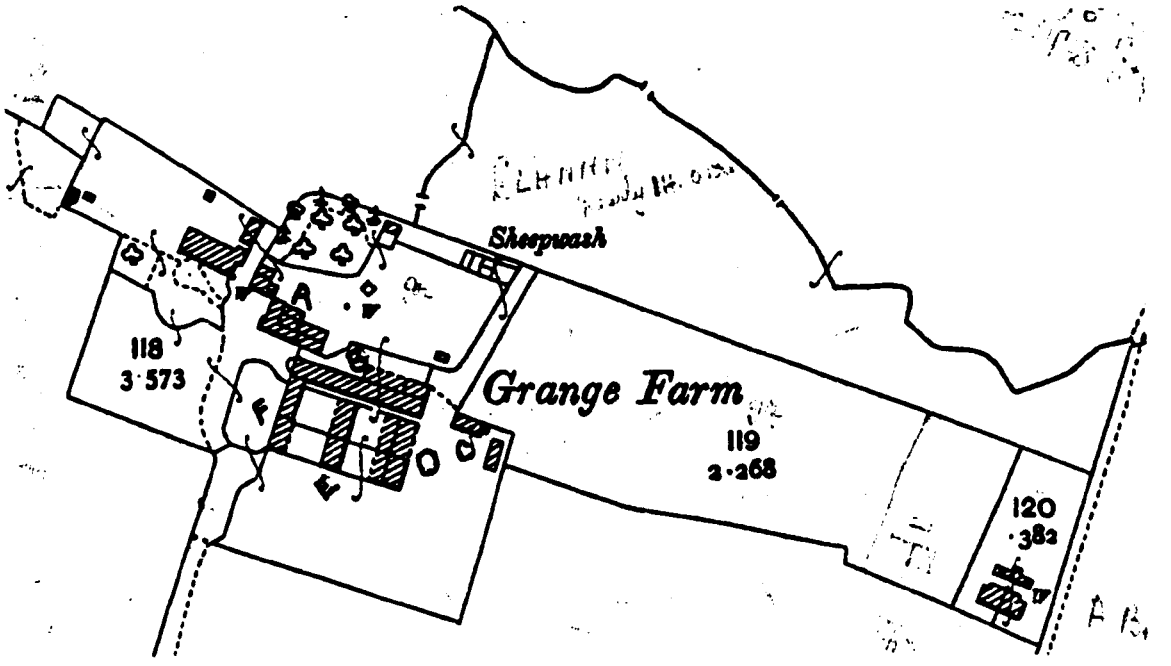
Other farmsteads on the Turnor estate were extended and improved in response to the demands of high farming. On some larger farms, buildings whose standard of construction was as high as those erected to Macvicar's double E plan, were added. Grange Farm, Mareham on the Hill, Grange Farm, East Barkwith, and Ivy House (also known as Manor Farm), East Torrington, were all the subject of at least two building campaigns. Grange Farm, Mareham on the Hill (TF 286 684), lies on the good, general purpose farmland of the South-Western Semi-Wolds, just over two miles south-east of Horncastle (Fig. 6 (p. 122)). An inscription in the lead flashing on the scullery roof dated the farmhouse to 1804 but the first evidence of farm building construction is in the estate record of capital investment.[488] In 1836, whilst the farm was in the occupation of William Nundy, £183 was spent on farm buildings.

There is no documentary record of further farm building investment but the extant buildings showed clear evidence of more than one phase of construction.[489] The double pairs of crewyards (Fig. 22), whose layout is typical of large numbers of nineteenth-century Lincolnshire farmsteads, had been created by adding to an earlier, single range of

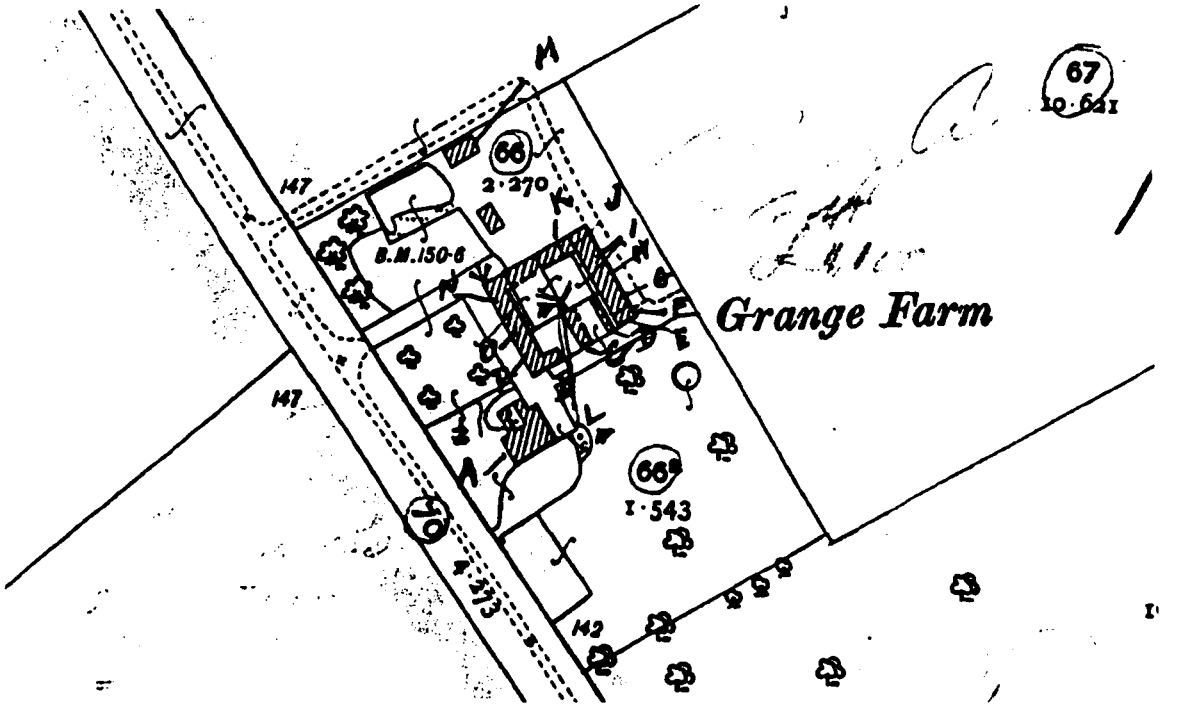
[487] Field visit, Valley Farm, Little Ponton, 17th May 1999.
[488] Mr Bell, Grange Farm, Mareham on the Hill, 27th August 2004; 'Capital Expenditure on Buildings 1830-1873', Private Collection.
[489] Field visits, Grange Farm, Mareham on the Hill, 5th November 1998 and 27th August 2004.

Figure 22
1:2,500 OS Footprint of Grange Farm, Mareham on the Hill and Grange Farm, East Barkwith

Source: OS 1:2,500 County Series, Lincolnshire Sheets 73.16, Second Edition (1906) and 54.14, Second Edition (1906)



Grange Farm, Mareham on the Hill



Grange Farm, East Barkwith

buildings. This older structure was incorporated in the new arrangement to form the west range of the crewyards, with a north, central and eastern range being added. The crews had been roofed over at a later date. The earlier building was lower, meaner and devoid of the ornamental brick detail which was to be found on the gables of the central and eastern ranges (Plates 154 & 155). This brick detail matches that on the gable ends of the Turnor farmstead at Binbrook Villa (Plate 124), built in 1869, and the same detail was also observed on farm buildings at Lynwode House (Plate 156) and Manor Farm, Linwood, near Market Rasen.[490] William Conway Gordon Esq. borrowed £1,072 from the Lands Improvement Company for farm buildings on his Home Farm at Linwood in 1879.[491] This suggests that the second phase of building at Mareham on the Hill was in the third quarter of the nineteenth century, perhaps at the same time as the erection of a pair of labourers' cottages dated 1870.

The Turnor steading at Mareham on the Hill was not constructed to Macvicar's plan nor was the usual practice of placing the barn on the north of the crewyards adopted. The piecemeal nature of its construction and perhaps the lie of the land meant that the barn was placed in the east range at Grange Farm, Mareham (Plate 155). The barn was also in the east range (Plate 157) on the Turnor farmstead at Grange Farm, East Barkwith (TF 158 817), situated on the South-Western Semi-Wolds, three miles north-east of Wragby (Fig. 6 (p. 122)). Again, the steading was not to Macvicar's plan and observation suggested that additional buildings had been added to the barn to create a series of crewyards (Fig. 22).[492] There is no documentary evidence to date the first phase of building at Grange Farm, East Barkwith, although the similarity of the barn to that at Mareham would suggest a mid-1830s building campaign. The loss of some of the later buildings in a fire, the conversion of others to holiday cottages, plus the re-roofing of the entire steading, made identification of phases of construction difficult. However, reports

[490] Field visit, Lynwode House and Manor Farm, Linwood, 13th September 1999.
[491] NA MAF66/35/734.
[492] Field visit, Grange Farm, East Barkwith, 6th November, 2004.

by Thompson revealed that further buildings were constructed at Grange Farm, East Barkwith in 1865, at a cost of £700. These replaced boarded and thatched constructions which were removed. The barn and stables were reported to be of brick and tile and were to remain.[493] Although not equipped with architect-planned buildings, Grange Farm had an imposing house (Plate 158) designed to attract a man of capital to the tenancy.

The barn (Plate 159) at Ivy House (also known as Manor Farm), East Torrington (TF 147 834), was of similar construction to that at Grange Farm, East Barkwith (Plate 157). For this steading, on the heavier clay soils of the Upper Ancholme and Middle Witham Clays (Fig. 6 (p. 122)), a detailed account of building investment survives.[494] The first phase of building activity was over a period of three years, 1833-5, when £1,153 was expended upon farm buildings. Three labourers' cottages were erected in 1834 at a cost of £299 and in 1835 a farmhouse was provided, costing £993. The construction of a blacksmith's shop in 1836, at a cost of £50, brought the total investment on this holding to £2,495, a substantial sum in this first half of the nineteenth century. The barn complex, marked W and X on the OS plan annotated for tax purposes (Fig. 23), was only a small part of this sizeable steading, on a holding which was described by Thompson as 'one of Mr Turnor's best Farms'.[495] Although Thompson's reports show that £400 was to be borrowed for the erection of three new cottages in 1865, there is no record of the further investment in other farm buildings, which observation of the standing buildings suggested had taken place.[496]

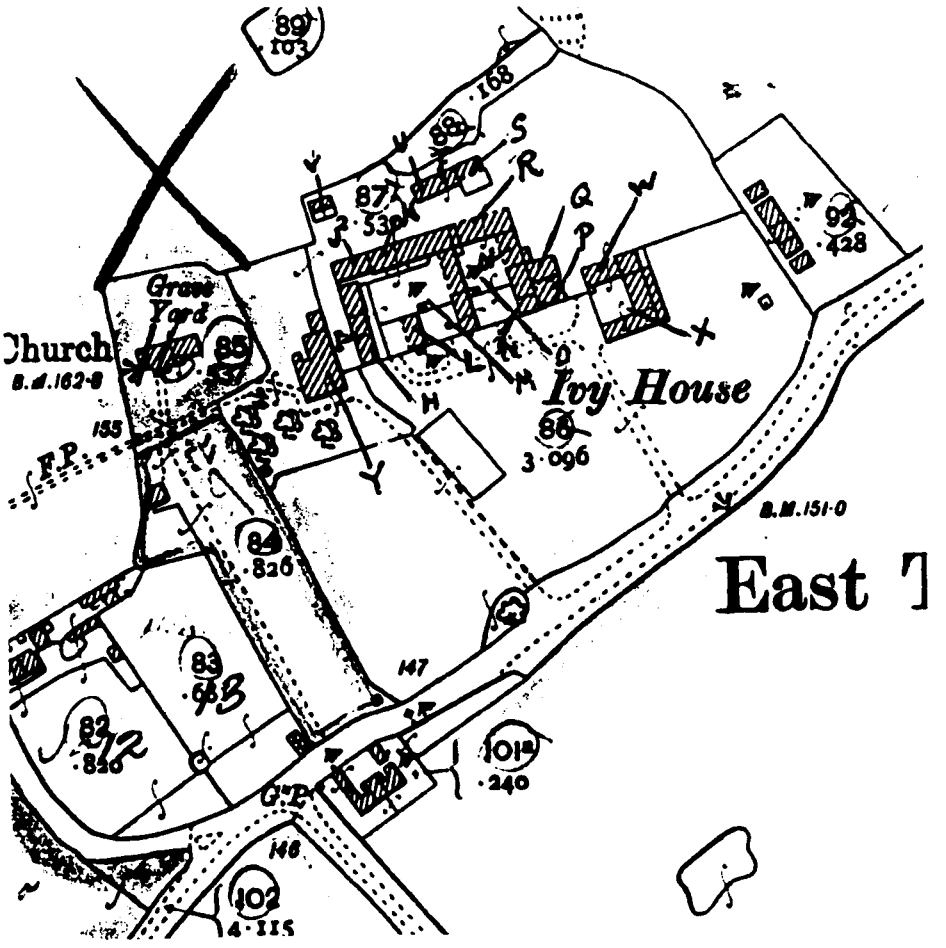
Whilst representing a very valuable record of an ephemeral aspect of the Lincolnshire landscape, the examples of the buildings of high farming collected above are also important collectively as a means of investigating the farm building activity of Lincolnshire landowners. For example, a building campaign on some of Turnor's Mid-

[493] KU S3185/224-5.
[494] 'Capital Expenditure on Buildings 1830-1873', Private Collection.
[495] KU S3185/225.
[496] Field visit, Ivy House (also known as Manor Farm), East Torrington, April 2004.

Figure 23

1:2,500 OS Footprint of Ivy House (Manor Farm), East Torrington

Source: OS 1:2,500 County Series, Lincolnshire Sheet 54.10, Second Edition (1906)



Lincolnshire farms in the early years after he inherited is suggested by the dating of the first phase of farm building investment at Grange Farm, Mareham on the Hill, and at Ivy House, East Torrington, from documentary evidence and by the inference, on stylistic grounds, that the barn at Grange Farm, East Barkwith, was of similar date. There is much else to be learned about the temporal and spatial distribution of investment in farm buildings by Lincolnshire landowners from the patterns of activity which emerge when the information on individual farmsteads, such as that presented above, is gathered together and synthesised. It is to the aggregation and analysis of information on farm

building by Christopher Turnor, in particular, and other Lincolnshire landowners who borrowed from the various land improvement loan companies, in general, that we turn in the next chapter.

Chapter 5

Borrowing and Building to Farm High

Part One of the thesis considered the particular social group which was engaged in high farming and the influences which informed the actions of such people. This was followed by a detailed examination in Chapter 4 of selected examples of nineteenth-century farm buildings, accompanied by discussion of the extent to which they were a manifestation of the high farming ideology. In effect these preceding chapters have addressed the questions 'Who was building what and why?' In the final two chapters, two further questions, 'When and where were the buildings of high farming erected?', will also be posed. Answers will be explored by looking at the spatial and temporal patterns of farm building activity on estates with identified examples of the buildings of high farming and on estates which borrowed for agricultural improvements under the various land improvement loan schemes available to landowners. This will enable the third and final dimension of culture identified by Rapoport, that of culture being a set of adaptive strategies for survival, related to ecology and resources, to be considered.[497] For the purposes of this examination 'ecology' will be represented by the land type on which the farm buildings were constructed and 'resources' will be taken to be the capital which financed them.

The importance of land type in ecological considerations relating to farm building provision lies in the close relationship between quality and type of land and the nature of the farming regime adopted. For example, light, well-drained soils favour arable cultivation whereas the rich grassland sustained by heavier, clay soils is more suited to

[497] Rapoport, 'Vernacular architecture and the cultural determinants of form', in King ed., Buildings and Society, (1980) pp. 286-7.

livestock operations. For each type of farming activity a particular type of building was needed: manure production and grain storage facilities for light, arable lands and livestock housing for grassland. Because the nature of the accommodation required was closely linked to the character of the farming regime being practised, the corollary is that the nature of farm buildings was affected by land type and quality.

In the discussion of individual examples of the buildings of high farming in the previous chapter, the land type on which each set of buildings was situated was identified using the mid-twentieth century land classifications devised by the *Land Utilisation Survey of Britain.* This was conducted with the help of an army of school teachers and their pupils in the 1930s and written up by various authors under the general editorship of L. Dudley Stamp. The survey became the basis for Land Utilisation and Land Classification maps which were published around 1940. The Land Classification map which covered Lincolnshire defined the boundaries of each land type, and its use enabled identification of the nature of the land on which each set of farm buildings occurred. The Land Classification and Land Utilisation maps classified land quality on a scale of one to ten: one to four was classed as good quality land, five and six medium quality and seven to ten, poor. The suffix A or G was used to indicate arable or grassland and H indicated poor heath land.[498]

Table 5 shows the land-type zone, land classification and land quality of the location of some of the farmstead examples which were discussed in detail in Chapter 4. The examples from Chapter 4 were chosen because they demonstrated all the qualities of the buildings of high farming. Table 5 reveals that such buildings were to be found on every major land type of the county, ie. the limestone uplands, the clay vales, the marsh and the fen. They served holdings in areas of good, medium and poor quality land, although

[498] Stamp ed., Report of the Land Utilisation Survey of Britain, Part 69, (1937); Stamp ed., Report of the Land Utilisation Survey of Britain, Parts 76-77, (1942); OS, 1 mile:1 inch Land Utilisation Survey of Britain, Sheet 47 (not dated but checked and revised 1937-9); OS, 1:625,000 Land Classification, Great Britain Sheet 2, (1944).

Table 5
Land Types of examples of the Buildings of High Farming

Land type zones, land classification and land quality based on OS, 1 mile: 1 inch Land Utilisation Survey of Britain, Sheet 47; OS, 1:625,000 Land Classification, Great Britain Sheet 2, (1944)

A=arable, G=grass, H=heath

Turnor Farm (CT)	Name of Farm	Land type zone	Land Classification	Land Quality
	Home Farm, Great Sturton, Horncastle (TF 210 756)	South-Western Semi-Wolds	2A	Good
	Sandpit Farm, North Kyme (TF 148 531)	Fen Border (Kesteven)	2A + 4G	Good + medium
	Home Farm, Trusthorpe (TF 503 820)	Salt Marsh	3G + 4G	Medium
	Postland Farm, Crowland (TF 267 107)	Fen (Holland)	1A	Good
CT	Hill Farm, Wispington (TF 212 706)	Upper Ancholme and Middle Witham Clays	Mostly heavy 2A + 4G. Some ill-drained app. 7G	Good, medium and poor
	Hall Farm, Coleby (SK 978 613)	Heath (Kesteven)	2A	Good
	Hall Farm, South Rauceby (TF 033 456)	Heath (Kesteven)	2A	Good
CT	Home Farm, Stoke Rochford (SK 913 285)	Heath (Kesteven)	2A	Good
CT	Abbey Farm, Stixwould (TF 174 661)	Fen Margin (Lindsey)	2A + 5A + 9H	Good, medium and poor
CT	Newstead Farm, Stixwould (TF 166 653)	Fen Margin (Lindsey)	2A + 5A + 9H	Good, medium and poor
CT	Binbrook Top, Binbrook (TF 197 932)	Central and South-Eastern Wolds	2A + 5A	Good + medium
CT	Binbrook Villa, Binbrook (TF 216 943)	Central and South-Eastern Wolds	2A + 5A	Good + medium
CT	Manor Farm, Kirmond le Mire (TF 187 927)	Central and South-Eastern Wolds	2A + 5A	Good + medium
CT	Grange Farm, Little Ponton (SK 918 322)	Heath (Kesteven)	2A	Good
CT	Woodnook Farm, Little Ponton (SK 944 326)	Heath (Kesteven)	2A	Good

Table 6
Land Types of Turnor Farm Buildings

Sources: as Table 5

MP=Macvicar plan, Dev=developed steading, V=vernacular steading
A=arable, G=grass, H=heath

Type of steading	Name of Farm	Land type zone	Land Classification	Land Quality
MP	Binbrook Top, Binbrook (TF 197 932)	Central and South-Eastern Wolds	2A + 5A	Good + medium
MP	Binbrook Villa, Binbrook (TF 216 943)	Central and South-Eastern Wolds	2A + 5A	Good + medium
Dev	Grange Farm, East Barkwith (TF 158 817)	South-Western Semi-Wolds	2A	Good
Dev	Ivy House, East Torrington (TF 148 834)	Upper Ancholme and Middle Witham Clays	Mostly heavy 2A + 4G. Some ill-drained and app. 7G	Good, medium and poor
MP	Manor Farm, Kirmond le Mire (TF 187 927)	Central and South-Eastern Wolds	2A + 5A	Good + medium
MP	Grange Farm, Little Ponton (SK 918 322)	Heath (Kesteven)	2A	Good
V	Valley Farm, Little Ponton (SK 925 314)	Heath (Kesteven)	2A	Good
MP	Woodnook Farm, Little Ponton (SK 944 326)	Heath (Kesteven)	2A	Good
Dev	Grange Farm, Mareham on the Hill (TF 286 684)	South-Western Semi-Wolds	2A	Good
MP	Abbey Farm, Stixwould (TF 174 661)	Fen Margin (Lindsey)	2A + 5A + 9H	Good, medium and poor
MP	Newstead Farm, Stixwould (TF 166 653)	Fen Margin (Lindsey)	2A + 5A + 9H	Good, medium and poor
Dev	Heslin's Barn Farm, Stoke Rochford (SK 899 275)	Heath (Kesteven)	2A	Good
Wm Burn	Home Farm, Stoke Rochford (SK 913 285)	Heath (Kesteven)	2A	Good
MP	Hill Farm, Wispington (TF 212 706)	Upper Ancholme and Middle Witham Clays	Mostly heavy 2A + 4G. Some ill-drained and app. 7G	Good, medium and poor

good arable predominated. There was only one example of buildings of high farming being erected in an area which was solely grassland. This was on Loft's farm at Trusthorpe Thorpe. The failure of this enterprise may have been due, in part, to the unsuitability of the buildings for the land type on which the farm was situated and a consequent lack of return on the capital invested in their construction. Other than Trusthorpe Thorpe, all the buildings identified as classic examples of the buildings of high farming were in areas which had some good quality arable. As such buildings were designed to accommodate the processes of a mixed farming regime, whose principal object was the increase of the arable yield, the availability of good arable land was important.

More than half of the examples studied in detail in Chapter 4 were on the Lincolnshire estates of Christopher Turnor and all were built to Macvicar's double E design with the exception of Home Farm, Stoke Rochford. Macvicar's design was 'approved' by Denton and has been shown to exhibit all the important characteristics of the buildings of high farming. However, Chapter 4 also discussed buildings erected by Turnor which were not to Macvicar's plan and did not exhibit all the characteristics of the buildings of high farming, although a number of the steadings discussed exhibited some high farming characteristics. Table 6 shows the distribution of all the Turnor buildings discussed in Chapter 4, adding piecemeal developments and vernacular examples to the list of those which were of a classic high farming design and appear in Table 5. The farmsteads are categorised according to land type, land classification and land quality, with an indication of those which were built to Macvicar's plan, those which were of vernacular construction and those which were added to over time.

It can be seen from Table 6 that Turnor provided buildings of a high farming character on all qualities of land, although some good quality arable land was always available in the

area in which such buildings were situated. He did not provide buildings on marsh land because he did not own any, but otherwise buildings of the same 'approved' design were erected on farms across his estates, irrespective of whether the holding was on clay, fen edge or limestone upland. However, Table 6 also shows that 'approved' high farming buildings were not the only type of steading provided by Turnor on good arable land; small vernacular steadings and ones which developed piecemeal also occurred on good land. From this table it can be seen that, on the Turnor estate, the distribution of 'approved' high farming steadings, developed steadings or vernacular steadings was not obviously related to land-type zone or land quality; steadings of all types occurred in all zones and on all qualities of land. The only constant factor was that Turnor's high farming steadings were always located in areas which had some first class arable land.

There was no significant evidence of distance decay in the distribution of Turnor building across his estates in the north and south of the county. The persistence of high status building across all the Turnor estates in Lincolnshire may be attributable to the presence of a second family residence at Panton, on the Mid-Lincolnshire Estate, in addition to the main residence in the south at Stoke Rochford. However, the maintenance of this second focus, the residence of the agent in this same northern part of the estate, at East Barkwith, and the provision of high status, high profile buildings on the North and Mid-Lincolnshire estates as well as the South Lincolnshire Estate, may all have been part of a strategy to reinforce a sense of estate identity in areas at a distance from the main residence.

What is very obvious is that the Macvicar plan farmsteads were intended to be seen. Almost all were sited in highly visible positions next to main roads or beside busy thoroughfares. Grange Farm, Little Ponton, was beside the Great North Road and Woodnook beside the High Dyke. Abbey Farm, Stixwould, was in the centre of the

village and Newstead beside the road to the station. Kirmond le Mire continues to be an imposing sight beside the road from Binbrook to the Caistor High Street across the wolds. The high incidence of these buildings in prominent locations suggests that the decision to equip a holding with this particular style of building was, in part, dictated by the opportunity it would afford for the status of the landowner to be displayed and an example of good practice to be advertised. Such activity was part of the culture of display and encouragement of best practice examined in Chapters 2 and 3. These motives would explain the provision of the buildings of high farming on the farms listed above but not at Ivy House (Manor Farm), East Torrington, identified by Thompson as one of Turnor's best farms, but remotely situated in a small village beside a minor road.[499]

Other aspects of farm building activity on the Turnor estate were considered, taking a sample of 11 farmsteads for which detailed information about date of erection, nature of buildings, identity of tenant, amount invested and acreage were available (Table 7).[500] The record of capital expenditure is a twentieth-century transcription of unidentified nineteenth-century material and is not a complete record of all farms held or all building activity on each farm mentioned, so it was used in conjunction with other sources to compile as complete a picture as possible. The rent book transcriptions record the 48 Turnor holdings paying £200 per annum and over in rent 1835-86, so the sample in Table 7 represented just under a quarter of his large farms. It was not a random sample because the collection of the detailed information was undertaken for farmsteads with good surviving buildings which were visited during the course of the research project. Despite the bias introduced by building survival, some interesting insights were derived from considering the information collected. Table 7 shows the temporal distribution of building activity on the selected Turnor holdings in the period 1829-1886, indicating the

[499] KU S3185/225.

[500] 'Capital Expenditure on Buildings 1830-1873', Private Collection.; Denton, Farmhomesteads of England, (1864) p. 47-9 ; KU S3185/224-5; KU S3186/59-60; KU S3186/214; dates recorded on field visits to farmsteads; Redmore, transcription of Turnor rent books, LA 3 Turnor.

Table 7
Christopher Turnor's Farm Building Activity

Sources: 'Capital Expenditure on Buildings erected on North, Mid and South Lincoln Estates from 1830-1873'; J. Bailey Denton, The Farmhomesteads of England, (1864) p. 47; KU S3185/224-5; KU S3186/59-60; KU S3186/214; field visits to farmsteads; Ken Redmore, Society for Lincolnshire History and Archaeology, transcription of Turnor rent books, LA 3Turnor

FB=farm buildings, Hs=farm house, MP=Macvicar plan, Dev=developed steading

Date of steading	Name of Farm	Type of Stdg	Chnge of tenant?	Amount inv. in FBs	Acreage	Amount per acre invested
1830s + 1865	Grange Farm, East Barkwith (TF 158 817)	Dev	N	1st phase ? 1865 £700 (addns only)	290	£2-8-0d (addns only)
1833-5+ later 2nd phase	Ivy House, East Torrington (TF 148 834)	Dev	?	1833-5 £1153 2nd phase ?	?	?
1836 + 1876	Grange Farm, Mareham on the Hill (TF 286 684)	Dev	N	1836 £183 (barn+stable) 1876 ?	?	?
1840	Home Farm, Stoke Rochford (SK 913 285)	Wm Burn	N/A	£4000	?	?
1847	Newstead Farm, Stixwould (TF 166 653)	MP	Y	?	?	?
1855	Hill Farm, Wispington (TF 212 706)	MP	N	£1420	312	£4-11-0d
1855-68 FB 1866 Hs 1868	Grange Farm, Little Ponton (SK 918 322)	MP	Y	£2500 (£3,600 with farm house)	462	£5-8-0d (£7-16-0d with farm house)
1861-9 Hs 1861 FB 1869	Binbrook Villa, Binbrook (TF 216 943)	MP	Y	£1800	?	?
1862-72 FB 1868	Manor Farm, Kirmond le Mire (TF 187 927)	MP	Y	£2500 (estimated £3,100 inc. outfm)	750	£3-6-8d (estimated £4-2-8d inc. outfm)
1866	Binbrook Top, Binbrook (TF 197 932)	MP	N	£1980	457	£4-6-8d
1869-72 Hs 1869 FB 1871	Woodnook Farm, Little Ponton (SK 944 326)	MP	Y	£2000	?	?

type of building erected and whether there was a change of tenancy at the time building improvements commenced. Where such information was available, the amount invested is also shown together with the acreage of the holding and the amount per acre invested.

The temporal distribution of investment was considered and it was noted that Turnor began investing on his Mid-Lincolnshire Estate at Grange Farm, East Barkwith, Ivy House (Manor Farm), East Torrington and Grange Farm, Mareham on the Hill, in the years immediately following his inheritance in 1829. This initial building campaign was followed by a second phase of investment on the same farms some 30-40 years later. The building campaigns on these three farms do not appear to have been connected with a change of tenancy but rather with the life-cycle stage of the landowner and a subsequent need to update and refurbish after a considerable period had elapsed. In 1865 £700 was invested at Grange Farm, East Barkwith, in the replacement of timber and thatched structures which were considered to be in a 'very delapidated state'.[501] This represented an investment of £2-8-0d per acre in additions and improvements.

The concentration of investment on farms in the northern part of his estate in the early years after Turnor inherited and the later start of investment in the southern portion is mirrored by the general pattern of investment apparent from the estate record of capital expenditure. Here it is recorded that investment began in the north in 1831, at Panton, whereas there is only one investment recorded in the southern portion of the estate before the expenditure on the Home Farm at Stoke Rochford in 1841. This was in 1838, at North and South Stoke.[502] The apparent change of emphasis from north to south may have been connected with a shift in the focus of the estate from its northern heartland at Panton, where it was centred in the early years after Turnor inherited, to the south, after the construction of Burn's new mansion at Stoke Rochford.

[501] KU S3185/224.
[502] 'Capital Expenditure on Buildings 1830-1873', Private Collection

For most of the steadings in Table 7 it was possible to consider changes of tenancy. At Stixwould in 1847, the provision of a new set of farm buildings at Newstead Farm coincided with the end of the tenancy of Thomas Grantham and the commencement of the tenancy of William Grantham in 1848.[503] Although this may have been a passing of the tenancy from father to son, it would still have been the opportunity for negotiation between the landowner and tenant farmer. If Turnor shared Lord Yarborough's enthusiasm for maintaining ongoing generations of the same family as tenants of a particular holding, and the recurrent names in the rent books suggest this, then such a desire may have influenced his decision to make the tenancy attractive by equipping the farm with new buildings.

The passing of tenancies from one generation to another was not a sentimental notion but sound business practice, because long-standing familiarity with the soils and drainage of a particular holding, coupled with the tenant's sense of investing in his own future, made long tenancies attractive to the landowner. They also relieved him of the trouble and uncertainty of securing a new tenant. Long-term occupation of a particular holding was common in Lincolnshire despite the county practice of annual tenancies at will. Tenants had the confidence to invest in long-term improvements without the security of a long lease because of the existence of the Lincolnshire Custom of compensation for unexhausted improvements. This was a practice whereby both the incoming and the outgoing tenant would obtain a valuation of unexhausted improvements, such as the application of guano or the feeding of rich cake producing high-quality manure, and an adjudicator would negotiate a mutually acceptable level of compensation to be paid to the outgoing tenant by the incoming one.[504]

From 1847 onwards the majority of building campaigns on the 11 Turnor farms in the

[503] Redmore, transcription of Turnor rent books, LA 3 Turnor.
[504] G. M. Williams, 'On the Tenant's Right in Unexhausted Improvements According to the Custom of North Lincolnshire', JRASE, 6 (1845) 44-6.

sample took place at the time of a change of tenancy. For those at Grange Farm and Woodnook, Little Ponton, and at Binbrook Villa there are details which show the exact nature and timing of each phase of building work in the series of building improvements. It is interesting to note that at both Binbrook Villa and Woodnook the house was erected before the farm buildings, indicating that this was the most important consideration for the tenant. The perceived value of a fine house in retaining or attracting a suitable tenant is another of the characteristics of the culture of high farming discussed in Part One of the thesis. However, it should be noted that both these building campaigns took place before the onset of the Great Depression and that tenants' preoccupations did not remain the same after the advent of the serious challenges to the maintenance of farm profits which came about in the last quarter of the nineteenth century.

The amounts expended, which are given in Table 7, are for the main farmstead only and do not include the farmhouse, labourers' cottages or outfarm buildings, all of which were sometimes included in calculations of the cost of equipping a holding with buildings. These additional sums are given in parentheses, where they are known. It was decided to give the figures in this way because for some of the steadings, ie. Wispington, Kirmond and Binbrook Top, the only sum available was for the steading alone, either because there was no house involved or its cost was not given. This consistency enabled the cost of equipping farms in the north and the south of the county, on a variety of sizes of holding, to be compared. The steadings for which we have full details were all adaptations of Macvicar's basic plan, the layout being broadly the same in each case. The farmsteads were all larger or smaller versions of the same design. Their size can be judged from their footprint on the 25 inch OS map (Fig. 15 (p. 157); Fig. 17 (p. 166); Fig. 19 (p. 172); Fig. 20 (p. 176); Fig. 22 (p. 183); & Fig. 23 (p. 186)), all of which are reproduced to the same scale; 1:2,500.

Manor Farm, Kirmond le Mire, constructed of brick and slate and Grange Farm, Little Ponton, constructed of local stone and slate with some internal walls of brick, were the two largest steadings, located about 50 miles apart. They were of similar size and cost the most to construct (£2,500 each). Woodnook, built of stone and slate with some brick walls, and Binbrook Top, constructed of brick and slate, again situated at opposite ends of the county, were the same size as one another and slightly smaller than Manor Farm, Kirmond, and Grange Farm, Little Ponton. They too cost roughly the same amount to build (£2,000 and £1,980 respectively) but £500 less than the largest steadings. Binbrook Villa, in brick and slate, was a little smaller and cost slightly less to build (£1,800). The smallest of all, Hill Farm, Wispington, built of brick and tile, cost the least (£1,420). It is therefore apparent that building costs varied in direct proportion to the size of the buildings, which was the assumption made by contemporary surveyors who estimated the cost of providing buildings on holdings of a certain size in terms of square yards of masonry.[505]

The idea that larger holdings would have larger buildings and smaller ones smaller buildings, which was the other assumption implicit in the calculation of building costs per acre from yards of masonry required, could not be fully tested against the Turnor experience represented in Table 7 because of the incomplete nature of the evidence. Also, the figures for Manor Farm, Kirmond, may be misleading because the holding had an outfarm at Kirmond Top. The cost of providing buildings on the outfarm at Kirmond is not recorded but on the neighbouring farm at Binbrook Villa, tenanted by William Burkinshaw, £600 was spent in 1868 on outfarm buildings at Burkinshaw's Top. If the same amount is allowed for outfarm buildings at Kirmond this brings the amount invested in farm buildings on this 750 acre holding to £3,100, representing an investment of £4-2s-8d per acre, which is a similar level of investment to that on other Turnor

[505] B. A. Holderness 'Agriculture' in C. H. Feinstein and S. Pollard, Studies in Capital Formation in the United Kingdom 1750-1920, (Oxford, 1988) p.14.

farms. If the assumption about the outfarm buildings at Kirmond is correct this gives an average investment of £4-7s-0d per acre, in farm buildings alone, on the Turnor estate in the period 1855-69.

The estimates made by nineteenth-century writers, on the subject of equipping a holding with the necessary buildings, varied as to whether farmhouses and cottages were included or not. Modern writers are more consistent and both Phillips and Holderness assumed a farmstead to include a farmhouse and farm buildings.[506] Phillips assumed the provision of a farmhouse and farm buildings but not cottages, in his study of the Staffordshire reports of Andrew Thompson, the improvement loan surveyor. He calculated an average figure of £7 to £9 per acre invested in the 1860s.[507] Grange Farm, Little Ponton, is the only Turnor farmstead for which the cost of both farm buildings and farmhouse is available, together with details of the amount spent and the acreage. For this farm, it was possible to compare Turnor's expenditure with Phillips' Staffordshire examples which assumed the same provision. Phillips' finding that the proposed outlay for farms over 300 acres in Staffordshire between 1858 and 68 was £7-7s-2d per acre, is close to the figure of £7-16s-0d invested in the new farmstead for Grange Farm, Little Ponton, a 462 acre holding in Lincolnshire, in the mid-1860s.[508] The amount for Grange Farm also compares with that of £7 per acre put forward by Denton for farms of 200-499 acres, writing in the early 1860s.[509]

There is a connecting link between the cost of providing of a new steading at Grange Farm, Little Ponton, the cost per acre of farm building provision anticipated by Denton and the amounts proposed to be expended on farms in Staffordshire. The common factor

[506] Phillips, Staffordshire Reports (Stafford 1996) pp. 3; Holderness, 'Investment,accumulation and agricultural credit', in Collins ed., The Agrarian History of England and Wales, (2000) p. 897.
[507] Phillips, Staffordshire Reports (Stafford 1996) p. 3.
[508] ibid. p. 38.
[509] Denton, Farmhomesteads of England (1864) used as the basis of Holderness, 'Investment, Accumulation and Credit' in Collins ed., The Agrarian History of England and Wales, (2000) Table 13.5, p. 899.

is the regulation, by the Inclosure Commissioners, of farm building activity financed by the various land improvement loan companies. Denton was Chief Engineer to the General Land Drainage and Improvement Company, Phillips' work on Staffordshire was based on the reports of Andrew Thompson to the Inclosure Commissioners regarding applications for improvement loans, and the new farmstead at Grange Farm was one of a number of farm improvement schemes undertaken by Turnor using improvement loan capital.

Although based at Keele as agent for Ralph Sneyd, Thompson, a Scot, was engaged by the Inclosure Commissioners to report on applications for loans from owners of estates in all the midland counties of England, including Lincolnshire.[510] One of these was the Turnor estate in Lincolnshire and Thompson was the inspector commissioned to report on the proposals for the new farmstead at Grange Farm, Little Ponton. His report, written on 14th May 1866, records that the original farmstead for Grange Farm was in the centre of the village at Little Ponton. It comprised 'four very old Stone & thatched barns, stables and some very delapidated sheds, all worn out and inconvenient', which were half a mile away from the nearest tillage field.[511] The farmhouse he considered to be in a fair state of repair and suitable for conversion into cottages. The proposal under Loan 1270, to be taken out from the Lands Improvement Company, was to replace the farmstead with new buildings on a new site central to the farm. The farm buildings were to be built immediately and a new farmhouse at a later date. The old house was to be converted into cottages at the owner's expense. The relocation of a farmstead, from an inconvenient site at the centre of the village to a new location central to its post-enclosure holding, took place on the Chaplin estate, at Scopwick. Here, too, the old steading in the village was converted into cottages and a new farmstead erected, probably with loan capital, on a convenient site beyond the curtilage of the village. This

[510] For a map of the counties in which Thompson was engaged as an inspector see Phillips, 'Landlord Investment in Farm Buildings', in Holderness and Turner, Land, Labour and Agriculture, (1991) Fig. 10.1, p. 197.
[511] KU S3186/60.

was Scopwick House Farm, which now stands proudly beside the Lincoln to Sleaford road.[512]

That the proposals for reorganisation at Grange Farm, Little Ponton, were carried out is apparent from the evidence of the standing buildings. The old farmhouse in the village is now a row of cottages (Plate 160); three further pairs of cottages have been erected in what was once the stackyard of the old steading (Plate 161), and the new farm buildings with their attendant farmhouse and cottages (Plates 133 & 134) stand beyond the village, on the far side of the Great North Road. This is important evidence as proposals on which Thompson reported did not always come to fruition. As was noted in the case of the loan scheme submitted by Joseph Livesey Senior for his estate at Great Sturton, sometimes the landowner did not proceed with plans which the Inclosure Commissioners had sanctioned on the recommendation of inspectors such as Thompson.[513]

Whilst the figure of £7-16s-0d per acre invested by Turnor at Grange Farm, Little Ponton, is comparable with the proposed outlay on new farmsteads identified by Phillips in Staffordshire and the sum suggested by Denton for farms of a similar size, it is significantly higher than the sum of £2.88 (approx. £2-17s-6d) per acre put forward by Phillips in his study of landlord investment in farm buildings, for the East Midlands as a whole.[514] The explanation for this is contained in Phillip's Staffordshire study where he makes a distinction between holdings which were equipped with complete new farmsteads and those where the investment was for modification and extension of existing buildings.[515] The sum presented in Phillips' East Midlands study was for investment in farm building improvements which included both new steadings and ones where additions were made to existing arrangements. In his Staffordshire study Phillips

[512] Brook, 'Farm Buildings of North Kesteven', (1994) pp. 26-32.
[513] supra. Chapter 4.
[514] Phillips, 'Landlord Investment in Farm Buildings', in Holderness and Turner, (1991) p. 204.
[515] Phillips, Staffordshire Reports.(Stafford 1996) p. 39.

identifies that, on the 22 farms in the sample, the average investment in additions and modifications was £2-7s-2d, almost exactly what was expended by Turnor at East Barkwith where additions to the older farm buildings were made in 1865.

It is therefore apparent that building works on the Turnor steadings where improvements involved the construction of whole new farmsteads exhibiting all the characteristics commended by writers such as Denton, were more expensive than additions to existing layouts. Eight holdings equipped with buildings to the Macvicar plan were identified, representing just over 16.5% of the 48 large holdings recorded in the rent book transcriptions. This means that the majority of Turnor steadings experienced improvements which were less ambitious and costly than pattern book recommendations. It is possible to take a more comprehensive view of Turnor's building improvements and the other improvement schemes he undertook on his estates by examining records of his borrowing from the Lands Improvement Company. However, before embarking upon this exercise and subsequently extending our consideration to loan activity in the county generally, it is necessary to understand the origins and nature of the records being studied.

There is no need to rehearse the details of the legislation which permitted absolute owners and the tenants for life of settled estates to borrow from various loan companies set up by the Government to lend money for agricultural improvements, which it was hoped would equip British agriculture to compete in the free market which followed the repeal of the Corn Laws in 1846. This has been thoroughly investigated and explained by Phillips, drawing on a large body of personal research.[516] Discussion of the various Land Improvement Acts and the administrative framework overseen by the Inclosure Commissioners is also presented by David Spring in his earlier work, *The English*

[516] Phillips, SSRC Report HR7263, 'The spatial adoption', (1983) pp. 5-6.; Phillips, 'Landlord Investment in Farm Buildings', in Holderness and Turner, (1991) pp. 191-6; Phillips, Staffordshire Reports (Stafford 1996) pp. 6-12.

Landed Estate in the Nineteenth Century: its Administration.[517] For a contemporary overview of the evolution of the legislation and its attendant administration, there is an article by Denton in the *JRASE* in 1868, and detailed information on the working of the various schemes is contained in the *Report from the Select Committee of the House of Lords on the Improvement of Land*, (1873).[518] An outline of the workings of strict settlement and an explanation of the legal terms used in relation to this can be found in Barbara English and John Saville, *Strict Settlement: a guide for historians.*[519]

Agricultural improvement loans were initially made available to enable tenants for life of settled estates, whose ownership was limited by the terms of a trust set up to ensure the estate would be passed on intact and in good condition to future generations, to release capital to improve their estates. Later legislation allowed absolute owners to borrow as well.[520] Because of the need to protect the reversionary interests of the future tenants for life (tenants in tail) of entailed estates, the process came to be overseen by the Board of Inclosure Commissioners, early experience of using the Court of Chancery to oversee loan activity having proved too slow and cumbersome. There were three members of the Board and among them the Commissioners sought to represent a full working knowledge of agriculture and the law. Accordingly the Board comprised barristers and agriculturalists. The most noteworthy practical agriculturalist to serve as a Commissioner was James Caird, appointed in 1865. The Inclosure Commissioners employed leading land agents to act as their inspectors in the field, men like James Fair, H. W. Keary, J. C. Morton and Andrew Thompson.[521]

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[517] David Spring, The English Landed Estate in the Nineteenth Century: its Administration, (Baltimore, 1963) pp.135-177.
[518] J. Bailey Denton, 'On Land Drainage and Improvement by Loans from Government or Public Companies', JRASE, 2nd ser. 4 (1868) 123-143; Report from the Select Committee of the House of Lords on the Improvement of Land, BPP, C. 326, XVI (1873).
[519] Barbara English and John Saville, Strict Settlement: a guide for historians, (Hull, 1983).
[520] Public Money Drainage Act, 1846 (9 & 10 Vict. c. 101); Private Money Drainage Act, 1849 (12 & 13 Vict. c. 100); Public Money Drainage Act, 1850 (13 & 14 Vict. c. 31); Improvement of Land Act, 1864 (27 & 28 Vict. c.114); Settled Land Act 1882 (45 & 46 Vict. c. 38).
[521] Spring, The English Landed Estate, (1963) pp. 161, 165.

When a landowner applied to the Inclosure Commissioners to sanction a loan for farm building purposes, their appointed inspector would make three visits to the holding on which the building work was to be undertaken. The works would always be extensions or alterations to existing buildings or entirely new construction; repairs and maintenance were not financed by improvement loans. The first visit was for the inspector to discuss the proposals and plans in the initial application which had been submitted to the Commissioners, with the agent and possibly the landowner himself. The purpose of the visit was to establish that the proposed improvements were appropriate, necessary and would increase the productivity of the holding. As guardians of the interests of the tenants in tail on settled estates, the Commissioners would want to be assured that the value of the buildings to the estate would justify the amount expended in borrowing and that they would be permanent enough to outlast the period of repayment. Assuming the inspector gave his approval, the Commissioners would issue a Provisional Order which enabled the landowner to obtain credit and put the works in hand.

A second visit would take place when the buildings were in skeleton to check that the work was being executed to the required standard, using approved materials. A printed leaflet issued by the Lands Improvement Company, detailing such requirements as depth of footings, dimensions of timber for various parts of the roof and weights of lead to be used for different gutters, is extant among Henry Chaplin's papers in Lincolnshire Archives.[522] Again the purpose of this was to protect the interests of the tenants in tail by ensuring that the construction was sound and durable. This led to a certain uniformity which enables the practised eye to identify in the field buildings erected with loan capital.

A third and final visit would be made when the building work was finished and, upon the recommendation of the inspector that the work was satisfactorily completed, the

[522] LA BS13/1/5/13.

Inclosure Commissioners would issue the Absolute Order. This allowed the loan capital to be released and provided for both capital and interest to be repaid over a number of years, in a rent charge laid on the lands improved. The term was typically 25 years, but in some cases as few as 12 years or as many as 40 years. The great value of the records of Absolute Orders is that they give an exact date by which buildings were in existence, a fact which is otherwise, in many cases, very difficult to ascertain.

The documentation surviving from this process is principally the deposit in NA MAF66, containing the records of loans sanctioned, absolute orders and the companies and individuals to whom the loan companies assigned the debt and to whom the rent charge was paid.[523] The other source of information about landowners' borrowing activity is an extant volume of reports by the inspector, Andrew Thompson, at Keele.[524] There were three companies through whom loans were taken out by Lincolnshire landowners who sought loan capital for the improvement of their estates. These were the General Land Drainage Company, incorporated in 1849, the Lands Improvement Company, incorporated in 1853, and The Land Loan and Enfranchisement Company, incorporated in 1860.[525] There were other companies like the West of England and South Wales Land Drainage Company and Scottish Drainage and Improvement Company, which lent money to landowners in other parts of the country and some owners were able to borrow under the terms of Public and Private Money Drainage Acts, 1846-50, the Improvement of Land Act, 1864, and the Limited Owners Residences Act, 1870.[526]

The spatial adoption of farm building in England, 1850-1900, was studied by Phillips in his 1980-83 SSRC research project which was based on evidence contained in NA

[523] Registers of Loans Sanctioned, Absolute Orders, Assignments and Rent Charges and Works Executed, NA MAF66/1-6, NA MAF66/8-13, NA MAF66/15-24, NA MAF66/27, NA MAF66/33, NA MAF66/36, NA MAF66/38-9, NA MAF66/41, NA MAF66/43-8; Minutes of Lands Improvement Company Directors' Meetings 1860-3, NA MAF66/59.
[524] Reports of Andrew Thompson to the Inclosure Commissioners, 1857-69, KU S3182-6.
[525] 12 & 13 Vict. c.91; 16 & 17 Vict. c.154; 18 & 19 Vict. c.84; 22 & 23 Vict. c.82; 26 & 27 Vict. c.140; 23 & 24 Vict. c.169 and 194.
[526] 9 & 10 Vict. c. 101; 12 & 13 Vict. c. 100;13 & 14 Vict. c. 31; 27 & 28 Vict. c.114; 33 & 34 Vict. c.56; 34 & 35 Vict. c.84.

MAF66. His aim was to construct an index of farm building activity in the second half of the nineteenth century. More detailed investigation of farm building provision in three counties, based on available estate papers, was planned but the *End of Grant Report* records that only two estates in Northamptonshire had been examined by the end of the period of funding and that Phillips was intending to continue and complete the task at a later date.[527] The principal difference between Phillips' work and the present study is that, for the present study, the evidence has been used to identify all improvements undertaken by Lincolnshire landowners and not solely those which included farm buildings. This enabled farm building activity to be seen in the context of overall estate improvement. The present study also differs from that of Phillips in that it extends its terminal date to 1909 whereas Phillips analysed his material in five year periods from 1850-1899.

NA MAF66 contains details of over 15,000 loans for the period 1855-1910.[528] Transcription of the details of all 675 loans taken out for all types of agricultural improvement in Lincolnshire up to the 31st December, 1909, revealed that from the first loan taken out in March 1855 to the end of 1909, £523,311-1s-11d (£523,311.10) was borrowed for improvements in the county. Given that the current study included an extra 10 years and all types of agricultural improvement loans rather than limiting itself to those which involved farm buildings plus those for draining, as Philips did, the total of £523,311 is of similar order to Phillips' total of £468,768 for the county.[529]

The current study found that two thirds (66.52%) of all Lincolnshire improvement loans were for schemes which included farm building work. Between 1855 and 1910, an

[527] Phillips, SSRC Report HR7263, 'The spatial adoption', (1983) p. 12.
[528] Dr Phillips generously supplied copies of all the transcriptions for Lincolnshire made by his research assistant in the course of the SSRC project. However, the decision was made to revisit the material and transcribe it again including more detail. This was possible for just one county as opposed to the whole of England. The undertaking also helped to develop a greater understanding of the workings of the loan process and the significance of the information collected.
[529] Unpublished county summary sheet and comments on Lincolnshire from SSRC project supplied by Dr Phillips.

estimated £316,831-17s-9d (£316,831.89) was borrowed in 449 loans taken out for farm buildings, including farmhouses and labourers' cottages. The nature of the record meant that whilst a definite figure could be ascertained for loans which were for the purpose of farm buildings alone, in the case of loans for farm buildings and other purposes it was necessary to estimate, because the amounts spent on different aspects of the scheme were not distinguished. In the case of loans for farm buildings and other purposes, Phillips estimated in his calculations for the whole of England that 50% of the amount borrowed was expended on farm buildings. The greater detail of the Lincolnshire transcriptions revealed that, in the case of 21 of the loans, the amount spent on different purposes was identified. From this detail it could be seen that, of the total of £49,952 invested in all types of agricultural improvement under these 21 loans, £19,963 (40%) was invested in farm building work. It was therefore decided to calculate amounts spent on farm buildings in Lincolnshire on the basis of 40% farm buildings and 60% other purposes, where schemes were for farm buildings and other purposes.

Other refinements of the raw data were made in the case of the loans which were taken out for more than one county. These were on the estates of great landowners such as the Duke of Rutland at Belvoir, the Hon. Charles Henry Cust of Arthingworth, Northamptonshire, and the Marquis of Exeter at Burghley, also in Northamptonshire, who applied for loans for groups of parishes on their estates, some of which, but not all, were in Lincolnshire. In these instances the proportion of the amount borrowed for Lincolnshire was estimated on the basis of the proportion of the total number of parishes which were Lincolnshire ones. For example, on 9th April, 1884, an Absolute Order was granted to the the Right Hon. and Venerable Frederick, Lord Saye and Sele, for farm building works in the parishes of Farcet, Holme and Yaxley in Huntingdonshire and Pinchbeck in Lincolnshire.[530] Only 25% of the parishes were Lincolnshire ones, therefore the amount estimated for farm building work in Lincolnshire under this loan

[530] NA MAF66/37/195.

was 25% of the total amount borrowed. This estimation was chosen, rather than omitting all 42 loans which were for more than one county, because the great landowners with land in more than one county represented a particular social group within Lincolnshire.

The NA MAF66 data allowed Lincolnshire loan activity to be considered at two levels: the individual, in terms of a case study of the Turnor estate, and the general, in terms of the experience of all the Lincolnshire landowners represented in the sample. Both these levels of experience could then be compared with Phillips' findings for the entire country. It was decided to begin with the individual case study and work out to the national picture. Turnor borrowed from the Lands Improvement Company for farm buildings and other purposes. He was the second Lincolnshire landowner to borrow from the company and, in the years 1855-1885, he took out 25 loans in all. The Absolute Order for his first loan was issued on 6th September, 1855. This was for farm buildings at Wispington, East Torrington, Horsington and Panton costing a total of £1,773-6s-4d. There were three holdings which benefitted from this first loan, including a farm at Wispington in the occupation of John Nundy which connects the loan record securely to Hill Farm, Wispington, the Turnor farmstead featured by Denton.[531]

The amount which Denton states was spent on the buildings at Hill Farm, Wispington, £1,425, raises questions about how the £1,773-6s-4d loan was apportioned amongst the three holdings. It may have been that the greater part of the sum was spent on Hill Farm, with the other two holdings enjoying only minor additions to their buildings. Another explanation might be that a proportion of the cost of buildings on each holding was covered by loan capital and the balance was made up by Turnor himself. There is evidence for him doing this in Thompson's reports, where it is recorded on more than one occasion that loan capital for various purposes was to be augmented by Turnor's

[531] NA MAF66/37/195; Denton, Farmhomesteads of England, (1864) pp. 47-9.

Table 8
Christopher Turnor's Lands Improvement Company Borrowing 1855-1885

Source: NA MAF66

Period of borrowing activity	Total number of loans	Loans for farm buildings alone	Loans for farm buildings and other purposes	Loans for purposes other than farm buildings
1855-66	5	4	0	1 (water ram)
1867-72	11	10	1 (farm buildings and water supply)	0
1873-85	9	4	1 (farm buildings and draining)	4 (3 draining, 1 draining and planting)
Total	25	18	2	5

own capital. Thompson's reports also reveal that the cost of building work was reduced by the tenant undertaking the haulage of materials at his own cost, which Denton states had taken place at Wispington.[532]

Considering the periodicity of Turnor's Lands Improvement Company loan activity (Table 8), it was found that he took out five loans in the 12 years 1855-66. There followed a period of intense activity in the six years 1867-1872, when a further 11 loans were taken out; three of them, the most in any year, in 1872. The final nine loans were taken out in the years 1873-85. Looking at the purposes for which loans were taken out by Turnor (Table 8), it was found that 18 of the 25 loans were for farm buildings alone and two more were for farm buildings and other purposes, making a total of 20 (80%) loans for farm building works. Of the five loans up to and including 1866, four were for farm buildings alone and the other was for a water ram at Wragby. All the loans in the

[532] KU S3184/191-2; KU S3184/202; KU S3186/59-60, 222; Denton, Farmhomesteads of England, (1864) p. 47.

concentrated period of investment 1867-72 were for farm buildings, with a water supply also being provided under the first loan of this period. In the final thirteen years after 1873, farm buildings continued to be the sole purpose of the first four loans up to 1879 but drainage was combined with farm buildings for the loan taken out in 1881 and the final four loans were for drainage, one of which also included planting.

The pattern which emerges clearly from Turnor's Lands Improvement Company borrowing is that, up to 1880, loans obtained were principally for farm building provision and that after this date they were, almost without exception, for draining. However, Thompson's reports revealed another source of loan capital utilised by Turnor, which was not represented in the NA MAF66 sample. This was loan capital available under the provisions of the Private Money Drainage Act. A letter of 30th May, 1863, referred to an application to borrow £5,000 under the provisions of the act for draining works on what Thompson called the 'North Lincolnshire Estate'. The letter also stated that £20,000 had already been borrowed for this purpose.[533] Subsequent letters dated 30th May, 1865, and 29th June, 1868, detail further draining works under the provisions of the same Act.

According to Thompson's reports a total of £32,858-19s-0d (£32,858.95) was spent by Turnor on draining his North Lincolnshire estates and £1,799-7s-0d (£1,799.35) on his South Lincolnshire one, before 1868.[534] This substantial investment of £34,658-6s-0d (£34,658.30) alters the picture presented by the Lands Improvement Company data in that it reveals that Turnor was improving his estates by underdraining as well as by providing farm buildings, in the period up to 1868. However, it does not alter the conclusion that, in the years immediately following this drainage activity, he concentrated on farm building works, or the finding that after 1880 his attention returned

[533] KU S3184/158.
[534] KU S3185/202; KU S3186/222.

to the need for further underdraining. A pattern of draining before providing buildings was apparent on many of the Lincolnshire estates which borrowed from land improvement loan companies.

The years 1867-72 were the period when there was the most concentrated Lands Improvement Company loan activity on the Turnor estate and this was almost exclusively for farm building improvements. Referring to Table 7 (p. 195), it can be seen that this was the period during which building work was taking place at Grange Farm, Little Ponton, Manor Farm, Kirmond le Mire, Binbrook Villa and Woodnook with the farm buildings at Binbrook Top being erected just the year before. The linking of specific sets of Turnor buildings to loan finance was problematic. The General Land Drainage Company and the Land Loan and Enfranchisement Company generally recorded the names of the occupiers of land to be improved but the Lands Improvement Company, from whom Turnor borrowed, had abandoned this practice by the mid-1860s. This meant that for the holdings which benefitted from Turnor's concentrated building campaign 1867-72 it was not possible to make direct connections between the NA MAF66 loan data and a specific farmstead.

After 1866 the Lands Improvement Company records identify parishes in which investment was made but not individual holdings. As Turnor nearly always borrowed for a whole group of parishes at a time this made the connection of particular buildings to the loan record difficult. Thompson's reports are therefore the only source which incontrovertibly linked individual steadings on the Turnor estate to improvement loan finance after 1866, and even here it was necessary to know the name of the tenant because the steadings were referred to as 'farm in the occupation of....' and not by name. From Thompson's reports it was possible to identify that the buildings at Manor Farm, Kirmond le Mire, Binbrook Top and Binbrook Villa, as well as those at Grange Farm,

Little Ponton, were erected with loan capital.

Thompson's reports on the Turnor estate only cover the years 1863-8 and the estate record of capital expenditure terminates in 1871; therefore the improvement loan data are the only source available for examining farm building activity on this important Lincolnshire estate over an extended period. Using the improvement loan data it was possible to consider the purpose of loans and amounts spent on farm buildings on the Turnor estate over more than half a century, from 1855-1909. It also enabled comparison with Phillips' findings based on the same source.

Consideration of the borrowing of Christopher Turnor alone had revealed that there was a clear distinction in the nature of his borrowing before and after 1880, suggesting that the impact of the Great Depression influenced his decisions regarding farm building investment after that date. Therefore, in the following examination of a more extended period, a distinction was made in Christopher Turnor's activities prior to and post 1880. This enabled an understanding to be gained of Turnor estate borrowing over a period which encompassed not only the optimistic years preceding the Great Depression and the years of intense hardship experienced in the last two decades of the nineteenth-century but also the tentative hopes of recovery which began in the early years of the twentieth century, before the effects of Lloyd George's land reform legislation were felt and the 1914 War altered the whole economic and political context of British agriculture.

The overall pattern of borrowing from the Lands Improvement Company for agricultural improvements on the Turnor estate 1855-1909 (Table 9) showed that farm building activity was concentrated in two periods; before 1880 and from 1907 to 1909. From 1880 to 1891 only 11 improvement loans were taken out, ten of which included drainage

Table 9
Purpose of Turnor Estate Lands Improvement Company Loans 1855-1909

Source: NA MAF66

Periods of borrowing activity	Farm buildings	Farm buildings and other	Other purposes only
Christopher Turnor 1855-79	18	1 (farm buildings and water supply)	1 (water ram)
Christopher Turnor 1880-5	0	1 (farm buildings and draining)	4 (3 draining, 1 draining and planting)
Christopher and Edmund Turnor 1886	0	1 (farm buildings and water supply)	0
Edmund Turnor 1887-1891	0	2 (farm buildings and draining)	3 (draining)
Christopher Hatton Turnor 1907-9	7	0	2 (draining)
Total loans 40	25	5	10

operations while only four included farm building works. There was no loan activity at all in the years 1892-1906. The sums involved also differed significantly from the third quarter of the nineteenth century to the early years of the twentieth century (Table 10). Christopher Turnor expended £27,766 on farm buildings from the time of his first loan in 1855 until the end of 1879. The average amount of each loan was £1,461 and, in the period of intense building activity around 1870, four loans of over £2,000 were taken out for farm building works. By way of contrast, the seven loans taken out by Christopher Hatton Turnor 1907-9 totalled only £2,004, an average of £286 per loan.

Sometimes the life-cycle circumstances of the owner affected investment. The 1894-7 Royal Commission produced tables of expenditure and outgoings on various estates

Table 10
Lands Improvement Company Loan
Expenditure on Farm Buildings on the Turnor Estate 1855-1909

Source: NA MAF66

Periods of borrowing activity	Total borrowed £	Highest amount borrowed £	Lowest amount borrowed £	Average amount borrowed £
Christopher Turnor 1855-79	27,766	2,645	640	1,461
Christopher Turnor 1880-5	514	514	514	514
Christopher Turnor and Edmund Turnor 1886	302	302	302	302
Edmund Turnor 1887-91	1,265	650	616	633
Christopher Hatton Turnor 1907-9	2,004	414	106	286
Total 1855-1909	31,851			1,062

based on responses of fifty landowners who were sent a form requesting information about investment on their estates in particular years.[535] Substantial investment on the Ancaster family estates in Lincolnshire and Rutland, as well as the Drummond Castle and Stobhall estates belonging to them in Scotland, is recorded in 1872-92.[536] There was a new tenant for life in 1871 and again in 1888. In 1892 Gilbert Henry Heathcote-Drummond Willoughby was created Earl of Ancaster. Such life-cycle events were often the stimulus for investment. As Barnwell and Giles note, 'family fortunes and personalities were probably often as important as statistics in determining whether an

[535] Royal Commission on Agriculture, 'Particulars of the Expenditures and Outgoings on Certain Estates in Great Britain and Farm Accounts', BPP, C. 8125, XVI (1896).
[536] ibid. pp. 10-11, 46-47.

estate built new farmsteads or added to existing ones, and in determining the timing of such investment'.[537]

It was wondered whether the death of Edmund Turnor in 1903 and the inheritance of Christopher Hatton Turnor, his nephew, may have been part of the reason for the resumption of borrowing on the Turnor estate in 1907. Christopher Hatton Turnor's unconventional upbringing, travelling the length of the United States of America from Canada to Florida in a covered waggon, inspired a lifelong interest and involvement in agricultural matters.[538] It was not possible to compare Christopher Hatton Turnor's borrowing 1907-9 with Phillips' findings to see whether this renewed loan activity was typical of the whole of England, because the terminal date for Phillips' study was 1900. However, it was possible to look at the temporal distribution of borrowing for Lincolnshire, calculated from the data collected for the current study, in order to answer this question and to look at how typical Turnor estate building activity was of the experience of the county as a whole.

Comparison of the pattern of expenditure on farm buildings 1855-1909, by the Turnor estate, with that of all landowners in Lincolnshire, based on the NA MAF66 sample, showed that the peak in Christopher Turnor's farm building activity 1867-72 preceded the peak period of investment in farm buildings by Lincolnshire landowners generally (Fig. 24). The modest resurgence of farm building investment by Edmund Turnor in 1887-91 was more typical of the experience of the county as a whole and Christopher Hatton Turnor's expenditure 1907-9 was a reflection of farm building investment in the county generally and not an occurrence on the Turnor estate alone, which might have been attributed to life cycle events or individual personality.

[537] Barnwell and Giles, English Farmsteads, (1997) p.154.

[538] Christopher Hatton Turnor 'Incidents', a journal covering the years 1873-1939, transcribed with comments by Herbert Broke Turnor. Private Collection; John Martin, 'Christopher Hatton Turnor (1873-1940)', in Oxford Dictionary of National Biography, Vol 55 (Oxford, 2004) 690-1.

Figure 24
Expenditure on Farm Buildings in Lincolnshire 1855-1909
Source: NA MAF66

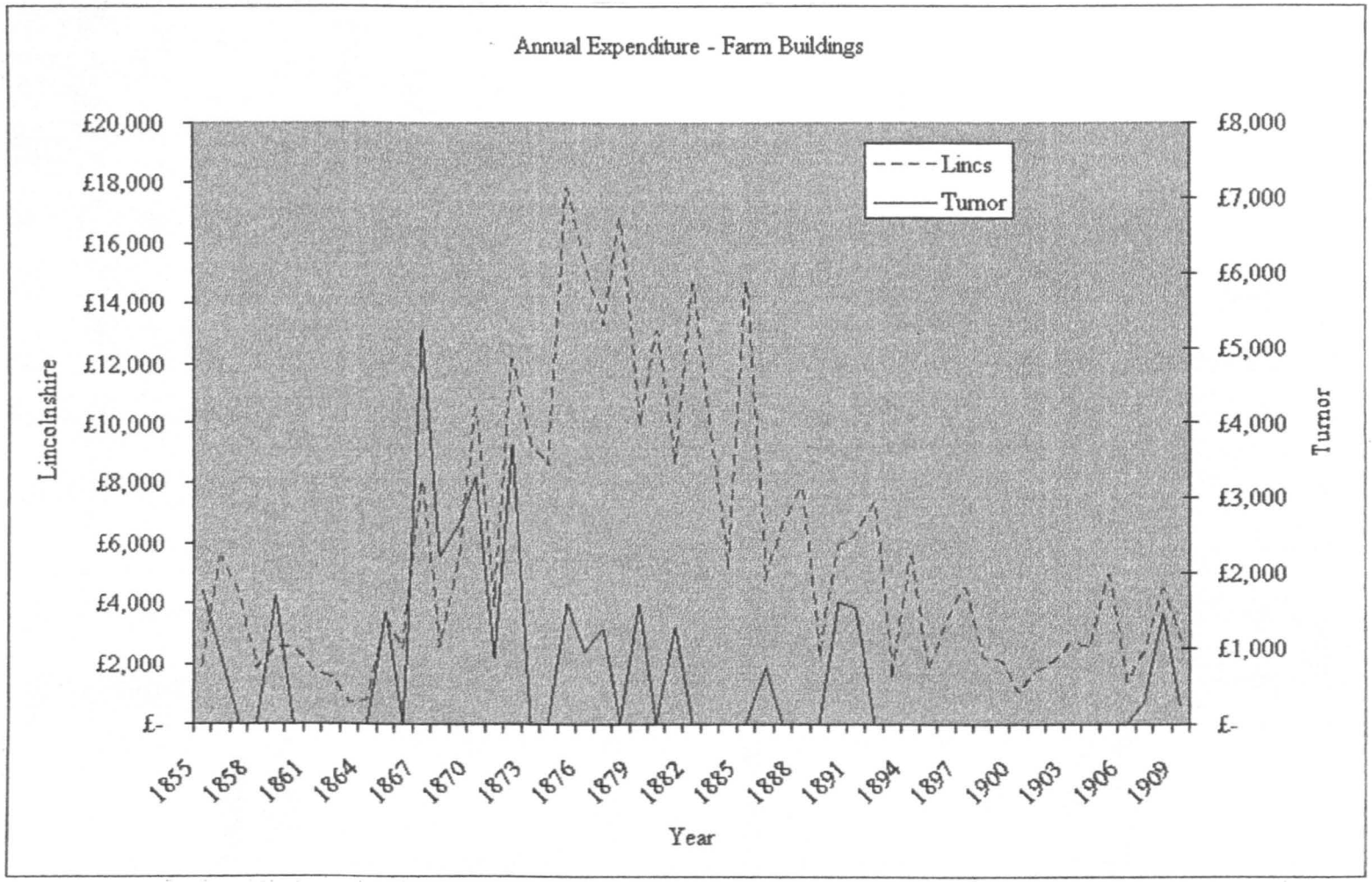
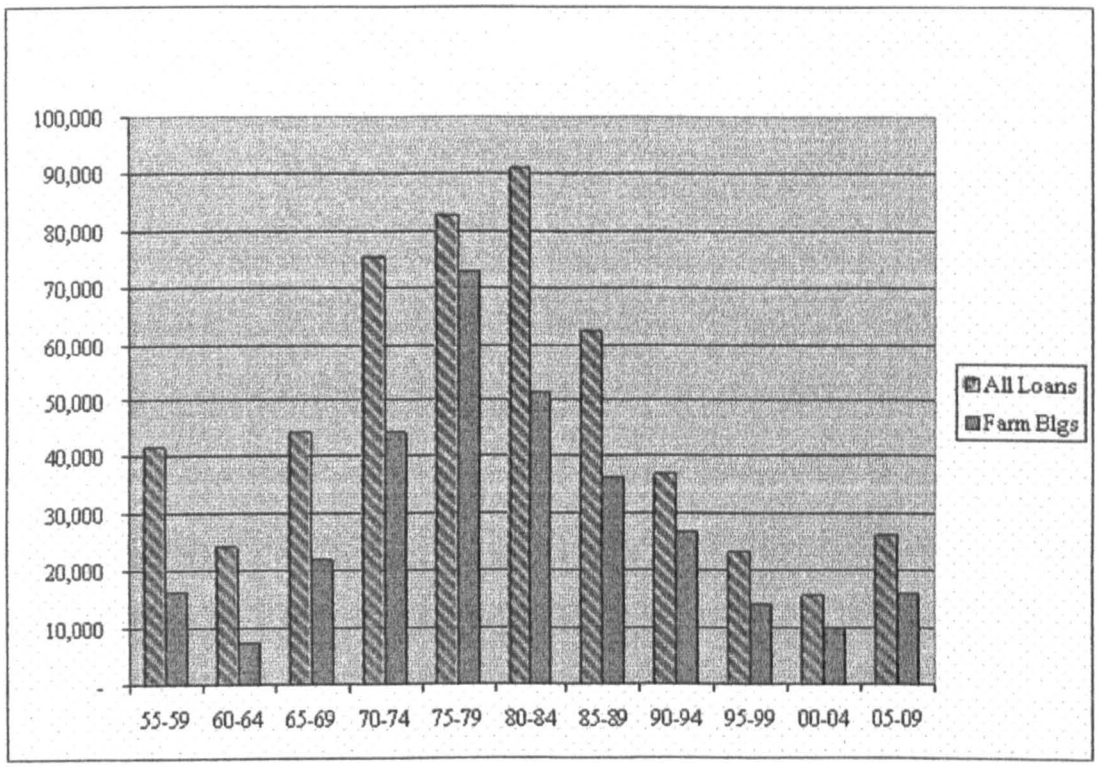
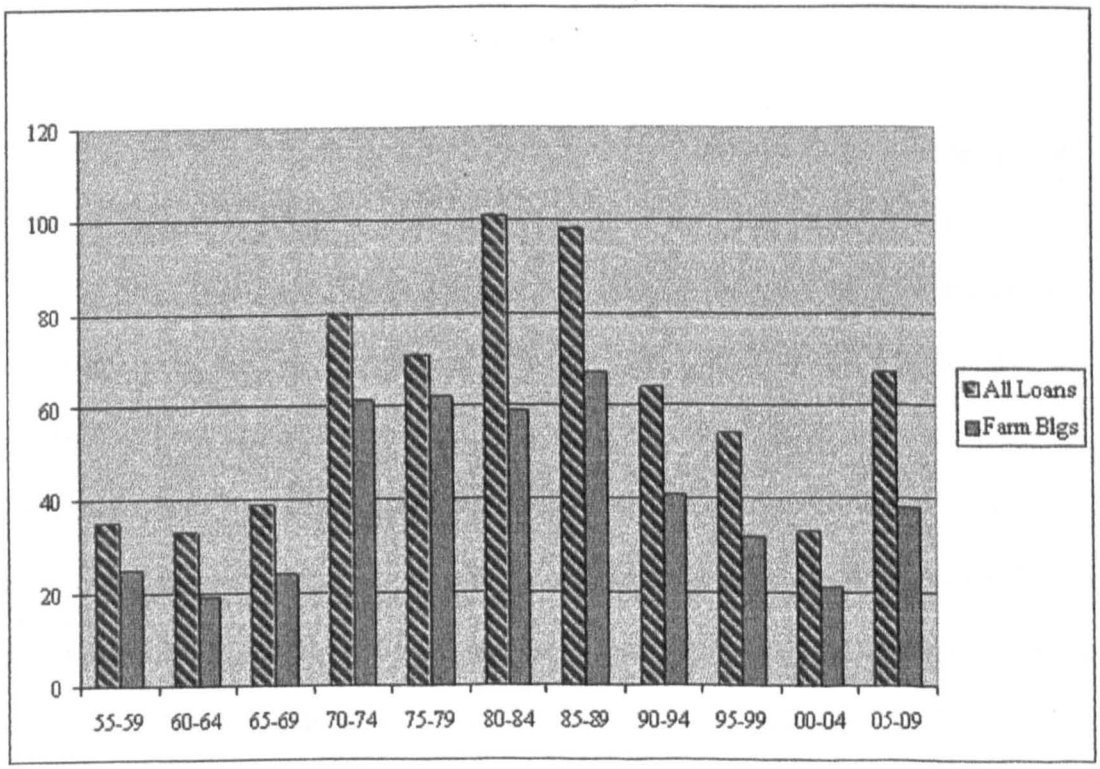


Figure 25
NA MAF66 Sample Borrowing



a) Amount spent on Farm Buildings and All Improvements in Lincolnshire 1855-1909 (£)



b) Number of Loans for Farm Buildings and All Improvements in Lincolnshire 1855-1909

Considering the amounts borrowed by Lincolnshire landowners in the NA MAF66 sample, 1855-1909 (Fig. 25a), it was found that after a slight dip following the initial period of take-up, amounts expended on farm buildings in the county increased steadily up until 1880. The period when the largest amount was borrowed was 1875-9. After this, amounts borrowed fell but not dramatically and did not drop below their 1865-9 level until 1895. When compared with amounts borrowed for all improvements it can be seen that expenditure on farm buildings' as a proportion of all loans, reached its highest in the peak farm building period, 1875-9.

In absolute terms, the amount borrowed for all improvements in Lincolnshire 1855-79 was £268,253-2s-7d (£268,253.13) and for farm buildings £162,758-2s-3d (£162,758.11). This means that in the period 1855-79, nearly two thirds (60.67%) of all loan capital in the NA MAF66 sample was invested in farm buildings. In the period 1880-1909, £255,057-19s-4d (£255,057.97) was invested in all forms of improvement and £154,073-15s-6d (154,073.78) in farm buildings, which was again nearly two thirds (60.41%).

When numbers of loans taken out by all Lincolnshire landowners represented in the NA MAF66 sample (Fig. 25b) were considered, it was found that loans were more numerous after 1880 than before. The peak period of borrowing for all purposes was 1880-4 but there was also a high level of activity 1885-9. Numbers of loans taken out for farm buildings ran high over a twenty-year period from 1870-90 and did not fall below their 1865-9 level until 1900, rising again in 1905-9. There were 191 loans (an average of 7.64 per annum) taken out by Lincolnshire landowners for farm buildings in the twenty-five years before 1880 and 258 (an average of 8.6 per annum) in the thirty years after, representing an increase of 12.57% in the number of farm buildings' loans taken out after 1880.

It is important to maintain a clear distinction between amounts expended and numbers of loans taken out because this gives an insight into the nature of borrowing for farm buildings and the changes in the pattern of this over time. We have already seen that on the Turnor estate, the number of loans taken out and the amounts borrowed before 1880 were higher than after that date but that there were periods after 1880 when the estate again engaged in farm building activity. However, after 1880 the amounts expended were much lower (Tables 9 & 10). In the county as a whole, the average amount of each loan for farm buildings before 1880 was £852-2s-8d (£852.14) and after 1880, £597-3s-8d (£597.19). The import of this is that while Turnor continued to erect farm buildings after 1880 and Lincolnshire landowners overall increased their building activity, the nature of the works changed from expensive, high farming provision, often involving complete new steadings, to much more frugal schemes involving adaptation and extension of existing arrangements.

The experience of Lincolnshire in general, and the Turnor estate in particular, was compared with Phillips' conclusions for the entire country (Fig. 26). Looking at amounts invested, not numbers of loans, Phillips found in his SSRC study that investment in farm buildings in England under the various improvement Acts rose to a sub-peak in 1869, fell back, then rose rapidly in the late 1870s to peak in 1878. Thereafter expenditure fell sharply, stabilising at a much lower level in the 1890s.[539] The findings of the current study for Lincolnshire were that the main period of investment was similar, with a significant peak in 1875-9. However, contrary to the national trend, it ran high in the preceding five years, between 1870 and 1874 and in the five years after, between 1880 and 1884.

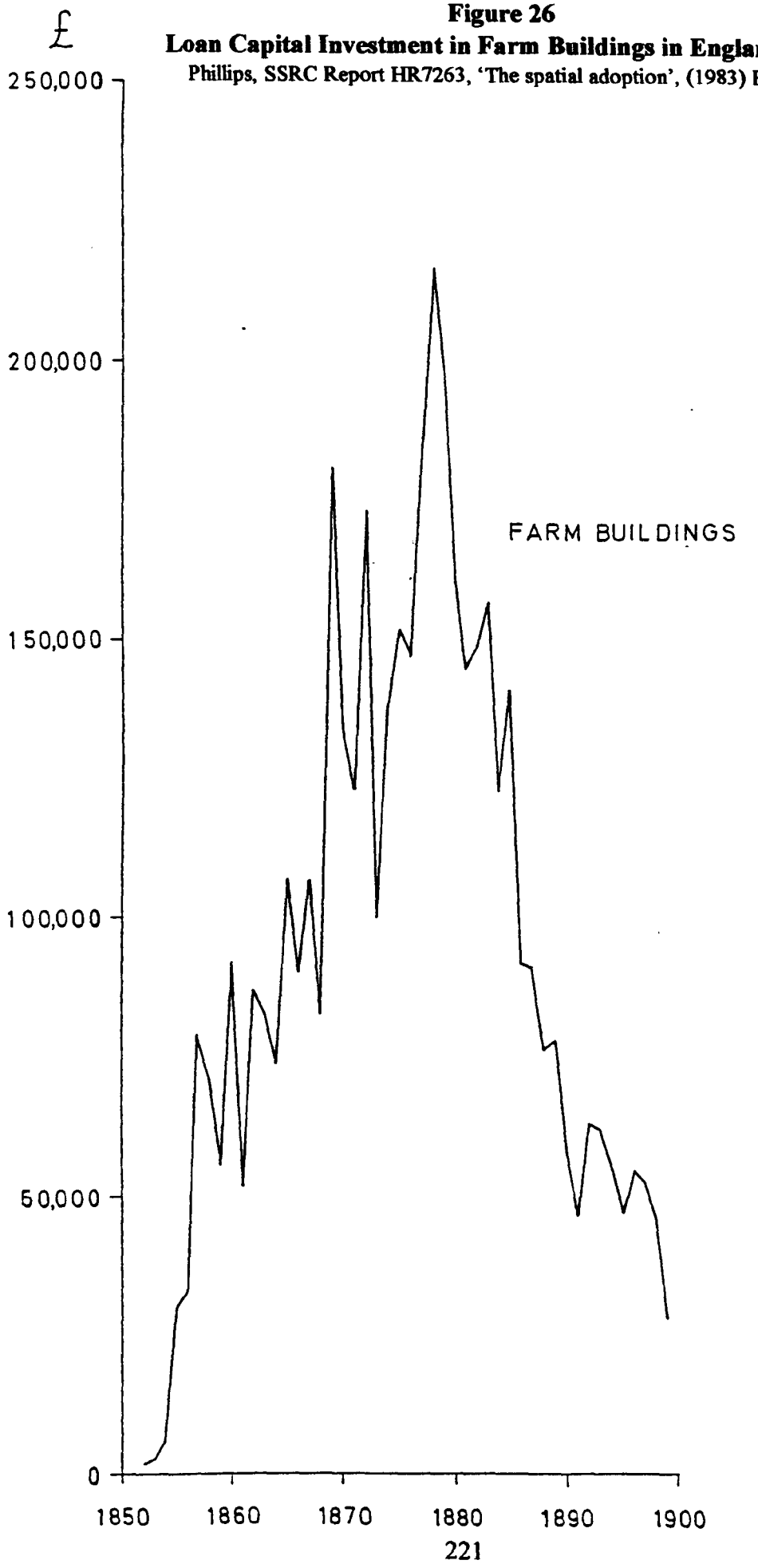
The peak period of investment on the Turnor estate was in 1867-72, at around the time of the sub-peak Phillips identified for England as a whole. In the second half of the

[539] Phillips, SSRC Report HR7263, 'The spatial adoption', (1983) p. 6.

Figure 26

Loan Capital Investment in Farm Buildings in England 1850-1900

Phillips, SSRC Report HR7263, 'The spatial adoption', (1983) Figure 1, p. 7



1870s when Phillips and the present study found that, in Lincolnshire, farm building investment was at its highest, the pace of expenditure was slackening on the Turnor estate and in the period after 1880, when Lincolnshire landowners were continuing to invest, although not at such high levels as in the previous five years, farm building on the Turnor estate had all but ceased.[540] This suggests that Turnor's farm building activity mirrored national trends rather than local ones and that, in terms of farm building in Lincolnshire, Turnor was leading the trend not reacting to it.

It is apparent from the land improvement loan data that numbers of loans taken out and amounts borrowed for farm building work changed dramatically after 1880. The impact of the Great Depression, and the possibility of investigating Lincolnshire farm building activity in depression using another source of information, will be discussed further. However, before moving on to this, it is necessary to complete the exploration of what is to be learned from the loan data about the buildings of high farming in Lincolnshire by returning to the questions of who was building, where and why. This will be done by considering the relationship between the spatial distribution of land ownership and that of loan activity, together with the identity of improvers and the incidence of connections between them.

One of the outcomes of Phillips' 1983 SSRC project was a distribution map of farm building loans for each county (Fig. 27). When his distribution map for Lincolnshire was compared with a map of the country seats of Lincolnshire gentry 1856, which also showed the boundaries of the main land types (Fig. 28), it was immediately apparent that there was a high degree of congruence in the pattern of distribution of farm building investment and gentry seats.[541] The greatest concentration of loans was in the area

[540] Unpublished county summary sheet and comments on Lincolnshire from 1983 SSRC project supplied by Dr Phillips.
[541] Phillips, unpublished report on Lincolnshire for 1983 SSRC project n.p.; Dennis Mills, 'Country Seats of the Gentry, 1856', in Stewart Bennett and Nicholas Bennett, An Historical Atlas of Lincolnshire, (Hull, 1993) pp. 106-7.

Figure 27

Distribution of Lincolnshire Farm Buildings' Loans 1850-1900

Phillips, unpublished county summary from SSRC HR7263, (1983) n.p.

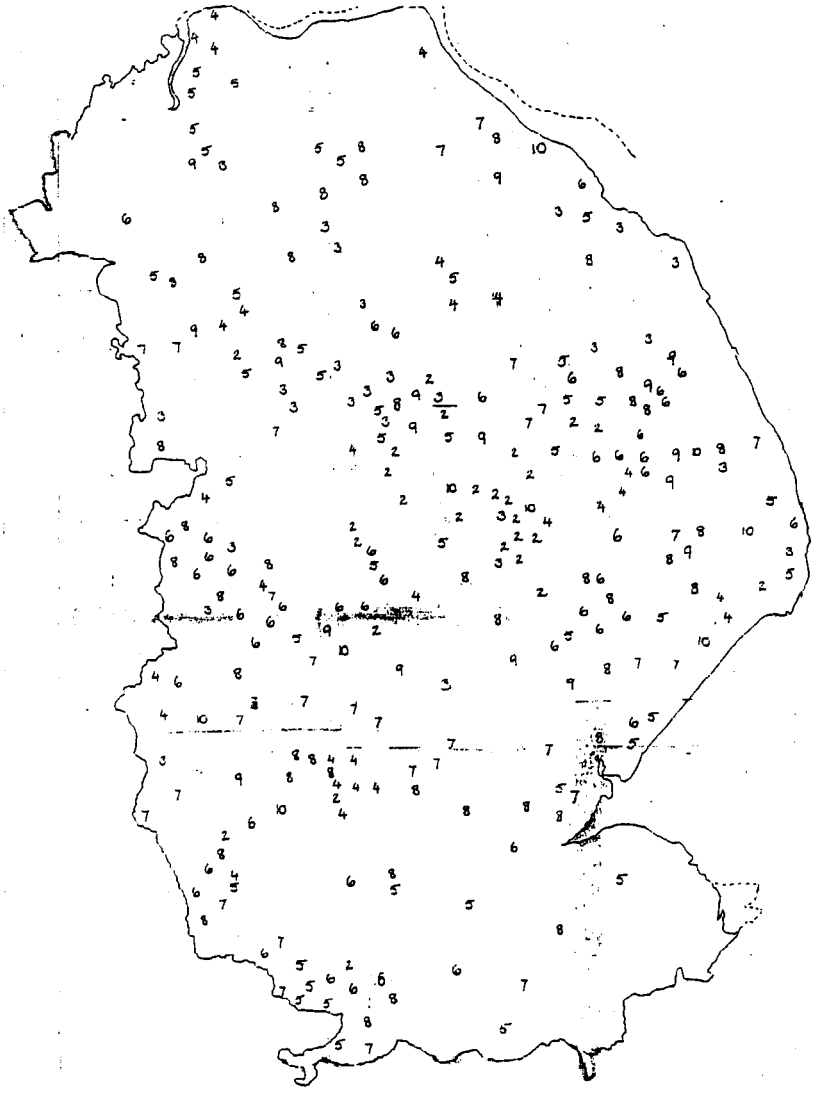


Figure 28

Country Seats of Lincolnshire Gentry 1856

Source: Mills, 'Country Seats of the Gentry, 1856', in Bennett and Bennett, Historical Atlas of Lincolnshire, (1993) pp. 106-7.

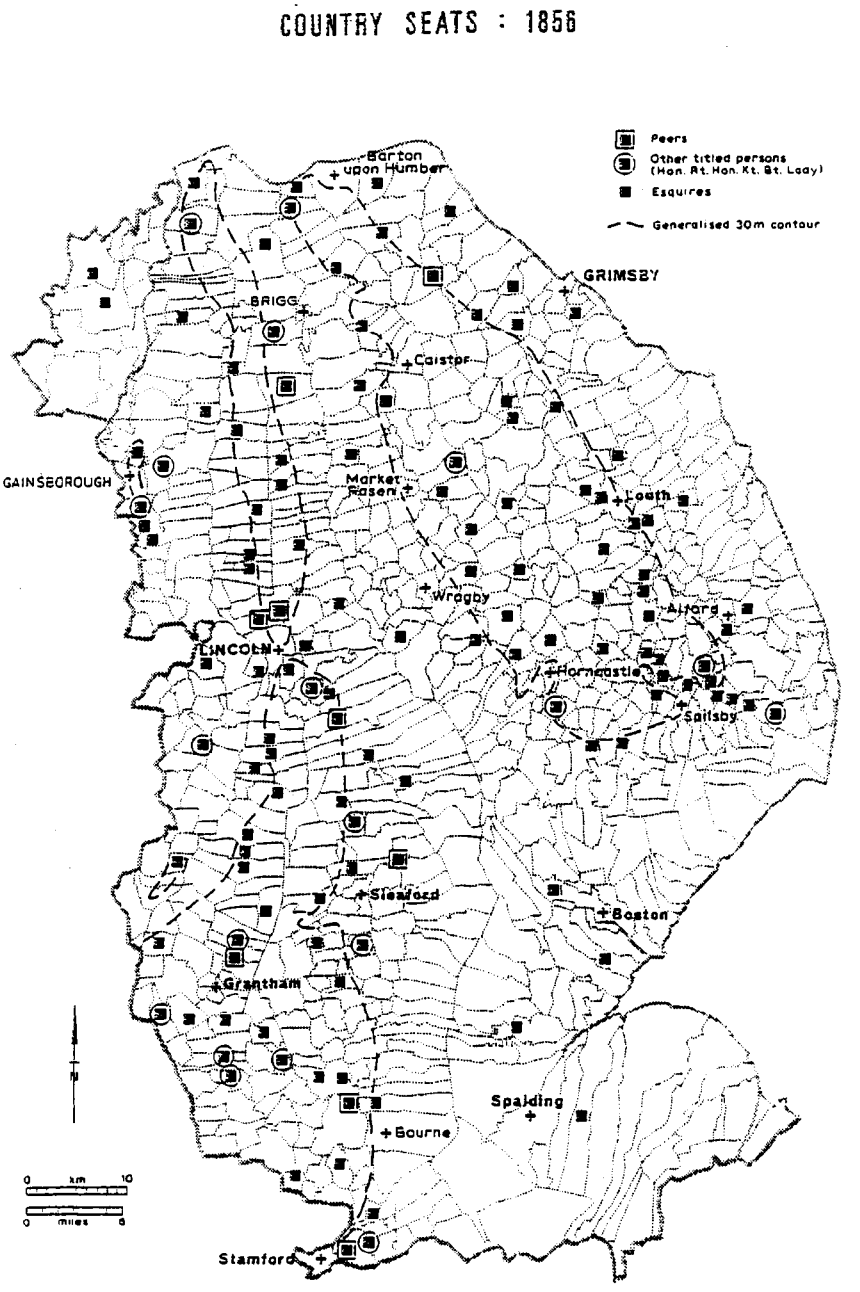
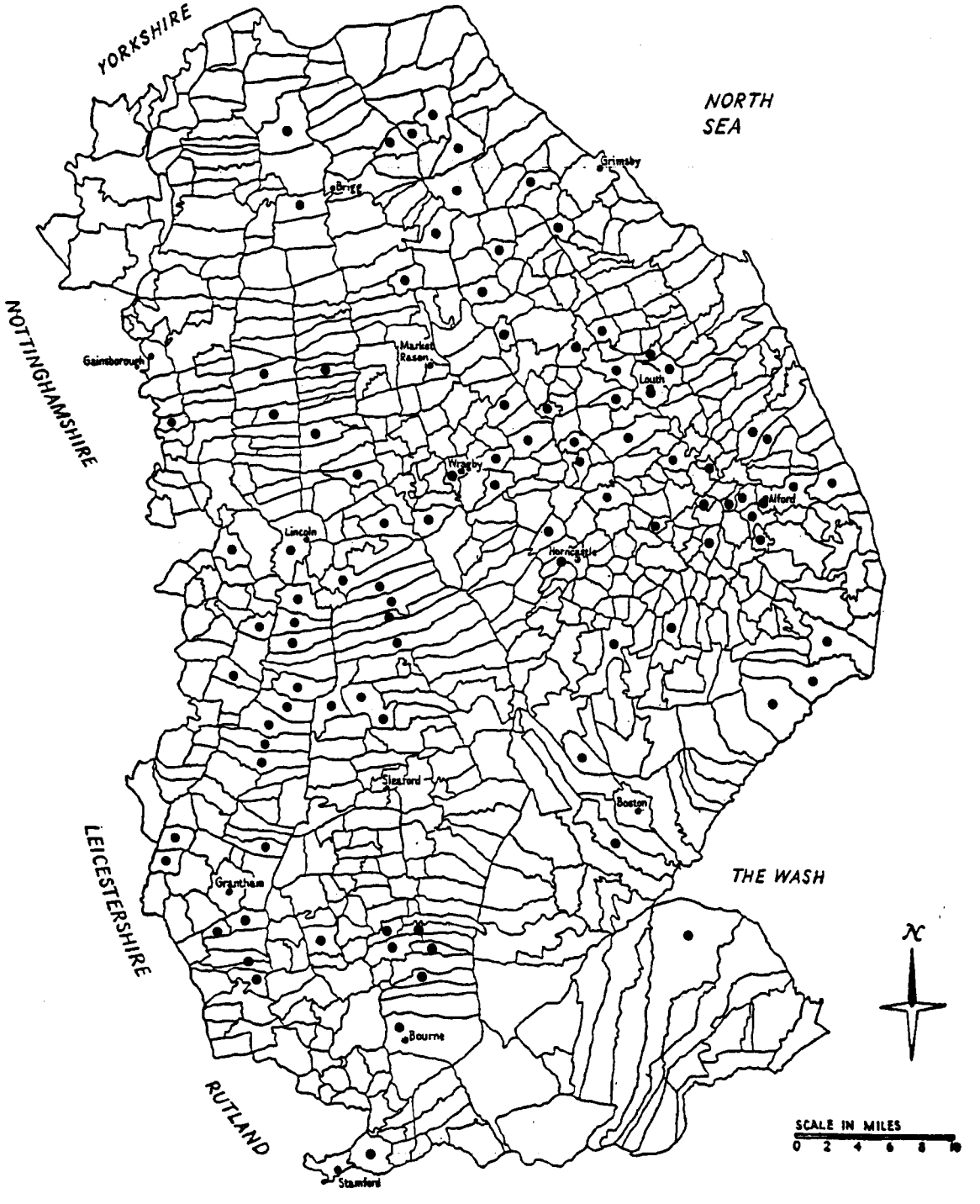


Figure 29

Parish of Residence of Lincolnshire Improvers

Source: Thirsk, English Peasant Farming, (1957) p.16; Table 4, Nominative List of Lincolnshire Improvers



around Horncastle, adjacent to the south wolds where there was a concentration of gentry seats. Both country seats and farm building loan activity were higher on the wolds and heath generally. Mills notes that sites part way up limestone escarpments were popular with landowners who looked for ' a well-drained but sheltered spot where the house could be seen .....whilst its occupants could take in the distant views downslope'.[542] These were areas which saw extensive enclosing and improvement activity in the period 1750-1850. There was also a concentration of farm building loan activity around Stamford, an area which Pevsner referred to as one of 'undulating and friendly' countryside and 'comfortable estates', reflecting the attraction for landowners of the oolitic limestone for building and the greater ease of communication with London.[543]

The areas which were subject to few farm buildings' loans were the ones where there were few gentry seats. The Isle of Axholme and the Lindsey, Kesteven and Holland fens were characterised by smaller units of landholding and higher levels of owner occupation than the uplands in the nineteenth century and this led to a low concentration of both gentry seats and farm building loans.[544] The only exception to this, in terms of farm building loan distribution, were the areas of Lindsey fenland adjacent to the south wolds, which were traditional areas of transhumance for upland parishes in the densely-populated south wolds region.[545] Therefore the incidence of farm building loan activity in this generally unfavoured area can be linked to upland estates. The marshland saw some farm building loan activity, again in areas where there were gentry seats and the clay vales were not generally favoured, although the central clay vale had a pocket of activity around Wragby. This was the heartland of Christopher Turnor's landholding in the

[542] Mills, 'Country Seats of the Gentry, in Bennett and Bennett, An Historical Atlas of Lincolnshire, (1993) p. 106.
[543] Nikolaus Pevsner and John Harris, The Buildings of England: Lincolnshire, 2nd edn. revised by Nicholas Antram (1989) p. 21.
[544] Variations in landholding and farm size in the different regions of the county are discussed in detail in the next chapter.
[545] Thirsk, English Peasant Farming, (1957) pp.80-82.

north of the county and so the proliferation of loan activity in the area can again be explained by the presence of a landowner who was active in securing loan capital for farm buildings.

The connection between gentry presence and farm building loan activity showed clearly that caution must be exercised in drawing conclusions about a direct relationship between farm buildings and land type, from the distribution of loan activity. What is being demonstrated in farm building loan distribution is the influence of land type on gentry residence, not its direct influence on farm building provision. The areas in which the people who took out loans resided can be identified more securely than can a causal relationship between the needs of agriculture on a particular land type and farm building provision, from loan company evidence.

That this is the case was confirmed by a comparison of the distribution of parishes of residence of the 101 people and families identified on the nominative list of Lincolnshire improvers (Fig. 29), with Phillips' distribution map of parishes in which farm building loan capital was applied (Fig. 27). Comparing closely with Phillips' findings, the distribution of Lincolnshire improvers, like the distribution of gentry seats, showed a decided concentration on the uplands of the wolds and heath with only isolated instances in fen and marshland areas. Again, any instances of residence of improvers in the marsh and fen were predominantly in areas adjacent to densely settled upland regions. The concentration of farm building investment in these regions, according to Phillips' distribution map, again suggests that personal factors had a strong influence on farm building provision.

Given the importance of personal factors as well as ecological ones, it is to further consideration of who was borrowing and when that we now turn. Barnwell took

Lincolnshire as the case study in his paper considering the value of farm buildings as evidence for social and economic history. Lincolnshire evidence prompted his hypothesis that small landowners were more likely to invest in major improvements in periods of prosperity, whereas large landowners were able, as a result of their more diverse incomes, to invest when times were hard. He suggested that there was less incentive for large landowners to invest in prosperous times when rents were high, but in lean times it could help to maintain their incomes.[546] It was not possible to test this hypothesis fully from the land improvement loan data because they principally concern large landowners and not smaller owner occupiers. Phillips estimated that the loan data related to around 10% of estates over 100 acres.[547] However, a comparison of the names of the largest landowners in Lincolnshire (those, excluding the Crown, with estates over 10,000 acres in the 1873 Return of Owners of Land), with the names of those who borrowed for farm building improvements, revealed that six out of 18 (33%) borrowed for farm building improvements and that 28% borrowed before 1880. Two of those who began borrowing for farm buildings before 1880 were Chaplin and Turnor, the third and fourth largest landowners in the county who, together with the Hon. Charles Henry Cust who began borrowing in 1861, all had incomes of over £20,000. This shows clearly that, contrary to Barnwell's suggestion, some large landowners with high annual incomes did choose to invest in farm buildings on their estates in prosperous times.

It was not possible to establish frequent connections between the nominative list of Lincolnshire improvers (Table 4 (pp. 66-74)) and those who took out improvement loans because many of the 'improvers' were tenant farmers rather than landowners. However, of the 'Great Landowners' whose names appear in the list, Chaplin, the Marquis of Exeter, the Duke of Rutland, Christopher and Edmund Turnor and the Cholmeley, Nisbet Hamilton and Skipworth families, all borrowed for farm building

[546] Barnwell, 'An Extra Dimension', Ag.HR (1998) pp. 43-44.
[547] Phillips, SSRC Report HR7263, 'The spatial adoption', (1983) p. 1.

improvements.[548] Lord Brownlow, Lord Kesteven and Lord Yarborough did not and Lucy Constance, widow of J. Banks Stanhope of Revesby, borrowed only for draining and not farm buildings. Robert Wyles, who was a member of the Council of the LAS, was the tenant of Grange Farm, Little Ponton for which Turnor provided a new Macvicar plan farmstead in 1866, with improvement loan capital.

The land improvement loan records revealed connections between borrowers and suggested that landowners were influenced by the activity of their neighbours. At Leake in the Holland fenland, William Sills Esq. borrowed £547 for draining in December 1881. In May 1883, the trustees of Hunstone's Charity also borrowed for draining in Leake and in July 1884, they took out a second loan for this purpose and a further one in June 1885, for roads. In September 1884, the Rev. Henry Sharp Disbrow, Rector of nearby Benington, who was one of the trustees of Hunstone's Charity, took out a loan of £415 for farm buildings and roads on his glebe at Leake and Benington.[549] In April 1875, the Rev. William Drake, incumbent of Sedgebrook near Grantham, borrowed for farm buildings on his glebe at East Allington and at the same time the Rev. Evelyn Joseph Hone, the Rector of Allington, borrowed for farm buildings on his glebe at West Allington.[550] The Welby family were lords of the manor at Allington and J. Earle Welby of Allington Hall was a Vice President of the LAS and a member of RASE (Network of Improvers, Table 4 (pp. 66-74)). The Rev. George Earle Welby was Rector of the neighbouring parish of Barrowby and he borrowed for draining and farm buildings at Rectory Farm Barrowby, in April 1859 and farm buildings and water supply in 1884.[551]

At both Leake and Allington more than one landowner who qualified to borrow from the land improvement companies did so and at about the same time. In some instances there

[548] 'Great Landowners' were identified by John Bateman as those who owned 3,000 acres upwards and were worth £3,000 a year. Bateman, Great Landowners, 4th edn. Title page.
[549] NA MAF66/36/492; NA MAF66/36/833; NA MAF66/37/252; NA MAF66/37/405; NA MAF66/37/270.
[550] NA MAF66/35/42; NA MAF66/35/43.
[551] NA MAF66/1/39; NA MAF66/43/115; NA MAF66/37/139.

was a shared purpose in the loans. Other examples of shared purpose in borrowing were identified. At Northcotes on the Salt Marsh south of Cleethorpes, Gervaise Tottenham Waldo Sibthorp Esq., borrowed nearly £4,000 for 'embanking etc.' in February 1857 whilst at the same time the Rev. Charles Pilkington borrowed £1,500 for the same purpose. On the silt fens and salt marshes around Wainfleet, near Gibraltar Point between Skegness and Boston, Barton William Powlett Esq. took out two loans on 20th December 1871. The purpose of one was given as 'railway' and, although the purpose of the other was not given, it can be assumed it was the same as both loans were for land in Wainfleet All Saints, Wainfleet St Mary, Wainfleet St Thomas (otherwise Northolme) and Croft. The following month, January 1872, the Governors of Bethlehem Hospital also took out a loan for Wainfleet St Mary, Wainfleet All Saints, Firsby and Thorpe with the purpose 'railway'.[552] The railway works in question were the construction of the branch line of the Midland Railway from Firsby to Skegness. While this development undoubtedly benefitted Skegness and promoted its expansion as a resort, access to the main rail network of the county was also of considerable benefit to agriculture in the district.[553]

A high proportion of those who took out loans for the same parish at the same time were squire and incumbent. Joseph Livesey's loan, which was sanctioned in 1853 but not proceeded with, was for draining, inclosing and farm buildings in parishes on his estate at Great Stourton near Horncastle. These included the parish of Hemingby where the Rev. George Thackeray borrowed for draining his glebe in March 1854.[554] In August 1857, the Rev. Benjamin Jesse Wood borrowed for farm buildings and roads on his glebe at Ruckland, Farforth and Maidenwell and in October of the same year the Lord of the Manor, William Oslear Esq., also borrowed for farm buildings.[555] These examples are

[552] NA MAF66/11
[553] Stewart Bennett and Nicholas Bennett eds., An Historical Atlas of Lincolnshire, (Hull, 1993).pp.112-3; Wright, Lincolnshire Towns and Industry,(1982) p. 188.
[554] NA MAF66/1/8; NA MAF66/1/10; NA MAF66/43/10.
[555] NA MAF66/25/260; NA MAF66/25/278; White's 1856 Lincolnshire, repr. (1969) p.228.

mid-century but similar connected borrowing, involving both squire and incumbent, took place on the Blankney estate in the last decade of the nineteenth century. Here, Henry Chaplin borrowed for farm buildings in the estate parish of Metheringham in May 1894 and February 1895, while the Rector of Blankney, the Rev. John Otter Stephens, borrowed for farm buildings on his glebe in October 1894.[556]

The frequency of this occurrence raises questions about the reasons for the connected borrowing. If the parties were engaged in a particular improvement, such as the embanking at Northcotes or the railway at Wainfleet, which involved neighbouring landowners co-operating, it is not remarkable that they should all apply for improvement loan funding. However, the construction of farm buildings does not require co-operation amongst neighbouring landowners and yet, as we have seen above, there are a number of examples where landowners, principally the squire and parson, borrowed at one and the same time. The relationship between Sir Henry Dymoke and the Rev. John Dymoke, both of whom borrowed for draining and farm buildings at Haltham in December 1856, is obvious, but an explanation for the close relationship between the squire and parson in borrowing more generally must be sought.

Over and above the frequent family connections between squire and parson, an explanation for their shared interest may be found in the rise in the social position of Lincolnshire clergy in the late eighteenth and nineteenth centuries. In his study *Churches, Chapels and the Parish Communities of Lincolnshire, 1660-1900*, R. W. Ambler discusses the increase in the incomes of Lincolnshire clergy as a result of the rise in the value of tithes and glebe brought about by agricultural improvement. He also notes that some clergymen received large accessions to their benefices in the form of land granted in lieu of tithes, at enclosure. This resulted in some Lincolnshire parsons becoming important as property owners and assuming a position in society which owed

[556] NA MAF66/38/345; NA MAF66/38/444; NA MAF66/38/476.

more to their wider social role as landowners than it did to their occupation as clergymen. Nowhere is this more clearly demonstrated than in their involvement as J.P.s; by 1831, 47% of the county's active magistrates were clergymen.[557]

Clergy were members of the landowning group in the county who promoted agricultural improvement through local agricultural societies. There were 51 clergymen in the membership list of the LAS in 1871 and, of these, six were Vice Presidents. Six Lincolnshire clergymen were members of the RASE.[558] The Rev. J. Tunnard of Frampton was a Vice President of the LAS and President, in 1845, of the Boston Agricultural Society for the Promotion of Agriculture in all its Branches (Network of Improvers Table 4 (pp. 66-74)). Phillips found the number of clergy and ecclesiastical institutions who took out loans for farm buildings in Lincolnshire 1850-1900, remarkable.[559] The findings of the present study were that, of the 675 loans for all types of agricultural improvement in Lincolnshire, 1855-1909, 203 (30%) were taken out by clergy. There were 449 loans taken out for farm buildings, 1855-1909, and of these 119 (26.5%) were clergy loans. The clear picture which emerged from the land improvement loan evidence was that over a quarter of farm buildings' improvement schemes funded by loan capital were undertaken by clergy.

Although clergy were undoubtedly part of the high farming network in Lincolnshire, it would not be accurate to infer from improvement loan evidence that they were responsible for over a quarter of all farm buildings' improvements in the county in the nineteenth century. The incidence of clergy borrowing was disproportionately high as a result of circumstances peculiar to the nature of their landholding. Like tenants for life under strict settlement, they were not the outright owners of the land they held but were

[557] R. W. Ambler, Churches, Chapels and the Parish Communities of Lincolnshire, 1660-1900, (Lincoln, 2000) pp.53-5.
[558] Lincolnshire Agricultural Society Annual Report, 1871; 'Members of RASE' JRASE, 2nd ser. 9 (1873).
[559] Phillips, unpublished report on Lincolnshire for 1983 SSRC project n.p.

trustees, with a responsibility to future incumbents of the living. They had the right to draw an income from land appertaining to their benefice and to improve it to maximise that income, but they were not allowed to sell it or prejudice the interests of later incumbents by activities which were deleterious to it. Those clergy who were not members of landed families did not necessarily have access to large amounts of capital and this encouraged them to turn to land improvement loan funding to finance improvements to their benefices.

Land improvement loan companies were not the only source of capital available to Lincolnshire clergy for the improvement of their benefices. It was also open to them to borrow under the provisions for Mortgages under Gilbert's Acts which made money from Queen Anne's Bounty available to clergy for improvements to their livings. The purpose of this was to encourage clergy residence and combat the perceived evils of pluralism and non-residence of clergy in their benefices.[560] Between 1840 and 1910, 470 loans were taken out under the terms of Mortgages under Gilbert's Acts for improvements to benefices in Lincolnshire. The vast majority of these were for improvements to the parsonage house designed by leading local architects such as E. J. Willson and F. H. Goddard of Lincoln, Charles Kirk of Sleaford and James Fowler of Louth. W. A. Nicholson, who designed Chaplin's estate village of Blankney, was also engaged in such works, as was Edward Browning of Stamford who designed the Marquis of Bristol's Postland Farm, featured by Denton.[561] In some cases architects of national repute, such as S. S. Teulon, Anthony Salvin and Arthur William Blomfield, were engaged. For the rebuilding of the Deanery in Eastgate, Lincoln, in 1847, which was funded from this source, William Burn was the architect.[562] His work on this project followed closely after the completion of Christopher Turnor's mansion at Stoke Rochford and his other commissions at Rauceby and Revesby.

[560] Obelkevich, Religion and Rural Society, (1976) pp. 115-117.
[561] Denton, Farm Homesteads of England, (1864) p. 20.
[562] LA MGA 315.

Although principally involving improvements to the parsonage house, many of these schemes included 'other offices' or 'out offices'. Where specifications and plans survive it is apparent that some of these included a range of buildings which, if they were attached to a farmhouse, would be regarded as farm buildings. At Ashby cum Fenby in 1844, a new Rectory was to be built and the old house converted to provide a carriage house and stable with two stalls and a loose box at ground level and a granary with outside staircase, above. This was to form part of a courtyard around which there was also to be a cowhouse, duckhouse, cartshed, manure hole and two pigsties.[563] In 1852, at Boothby Graffoe, plans show that extensive agricultural buildings were provided. There was to be a cartshed, fowl house, boiling house, four stall cowhouse, three stall stable, two loose boxes, a saddle room with staircase, a coachhouse and two pigsties with courts, all arranged round two yards, one with a manure pit.[564] This evidence shows that not only were clergy taking an interest in agricultural matters in nineteenth-century Lincolnshire, they were also engaging in farming activities.

Clergy operated like other landowners in that they let out their glebe land as farm holdings. The records show that Mortgages under Gilbert's Acts' capital was used to equip farms on glebe land just as land improvement loan money was. Glebe Farm, Timberland, was equipped with a three-bay waggon shed and two open-fronted cattle sheds placed at right angles to a new barn, in 1874.[565] At Anderby with Cumberworth, a mortgage indenture dated 1868 records works 'enlarging and repairing an existing Labourer's dwellinghouse and rebuilding a Cottage for Labourers upon the Glebe Farm'.[566] Between 1866 and 1908, 15 labourers' cottages were built and five farmhouses. In the fifteen years from 1866 to 1880, loans were taken out for 12 sets of farm buildings and in the following 15 years, 1881-1895, there were six further farm

[563] LA MGA 288.
[564] LA MGA 348.
[565] LA MGA 594.
[566] LA MGA 347.

buildings' loans. Although this was a small sample it was interesting to note the higher level of building activity prior to 1880 and the decline thereafter, the same pattern as was observed on the Turnor estate but not in Lincolnshire generally, where the amount of farm buildings' loans but not their value, increased after 1880.

The clergy in parishes on the Turnor estate frequently borrowed for agricultural improvements. In February 1861, the Rev. Charles Terrot of Wispington borrowed from the Lands Improvement Company for farm buildings on his glebe at Wispington. In November of the same year, the Rev. Henry Brooke Boothby of Lissington borrowed for farm buildings at Glebe Farm, Lissington. The Rev. Francis H. Deane, Rector of Horsington, took out loans in July 1880 for draining and water supply and December 1881 for draining, inclosing and planting on Horsington Glebe Estate. Three loans for farm buildings were taken out in February 1875, March 1876 and December 1878, by the Rev. Cecil Edward Fisher, Rector of Stoke, for his glebe in North Stoke, South Stoke and Easton, and the Rector of Somerby, the Rev. William Nash, borrowed in April and May, 1876, for draining his glebe land in Somerby and Humby. All these loans were taken out with the Lands Improvement Company from which all the Turnor estate farm building loans were taken out.[567]

Incumbents on the Turnor estate also took out Mortgages under Gilbert's Acts for improvements to their parsonage houses and glebe. The administration of the loans allows an insight into the involvement of the landowner in the borrowing activity of the clergy on his estate. Because the incumbent might move on at any time whilst responsibility for any loan for improvements would endure until such a time as all repayments had been made, it was necessary for guarantors to be appointed. When the Rev. William Knox Marshall of Panton borrowed £250 in 1867, for 'enlarging and

[567] NA MAF66/277/257; NA MAF66/28/67; NA MAF66/36/204; NA MAF66/36/480; NA MAF66/35/18; NA MAF66/35/195; NA MAF66/35/691; NA MAF66/35/201; NA MAF66/35/225.

altering the Residence House and Offices', the Nominee (first guarantor) was Turnor's agent, J. Young Macvicar, and the second guarantor was Christopher Turnor himself.[568] A second loan in 1910, for similar purposes, was guaranteed by C. S. Orwin, then the agent of the estate, and Christopher Hatton Turnor.[569] A series of improvements at East Barkwith were undertaken by the Rector, the Rev. Joseph Haskoll, with money from both sources of loan capital. In July 1861, he borrowed from the Lands Improvement Company for draining at Glebe Farm, East Barkwith, and the following July, for draining and farm buildings. In 1864, with Macvicar as the Nominee, he borrowed under the provisions of Mortgages under Gilbert's Acts for 'enlarging the parsonage house and other necessary offices'. This loan was augmented by a second in 1866, for 'building additional offices or outbuildings and fences necessary for the occupation or protection of the Parsonage house'.[570] What is clear from the records of clergy borrowing activity is that it was often linked to borrowing by the landowner and that it was encouraged and supported by them.

The case study of the Turnor estate and the evidence contained in the land improvement loan data and the records of Mortgages under Gilbert's Acts have thrown fresh light on the questions of who was building what, where, when and why. A very important finding was the evidence of a sharp contrast between the borrowing activity of the years before 1880 and that which took place after that date. Historians make a clear distinction between the optimistic, enthusiastic farm building activity of the middle years of the nineteenth century and the depressed circumstances of the final two decades. Peters set the pattern, taking 1880 as the terminal date for his pioneering academic study of traditional farm buildings in Staffordshire.[571] When attention is turned to the final years of the century they are often depicted as a time of retrenchment and make-do-and-mend. Harvey, the founder and first Chairman of the Historic Farm Buildings Group, writing

[568] LA MGA 476.
[569] LA MGA 805.
[570] NA MAF66/28/29; NA MAF66/28/234; LA MGA 448.
[571] Peters, Development of Farm Buildings in Staffs. (1969).

about the period 1880-1939, saw it as a time when 'any general attempt at improvement had ceased and farmers were living patiently on their structural capital'.[572] Brunskill regarded the same sixty year period as one when building was at a low rate and then only of cheap materials such as steel and corrugated iron which could be adapted or abandoned as circumstances dictated.[573] In Vol. 7 of the Cambridge *Agrarian History*, Brigden identifies 1880 as the turning point, after which time 'rebuilding along high-farming lines [came] to an abrupt end'. He shares Brunskill's view that the buildings which were erected after that date can be characterised as using cheaper materials and he notes the use of concrete and timber as well as corrugated iron.[574] Barnwell and Giles, in their introductory chapter to the RCHME study of English farmsteads, put the watershed earlier, stating that in the period after 1870 'investment was not an attractive option for the landowner' and that it 'declined markedly'.[575]

Those who have studied fixed capital formation in agriculture in the nineteenth century also identify clear differences between the mid-century and the closing decades, in their consideration of farm buildings investment. In his contribution in C. H. Feinstein and S. Pollards' *Studies in Capital Formation in the United Kingdom 1750-1920*, Holderness referred to 'The major effort of reconstruction accomplished between 1750 and 1870'. His essay on 'Investment, Accumulation and Credit' in Vol. 7 of the Cambridge *Agrarian History* refers to the 'extensive, often ostentatious, sometimes reckless rebuilding of the mid-century' and the period 1890-1914 whose investment he describes as 'cautious' and 'cheese-paring'. Between these two periods he identifies a period of transition from 1874 to about 1890.[576] However in their essay on capital formation in Vol. 7 of the Cambridge *Agrarian History*, Bethanie Afton and Michael Turner question

[572] Harvey, History of Farm Buildings, (1970) p. 167.
[573] Brunskill, Traditional Farm Buildings, (1987) p. 32.
[574] R. D. Brigden, 'Farm Buildings' in E. J. T. Collins ed., The Agrarian History of England and Wales, Vol. 7 1850-1914, (Cambridge 2000) p. 502.
[575] Barnwell and Giles, English Farmsteads , (1997) p. 7.
[576] Holderness, 'Agriculture', in Feinstein and Pollard, Studies in Capital Formation, (1988) p. 16; Holderness, 'Investment, Accumulation and Credit' in Collins ed., The Agrarian History of England and Wales, (2000) p. 906.

this orthodoxy, noting that landowners, particularly owners of large estates, increased the proportion of their income spent on permanent improvements such as farm buildings in the years of depression.[577]

Buildings for cattle and dairying are identified by Lake as the object of most late nineteenth-century investment schemes and he cites the example of the impressive dairy farmsteads built for the Duke of Westminster on his Eaton Estate in Cheshire in the 1870s and 1880s.[578] In western counties expanding urban populations created a high demand for liquid milk which, unlike the grain market, was not subject to competition from abroad. The buildings utilised in dairying regimes became subject to public health regulation from 1885 onwards, and new standards in the keeping of dairy cattle, the cleanliness of vessels and the hygienic storage of raw milk prompted investment in alterations or new buildings to meet the new requirements.[579] In both her major studies of farm buildings Wade Martins stresses the impact of the conversion of arable to pasture in the later years of the nineteenth century and the increased emphasis on livestock keeping as factors which led to the provision of new buildings, or the adaptation of existing ones, for cattle accommodation in the period after 1875.[580]

Brigden, Lake and Wade Martins all cite examples of particular farms or estates such as those of the Duke of Norfolk at Arundel in Sussex, the Leveson Gower estates in Staffordshire and Shropshire, the Westminster, Crewe, Tollemache and Cholmondley estates in Cheshire and the Dysart estate in Lincolnshire where there was investment in new buildings in the latter years of the century.[581] Graham Rogers' study of Lancashire

[577] Bethanie Afton and Michael Turner, 'Capital' in Collins ed., The Agrarian History of England and Wales, (2000) p. 2025.
[578] Lake, Historic Farm Buildings, (1989) p. 133; 'Dairies, Cowsheds and Milk-shops Order of 1885', Regulations in Estate Office, Stoke.
[579] Harvey, History of Farm Buildings, (1970) pp. 172-5.
[580] Wade Martins, Historic Farm Buildings, (1991) pp.72-4; Wade Martins, English Model Farm, (2002) pp. 170-6.
[581] Brigden, Victorian Farms, (Marlborough 1986) pp. 43-45; Lake, Historic Farm Buildings, (1989) p. 133; Wade Martins, Historic Farm Buildings, (1991) pp. 73-6; Wade Martins, English Model Farm, (2002) pp. 171-5, 178-195.

landowners in the Great Depression considers *inter alia* the Cliftons, Lytham landowners who 'consistently invested 20 to 22 per cent of their gross annual income in building work'.[582] The Dysart estate excepted, these estates are predominantly in western dairying areas and scholars used to be dismissive of the idea that building took place in depression in eastern counties. For example David Grigg, in his study of South Lincolnshire, was quick to dismiss the idea that Lincolnshire landowners increased or even maintained investment in improvements on their estates in the 1880s.[583] The situation in an eastern county is examined in a recent study of responses to agricultural depression in Essex . This suggests that landowners' response to depression, in terms of buildings investment, was varied. The authors cite evidence from land improvement company loans, the 1894 report on the county to the Royal Commission and estate records which show building continuing into the 1890s. However, quoting R. J. Thompson's calculations in 1907, a source used by Grigg, they admit the possibility of it eventually having fallen away as the depression persisted.[584]

The picture that emerges from the secondary literature is one of landowners responding to the agricultural depression by retrenchment, with investment generally moving away from complete rebuilding of farmsteads to a much more piecemeal, 'make-do-and-mend' approach. Existing buildings such as corn barns, whose original use was less profitable in the face of fierce competition from abroad in the arable sector, were adapted for animal housing and intensive feeding. Open yards which had been designed principally for the collection and preservation of dung to further intensive arable regimes on light lands, were roofed over, again for more intensive livestock keeping. Writers suggest that if additional buildings were erected they would be for livestock housing or fodder. The emphasis would be on cutting labour costs and labour-saving arrangements such as

[582] G. Rogers, 'Lancashire Landowners and the Great Agricultural Depression', *Northern History*, 22 (1986) p. 259.
[583] David Grigg, The Agricultural Revolution in South Lincolnshire, (Cambridge, 1966) pp. 130-131.
[584] E. H. Hunt and S. J. Pam, 'Responding to agricultural depression, 1873-96: managerial success, entrepreneurial failure?', Ag.HR. 50 II (2002) pp. 238-9; R. J Thompson,'An enquiry into the rent of agricultural land', Journal of the Royal Statistical Society, 70 (1907) 587-625.

providing tramlines for easy distribution of fodder, or new machinery, would more frequently be the object of investment than the buildings themselves.[585]

Those steadings which were completely rebuilt were likely to be in dairying areas where there was an increasing demand for milk and dairy products from nearby towns and cities. The heaviest expenditure per cent of rent for permanent improvements recorded by the 1894-7 Royal Commission in the enquiry into *Expenditures and Outgoings on Certain Estates* was on the Eaton Estate in Cheshire, where just under 65% of rent was expended on improvements in 1892.[586] The high level of expenditure can be attributed, in part, to investment in the programme of dairy farm buildings in the 1870s and 1880s, noted by Lake.[587] However, in addition to 50 farms, the Duke of Westminster rebuilt four churches, eight parsonages, 15 schools and 300 cottages in the thirty years from 1869-99.[588] It is important to note that the Duke's income from property and mining gave him more security than was enjoyed by landowners who were reliant solely on their estates for income. This enabled him to sustain a high level of investment at a time when many were less confident to do so because of falling revenue from their landed estates.

The arrival of new landowners who had made their money in industry and were seeking the status conferred by ownership of a landed estate might also result in farm building campaigns even in the depressed times of the closing decades of the nineteenth century. In some instances the difficulties in agriculture may have stimulated the sale of estates, opening the way for these new owners who, with their capital from mining, manufacturing or trade, might erect new steadings to advertise their enlightened and

[585] Barnwell and Giles, English Farmsteads, (1997) pp. 6-7; Brigden, Victorian Farms,(1986) pp. 41-45; Brigden, 'Farm Buildings', in Cambridge Agrarian History, Vol. 7, (2000) pp. 502-4; Harvey, History of Farm Buildings, (1970) pp. 164-206; Lake, Historic Farm Buildings, (1989) p. 133-6; Wade Martins, Historic Farm Buildings, (1991) pp. 72-7; Wade Martins, English Model Farm, (2002) pp. 170-197.
[586] 'Expenditures and Outgoings on Certain Estates' (1896) p. 54.
[587] Lake, Historic Farm Buildings, (1989) p. 133
[588] Wade Martins, English Model Farm, (2002) pp. 180-2.

improving ownership. Susanna Wade Martins cites the example of the Gibbs family who used money from banking and trade to build up their estate at Tyntesfield near Bristol. They built an impressive Home Farm in the 1880s which had steam-powered feed preparation, efficient feed distribution using the slope of the land to allow delivery via chutes to iron cow stalls at a lower level, and underground manure collection, all beautifully housed in buildings with fine architectural detail.[589]

Comment on farm building activity in Lincolnshire in the closing decades of the nineteenth century is to be found in Barnwell and Giles' RCHME volume. They suggest that the experience of Lincolnshire and Northumberland, where under-performing agriculture was made profitable by major investment in the early nineteenth century, prompted landowners to turn again to investment as a means of overcoming the late-century economic difficulties. They cite several planned farmsteads recorded by the RCHME which were erected in the 1880s and after, and the majority of these are in their Lincolnshire survey area.[590] This echoes Jonathan Brown's findings in his doctoral study of Lincolnshire agriculture in the Great Depression. Brown considers that, in depression, the balance tipped in favour of the tenant rather than the landlord in the market for tenancy and, as a consequence, landowners would accede to requests for improvements in order to retain and attract tenants. Brown's evidence also points to the nature of Lincolnshire building in depression; he cites examples of tenants on the Ancaster and Heneage estates requesting new buildings or adaptations to buildings for cattle keeping and calf rearing.[591]

However, there is a danger that bias is introduced into the secondary literature on building in depression by the sources used: nineteenth century agricultural

[589] ibid. pp. 188-9.
[590] Barnwell and Giles, English Farmsteads, (1997) pp. 149-50.
[591] Barnwell, 'An Extra Dimension', Ag.HR (1998) pp. 43-44; J. H. Brown,'Agriculture in Lincolnshire During the Great Depression 1873-96', PhD thesis, University of Manchester (1978) pp. 168, 172, 227-231.

commentators frequently criticised the farm buildings stock of the day as a justification for the adoption of the new ideas they were promulgating and listed farm buildings which attract present-day attention are generally large, architect-designed examples on high-profile estates. Such estates tend to have the most accessible records and are therefore more frequently studied. This can lead to circularity of evidence with the same, small sample of prominent estates forming the evidence base of various studies. For example, the Duke of Westminster's Eaton Estate where building activity was noted by Lake, is also one of the estates whose evidence to the Royal Commission regarding expenditures and outgoings in 1896 forms the basis of the figures discussed by Afton and Turner[592]

Another problem is that the estates whose records shape our view of the period are frequently the surviving ones whose archives remain intact. Estates which have been broken up and had their archives dispersed receive less attention. For example the Chaplin estates in Lincolnshire are difficult to study because the archive is fragmented. Henry Chaplin was an important figure in nineteenth century agriculture, being the first President of the reconstituted Board of Agriculture in 1880. Some Chaplin estate papers are in his solicitors' deposit at Lincolnshire Archives whilst others are in the Northern Ireland Record Office because Chaplin's daughter married Lord Castlereagh, later the seventh Marquis of Londonderry. These are noted in the entry for Chaplin in the 2004 edition of the *Oxford Dictionary of National Biography*. However, as a result of his estates being repossessed by his creditor Lord Londesborough in 1896, some estate papers are now in the East Riding of Yorkshire Archive Office in Beverley where they remain in an uncalendared series which is not referenced in *DNB*.[593]

[592] Lake, Historic Farm Buildings, (1989) p. 133; Afton and Turner, 'Capital', in Collins ed., The Agrarian History of England and Wales, (2000) Table 43.10, p. 2037.

[593] R.J. Olney, 'Chaplin, Henry, first Viscount Chaplin (1840-1923)' in The Oxford Dictionary of National Biography, Vol. 11 (2004) p. 33; East Riding of Yorkshire Archive and Record Office, DDLO Box 17, see Peter Baumber and Dennis Mills eds., Kirkby Green and Scopwick: Historical Sketches of Two Lincolnshire Parishes, (Scopwick, 1993) p.7 for details. Chaplin estate papers, but not those held in E.Yorks, are used in Brown,'Agriculture in Lincolnshire', (1978) passim.

Official records such as the reports of Royal Commissions and the records of government loan companies examined above, provide primary evidence of farm building investment. Evidence presented to the 1894-7 Royal Commission on Agriculture is used by Feinstein and by Turner, Beckett and Afton to compile tables of estate investment in improvements, including farm buildings, in the latter years of the nineteenth century.[594] These official records are attractive sources because they provide a body of quantifiable data. However, both the Royal Commission and the land improvement companies' records are biased towards large estates. Phillips, in his paper at the 1995 British Agricultural History Society Winter Conference, noted that few estates under 1,000 acres borrowed from the land improvement companies.[595] Afton and Turner, in their essay on capital in Vol. 7 of the Cambridge *Agrarian History*, note the biased nature of the estate sample in the Royal Commission where the average estate size is 16,000 acres.[596] Government commissions sought evidence from the aristocracy and more important gentry because these were the people who sat in Parliament and were known to the commissioners. Mr A. Wilson Fox, the Assistant Commissioner for Lincolnshire, took evidence from large estate owners such as the Earl of Yarborough, the Earl of Ancaster and Edmund Turnor.[597] A further difficulty with Royal Commission evidence is that the purpose of the enquiry may have influenced the material collected; enquiries looking for depression would record evidence of depression.

Dated late nineteenth century buildings presenting evidence of the persistence of farm building activity in the depression years of the late nineteenth century can also distort

[594] C. H. Feinstein, 'National Statistics 1750-1920', in C. H. Feinstein and S. Pollard, Studies in Capital Formation in the United Kingdom 1750-1920, (Oxford, 1988) pp. 268-9; M. E. Turner, J. V. Beckett and B. Afton, Agricultural Rent in England, 1690 - 1914 (Cambridge 1997) p. 23, reproduced in Afton and Turner, 'Capital', in Collins, ed., The Agrarian History of England and Wales, (2000) p. 2037.

[595] A. D. M. Phillips, 'Investment in farm buildings in the second half of the nineteenth century: intentions and reality', BAHS Winter Conference, IHR London, 2nd December 1995.

[596] Afton and Turner, 'Capital', in Collins ed., The Agrarian History of England and Wales, (2000) p. 2025.

[597] Royal Commission on Agriculture, 'Report of Mr A. Wilson Fox on the County of Lincolnshire', BPP, C.7671, XVI (1895) p. 5.

the picture. At Hackthorn, on the limestone heath, a new stable range was built at South Farm (TF 002 815) on the Cracroft Amcotts estate, dated 1898 (Plate 162).[598] A large, dated steading built by the Ecclesiastical Commissioners for England in 1881 (Plates 163 & 164) is clearly visible from the road at Asgarby on the wolds (TF 334 668), and at Keelby Grange, Keelby, in the north of the county, Lord Yarborough built a substantial range of buildings (TA 149 103) dated 1887 (Plate 165).[599] The Ecclesiastical Commissioners' farm was a complete steading not an adaptation or extension of existing buildings for housing cattle. All are well-constructed and not make-do-and-mend timber and corrugated iron structures. However, the evidence of extant buildings with date stones is not representative. Observation suggests that their incidence is higher on the estates of upper-class or upwardly-mobile landowners who favoured such ostentation. Furthermore date stones are only found on substantially-built, complete ranges of buildings as it would be impracticable and contrary to proprietorial pride in permanence, to place a date stone on an insubstantial extension.

It has been demonstrated that documentary evidence and the built evidence of dated steadings have their limitations as sources for the study of building activity in the years of depression in the last quarter of the nineteenth century. Holderness wrestled with the problem of evidence as he attempted to find a 'path through the thicket' which would enable a fuller understanding of the nature, extent and cost of landlord investment in farm buildings in the nineteenth century.[600] It was he who first suggested the possibility of estimating their numbers from analysis of Ordnance Survey maps. In his chapter on 'Investment, Accumulation and Credit' in Volume 7 of the Cambridge *Agrarian History* he refers to an attempt to calculate the size of the national farm building stock by

[598] Field visit South Farm, Hackthorn, October 2003.
[599] Field visits Keelby Grange, Keelby, April 1990 with Rex Russell and Ecclesiastical Commissioners' Farm, Asgarby, September 1998.
[600] Holderness, 'Investment, Accumulation and Credit' in Collins ed., The Agrarian History of England and Wales, (2000) pp. 893-90; Holderness, 'Agriculture', in Feinstein and Pollard, Studies in Capital Formation, (1988) pp. 11-18.

'cartographic commensuration'.[601]

The details of the exercise he undertook are indistinct. He began by suggesting totals for the farm building stock in the 1830s but failed to give details of the 'sample' on which he based his calculations. Neither did he fully identify his map source, although the date and a reference to 'early Ordnance Survey maps', implied the first edition of the Ordnance Survey. He went on to speak of comparing tenures, holdings and farmsteads in seven villages in Lincolnshire and Suffolk using estate surveys, parish returns of agricultural statistics and census data for 1881 and 1891. In conclusion, he again suggested totals for the national farm buildings stock based on map evidence, giving an imprecise reference which left doubt as to the series, date or county of the maps from which he was working. It implied that he was extrapolating the national farm buildings stock from three OS sheets relating to a single county but in the absence of more precise details the location and size of the area sampled are unclear.[602]

Notwithstanding any shortcomings in Holderness' explanation of his methodology or referencing of sources, this essay was important because it raised the possibility of using cartographic analysis in the study of nineteenth century farm buildings. Estate maps and Ordnance Survey maps of various dates are frequently used by historians to trace the evolution of individual buildings or groups of buildings and the use by Jeremy Lake, of a series of maps, to study farmstead development in Hampshire, has already been noted.[603] However, a systematic study of every farm building in a representative area, using a comparison of two editions of the Ordnance Survey to identify differences in buildings between two dates, has not been attempted.[604] An exercise based on this

[601] Holderness, 'Investment, Accumulation and Credit' in Collins ed., The Agrarian History of England and Wales, (2000) p.896.
[602] ibid. pp. 896-7.
[603] supra. Chapter 1.
[604] Conversation with Dr. Richard Oliver (University of Exeter) at a meeting of the Charles Close Society for the study of Ordnance Survey maps, Lincolnshire Archives, 14th October 2004, followed by enquiries by him amongst society members, identified no other studies of this nature.

methodology will form the substance of the final chapter.

Chapter 6

Building in Depression

The aim of the map exercise was to produce quantitative data to measure the nature and extent of building in depression in Lincolnshire, the incidence of which had been discovered from the case study of the Turnor estate and analysis of the NA MAF66 data detailed in the previous chapter. It was also intended that the extent to which the experience of Lincolnshire fitted the picture of depression building presented in the secondary literature discussed in the previous chapter, should be examined further.

Utilising the comprehensive and detailed coverage of the 1:2,500 County Series Ordnance Survey maps, the scale of which is large enough to identify and examine individual buildings, it was possible to develop a new methodology for the study of farm buildings provision in the two decades from 1885 to 1905 based on cartographic evidence.[605] For the first time, every farm building, regardless of ownership, inclusion in the documentary record or survival in the landscape, could be included in a retrospective survey and this was to be achieved by comparing farm buildings on the first and second editions of the 1:2,500 Ordnance Survey.

The mapping of Britain at a scale of 1:2,500 had begun in 1853-4 amid what has been called the 'Battle of the Scales' between those who would economise by surveying at 1:10,560 and those who thought greater detail important. The initial 1:2,500 survey, and resurveying of areas already mapped at a different scale, was complete for the whole of what were considered to be the cultivated parts of Great Britain, by 1896. The first

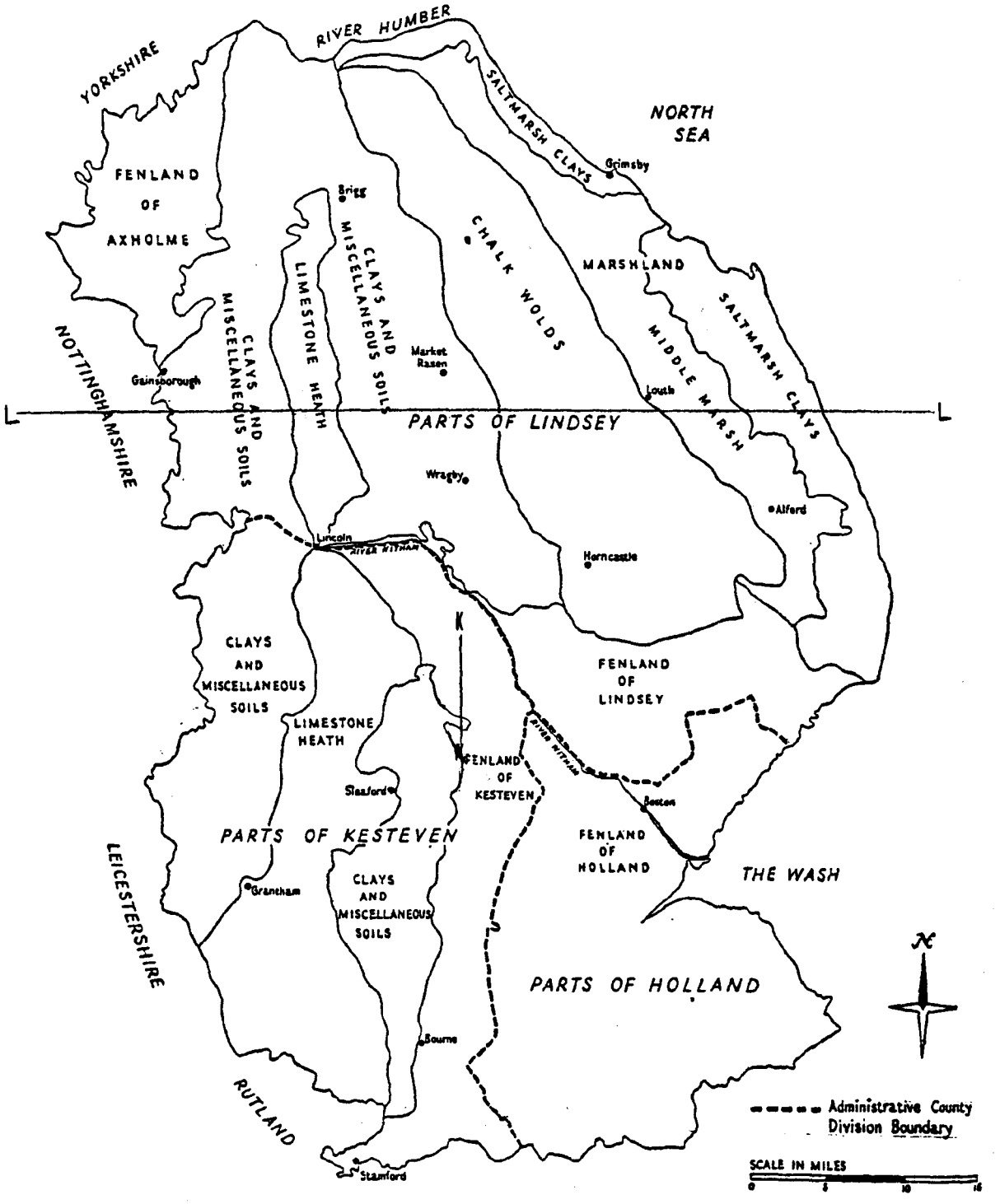
[605] Dr Richard Oliver (University of Exeter), of the Charles Close Society for the Study of Ordnance Survey Maps, observed that the proposed methodology seemed 'entirely sound', when consulted about it at the joint meeting of the society with Lincoln Record Society, Lincoln, 16th October, 2004, at which he gave a paper.

survey of Lincolnshire at this scale was undertaken 1883-8 and generally revised 1902-6 although a few areas were revised sooner, in 1898-1900.[606] On these maps buildings are shown in detail, affording the opportunity of comparing the two editions to assess the nature and amount of farm building activity in the last two decades of the nineteenth century. The hand-tinted version of the First Edition maps distinguished building materials, using carmine for brick or stone and grey for timber or iron. This allowed an insight into the substance of the building stock in the 1880s. Unfortunately the practice was not continued on the sheets of the second edition and field records which included this information were destroyed in the Second World War.

The chosen area was an east-west transect of the county across Lindsey, covered by sheets **51**, *5-8*; **52**, *5-8*; **53**, *5-8*; **54**, *5-8*; **55**, *5-8*; **56**, *5-8*; **57**, *5-8*; **58**, *5* (part sheet covering the North Sea coastline) and a north-south transect in Kesteven covered by sheet **80**, *10,14*; **88**, *2,6,10,14*; **98**, *2,6*[607] (Fig. 30). A total of 36 complete sub-sheets of the 1:2,500 County Series, often referred to as the 25 inch Ordnance Survey, was considered. As each sheet represents an area of approximately 1.5 square miles this gives a total area of approximately 54 square miles.[608] As the geology of the county runs north-south the Lindsey transect traverses clay vales, chalk and limestone uplands and marshland, three of the four main land types used by Joan Thirsk as the framework for *English Peasant Farming*, her major study of Lincolnshire agriculture from the sixteenth to the mid-twentieth century.[609] The remaining important farming area identified by Thirsk was 'fenland', which is not traversed by the Lindsey transect, but is covered by the Kesteven one. This encompasses an area of peat fen and fen-edge fluvio-glacial sands and gravels.

[606] Richard Oliver, Ordnance Survey Maps: a concise guide for historians, (1993) pp. 11-12, 21-26, 150.
[607] Each of the 1:2,500 OS sheets is divided into 16 sub-sheets. For ease of reference the sheet numbers are given in bold and the sub-sheets in italics.
[608] This is a minimum figure because at the west and east ends of the Lindsey transect additional part sub-sheets were recorded, whose area cannot be quantified easily.
[609] Thirsk, English Peasant Farming, (1957)

Figure 30
Location of Lindsey and Kesteven Transects
Adapted from Thirsk, English Peasant Farming, (1957) p.50



L——L = Lindsey Transect

K——K = Kesteven Transect

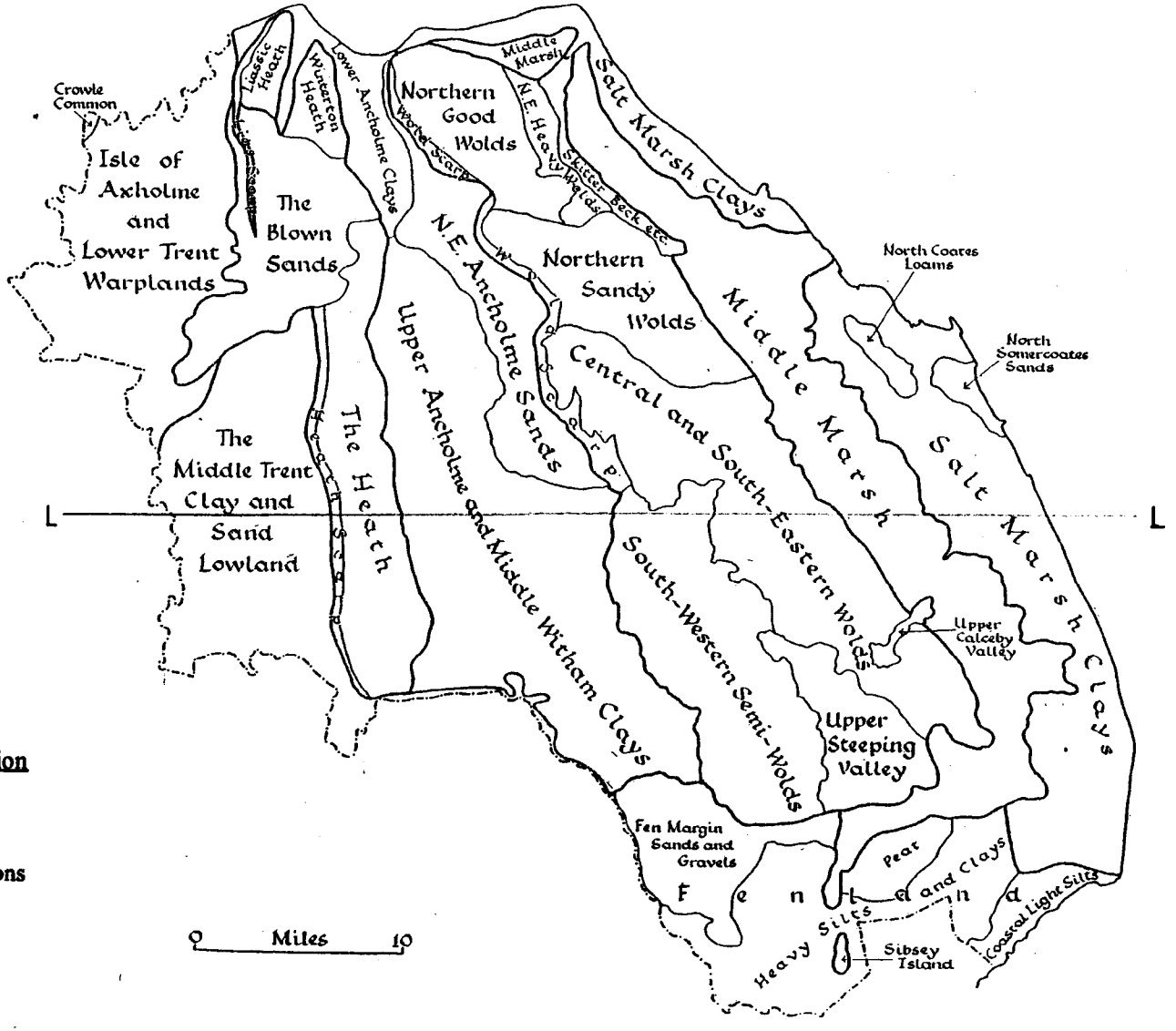


Figure 31
The Sub-Regions of Lindsey
Source: Stamp ed., Report of the Land Utilisation Survey of Britain, Parts 76-77, (1942) p. 481

Note: The sub-regions of the Kesteven transect correspond with the adaptation of Thirsk's regions in Figure 30

Table 11
The Sample Area

Each incidence of a building or group of buildings = 1FB

	Name	Land Classification	Acreage	Number of FBs in zone	Average acreage per FB
Zone 1	The Middle Trent Clay and Sand Lowlands	2A + 4G	4772	31	154
Zones 2&3	The Heath Scarp and Heath	6AG steeply sloping+2A Thin light soils. Well farmed approaching 1A	1145	7	163.57
Zone 4	Upper Ancholme and Middle Witham Clays	Mostly heavy 2A + 4G. Some ill-drained and approaching 7G	7207	47	153
Zone 5	South-Western Semi-Wolds	Mainly 2A	3034	12	253
Zone 6	Central and South-Eastern Wolds	2A + 5A	4447	15	296
Zone 7	Middle Marsh	2A + 4G	2784	25	111
Zone 8	Salt Marsh	3G + 4G	3641	35	104
Zone 9	Fen Border Region	2A + 4G	371	8	46
Zone 10	The Fens	1A	7384	108	68
Total	All zones	All land types	34785	288	121

Thirsk's four regions were amalgamations of the land-use regions of Lincolnshire distinguished by L. Dudley Stamp in the *Land Utilisation Survey of Britain.*[610] It is usual for studies of the county to adopt these broad categories of clay vale, upland, marsh and fen. However, in the case of the map exercise, it was proposed that all ten of the land-use regions identified by Stamp, which fell within the sample area , should be distinguished in the tables of data. The additional distinctions of Stamp's ten detailed land-use categories allowed sub-regional variations within the four main areas to be identified (Figs. 30 & 31; Table 11). The use of Ordnance Survey maps and the taxonomy of Stamp's reports and maps, all of which have national coverage, would also allow for the methodology of the map exercise to be applied to other parts of Britain and the findings of future exercises to be compared with those presented below.

This intention was subsequently modified because only one group of farm buildings was found in Zone 2, the Heath Scarp, which meant the results for the zone were distorted by the inadequacy of the sample. In order to produce a more satisfactory sample the findings for the Heath Scarp were combined with the adjacent Heath, producing aggregated data for the two areas. This had logic because the Heath Scarp zone has the same underlying geology and soils as the Heath and is only distinguished by Stamp as a separate land-type zone because its gradient makes it difficult to farm and therefore reduces its quality. Other zones included land of more than one quality. Furthermore, the Heath Scarp is very narrow, resulting in holdings and even individual fields, on the scarp extending onto the Heath proper.[611]

For the maps in the sample the initial survey took place 1885-8. The resurvey took place 1904-5 for all but **51**. *5* where the resurvey was undertaken 1897-9. As only three

[610] Stamp ed., Report of the Land Utilisation Survey of Britain, Part 69, (1937) pp. 9-11; Stamp ed., Report of the Land Utilisation Survey of Britain, Parts 76-77, (1942) pp. 480-489, 504-515.
[611] The Lincolnshire Archives copy of OS 1:2,500 County Series, Lincolnshire Sheet 52.6, Second Edition (1906) is one used in the 1910 Land Tax survey and has boundaries of individual holdings marked on it.

Table 12
Survey and Publication Dates of the First and Second Editions of the OS 1:2,500 County Series, Lincolnshire Sheets
Source: Dates given on the sheets themselves

Sheet number	1st Edition surveyed	1st Edition published	2nd Edition surveyed	2nd Edition published
51	1885	1886	1905	1906
52	1885	1886	1905	1906
53	1886	1887	1905	1906
54	1886	1887	1905	1906
55	1887	1888	1905	1906
56	1888*	1889	1905	1906
57	1888	1889	1905	1906
58	1888	1889	1905	1906
80	1888	1889	1904	1905
88	1888	1889	1904	1905
98	1888	1889	1904	1905

*Sheet 56 gives the initial survey as 1887 on the first edition but 1888 on the second edition. When consulted about this, Dr. R. Wheeler of the Charles Close Society for the study of the Ordnance Survey considered it probable that the initial field survey was 1887 and the inspection by the field reviser 1888.

steadings in the study, a very small proportion of the total, occurred on this map sheet it was decided to ignore this anomaly. The variation in dates for the initial survey and resurvey of areas contained in the two transects meant that the exercise recorded alterations to buildings over a period of, at most 20 years and, at least, 16 years. A table showing the dates of the initial survey and resurvey of each sheet is included (Table 12) in order that the exact *terminus a quo* and *terminus ad quem* dates for specific examples cited can be identified. Brown considered that 1885 is a significant date because he regarded this as the threshold after which farmers and landowners abandoned their hopes that the depression was temporary, as a result of poor seasons, and accepted that there were other more fundamental problems.[612] The map exercise was therefore able to measure farm building activity from the point at which the need to respond to

[612] Brown, 'Agriculture in Lincolnshire', (1978) p.191.

difficulties was actually perceived, as opposed to when we, with hindsight, consider the problems to have begun.

The County Series is not mapped on grid lines so the co-ordinates of the national grid reference, known as the NGR, for each set of buildings was calculated by placing the corresponding Ordnance Survey Landranger Series maps alongside the County Series.[613] An NGR was vital for identification of each set of buildings because farm names can be a source of confusion. The problem of farmsteads being known by different names at the same time and of names changing over time is exemplified by Robert Wheeler and Joan Mills in a short article on the reliability of farm names in the parishes of Branston, Heighington and Canwick on Bryant's 1828 map of Lincolnshire.[614] The problem is also evident in the case of many of the buildings included in the fieldwork for this study. For example the Turnor farmstead at Binbrook (TF 216 943) which is recorded as Binbrook Villa on the 1906 1:2,500 OS is now known as The Chestnuts. A change of names has taken place for both the Lincolnshire farmsteads featured in J. Bailey Denton's *Farm Homesteads of England.* Bailey Denton's 'Wispington Farm' (TF 212 706) on the Turnor Estate is now known as Hill Farm and the Marquis of Bristol's 'Postland Farm' (TF 267 107) is now St James' Lodge.[615] The situation is complicated further by the contemporary habit of referring to farms by the name of the current occupier. A letter from Duckering, Edmund Turnor's agent, to Mr Granville Ryder, Secretary of the Lands Improvement Company, notes that 'In the Schedule of land many farms have no particular name attached to them.' Duckering goes on to say that he has inserted them as far as possible.[616]

Comparison of the 1885-8 first edition of the 25" County Series Ordnance Survey with

[613] OS 1:50,000 Landranger Series, 'Lincoln and Surrounding area', Landranger 121, (1989); OS 1:50,000 Landranger Series, 'Skegness area', Landranger 122, (1990).
[614] Robert Wheeler and Joan Mills, 'On the reliability of farm names on Bryant's map of Lincolnshire', Lincolnshire Past and Present, 37 (Autumn, 1999) pp. 7-9.
[615] Denton, The Farm Homesteads of England, (1864) pp. 20-22, 47-49.
[616] Turnor Letter Book, pp. 698-9.

the 1905-6 second edition identified 288 buildings, or groups of buildings, which could safely be identified as agricultural buildings, within the west-east transect of Lindsey and the north-south transect of Kesteven. This is almost certainly an underestimation of the total agricultural buildings' stock because buildings whose use was uncertain were omitted. What can safely be said is that *at least* 288 sets of agricultural buildings were found in the sample area. 116 of these were in the fen.

Each incidence of a building or group of buildings is referred to in the study as an FB. For each FB identified, the sheet and sub-sheet reference was recorded, with the dates of the first and second edition surveys, the NGR, the parish in which the FB was located, the name, if any, given for the FB on the first and second editions, the size of the FB and the nature of any alterations and additions, together with a note of the materials of construction shown on the first edition and any other interesting features.

It would have been revealing to establish whether additional buildings shown on the second edition were for livestock accommodation but this was not possible without combining the cartographic analysis with fieldwork. However, it was considered that the results of fieldwork would be patchy owing to the loss of built evidence and therefore the integrity of the exercise as a survey of all farm buildings, rather than solely those which survive, would be compromised. For this reason the exercise did not supplement cartographic evidence with fieldwork.

Many alterations and additions may have been for livestock, especially the small additional structures in crew yards which could be bull pens, calving houses or fattening boxes. New open-fronted sheds may have been additional cattle sheds but there was the possibility that they were new implement sheds associated with the increase in mechanisation adopted by farmers to cut labour costs at a time of falling income. Owing

to the uncertainty of interpretation of the evidence, an attempt to quantify the number of alterations and additions in each zone which were for livestock purposes was abandoned. However instances of covered yards and hay barns, which are incontrovertible evidence of livestock provision, were noted

The identification of the materials of construction on the first edition using hand tinting in carmine for brick or stone and grey for timber or iron, allowed note to be taken of the incidence of less permanent timber and/or iron structures and whether these were the structures which were altered or demolished. Note was also taken of whether the FB was within the curtilage of a settlement, along a road or watercourse or out in the fields.

Consideration was given to the subject of categorising the incidences of farm buildings by size. Farmers' everyday practice was to use the number of horses required, and therefore the size of the stables, as a measure of the size of the holding. 'It was a four horse place. We never called a farm as having so many acres.....we reckoned a pair of horses for each fifty acres of ploughland, with an extra horse for odd jobs and busy times', remembered one farm labourer.[617] On the light soils of the limestone heath it was estimated that one horse was needed for every 20 acres farmed.[618] Thus Sewell's Farm, Scopwick, a sixty acre farm, was referred to as a 'three-horse farm' and had stabling for three heavy horses, whereas Scopwick House Farm, with stabling for twenty-four heavy horses, was built for a holding of 480 acres.[619] To rank farms in this way would have entailed identifying and measuring the stables on each FB, which was not a practical exercise, so this possibility was dismissed.

Builders and surveyors used square yards when estimating costs of masonry construction. Holderness admits that 'guesswork.....played a significant role' in

[617] F. Kitchen, Brother to the Ox: the Autobiography of a Farm Labourer, (1940) pp. 37-8.
[618] Peter Baumber, whose family have farmed at Scopwick since the 1920s, at the launch of Baumber and Mills, Kirkby Green and Scopwick, (Scopwick, 1993).
[619] Brook, 'Farm Buildings of North Kesteven', (1994) pp. 34, 56.

estimating the number of square yards of masonry, and thus the outlay, to provide buildings on holdings of 50, 150 and 500 acres respectively.[620] To calculate reliably the ground area of every building would have been excessively time-consuming, so a more rapid means of measuring the size of each farmstead, based on the ground area of its footprint, was devised. On the 1:2,500 maps a square inch represents approximately one acre.[621] A transparency with a one inch, half inch and quarter inch square drawn on it was placed over each FB on the map enabling the size of each FB to be broadly categorised as small, medium, large or very large. FBs occupying less than a quarter of an acre were recorded as 'small', those occupying a quarter to half an acre 'medium', half to one acre 'large' and FBs occupying an area greater than an acre were recorded as 'very large'. Barnwell and Giles note the generally compact nature of Lincolnshire steadings and incidences of scattered groups of small buildings covering a ground area larger than average for buildings of such dimensions were very few .[622] After consideration it was decided to count these isolated examples in with others occupying the same area as there was no other systematic means of categorising them.

There were other problems of classification. To begin with there was the matter of whether groups of buildings which were apparently attached to cottages or smallholdings were to be regarded as farm buildings. Such buildings were often in the occupation of people who would not return themselves as 'farmer' on the census return; some may have been labourers with a smallholding of their own, others village tradesmen or craftsmen. Men in professions such as medicine, law or the church might also farm land. As we have seen, documentation relating to mortgages under Gilbert's Acts recorded the building of parsonage houses equipped with barns, cow houses and manure pits as well as stabling and fodder housing for the cleric's pony and a trap house for his

[620] Holderness, 'Agriculture', in Feinstein and Pollard, Studies in Capital Formation, (1988) p. 14.
[621] Oliver, Ordnance Survey Maps, p. 21.
[622] Barnwell and Giles, English Farmsteads, (1997) p.156.

conveyance.[623] Holderness estimated that there were '100,000 holders of land whose occupation or social position was not that of farmer'.[624] For the purposes of the map exercise a farm building was defined as any building which could be identified as serving an agricultural purpose regardless of the occupation or status of the occupier. Therefore both smallholdings and parsonage house buildings were included if they had agricultural buildings attached.

The need for buildings to be securely identifiable as farm buildings from cartographic evidence leads on to another area where parameters had to be established. In the previous open-field cultivation of large parts of Lincolnshire the holders of parcels of land dispersed among the open fields of the parish would generally be resident in the village itself. As W. G. Hoskins noted, it was only after enclosure that it became common for steadings to be located outside the curtilage of the village and central to the newly-constituted holding.[625] This relocation was by no means immediate or inevitable and the frequent incidence of farmyards along main streets of Lincolnshire villages, for example South Carlton, Scopwick and Thurlby, is built evidence of the persistence of many farm enterprises in their previous, pre-enclosure village steading.[626]

The intermingling of steadings and other village properties caused problems when attempting to distinguish farm buildings from other buildings around yards belonging to local tradesmen and craftsmen using only map evidence. There were, however, some clues to agricultural use such as broken lines along one side of long buildings showing the open fronts of shelter sheds and cart lodges. Solid lines of walls dividing crew yards into separate sections were also useful indicators of farm premises. The more detailed mapping of features such as gates on the first edition of the OS County Series also

[623] LA MGA 247-791 and LA MGA 810-814, passim.
[624] B. A. Holderness 'The Victorian Farmer' in G. E. Mingay ed., The Victorian Countryside, Vol. 1, (1981) p. 229.
[625] W. G. Hoskins, The Making of the English Landscape, (1955) pp. 157-9.
[626] These premises are particularly susceptible to pressure for conversion to residential use and evidence of former agricultural use has to be teased out from among the accretions of domestic occupation.

assisted in identification. It was decided that only those buildings which could be securely identified as agricultural buildings on the map would be included. This means that all the buildings recorded in the exercise were farm buildings even if all farm buildings were not recorded.

The results of the exercise applying this methodology to a study of farm buildings on a range of land types across Lincolnshire allowed the fact that building took place in depression to be confirmed and the nature of farm building works undertaken in this period to be examined. Why landowners might choose to build; on what sort of land they were more likely to build; the relationship between the level of building provision and farm size; the materials of construction; the relationship between size of holdings and size of buildings and the impact on farm size of the cost of providing buildings could all be investigated.

Detailed findings of the map exercise are presented in tabular form in Tables 11 and 13-16. The principal aim of the exercise was to investigate the extent of building activity in depression. The experience of the Turnor estate and the evidence of the NA MAF66 sample both suggested that there was continued investment in farm buildings after 1880 and it was immediately apparent from the map exercise that building took place in depression across all regions of Lincolnshire. 'Improvement' was deemed to have taken place where additional buildings, perhaps including a covered yard, were constructed; where the steading was completely rebuilt or a new farmstead was provided on a new site. Table 13 shows that 53.82% of the 288 FBs identified in the map exercise were improved between 1885 and 1905 and between one and two thirds of FBs were improved in every zone.

Comparing the results for the different land types it was found that the lowest overall

Table 13
Alterations and improvements to buildings 1885-1905

Each incidence of a building or group of buildings = 1FB

Name and zone	S	AB	BR	AB + BR	CY	CY + AB	CY + AB + BR	R	NB	Dis	No. of FBs in zone	No. of FBs imp.	% of FBs imp.
Z1 Middle Trent Clay and Sand Lowlands	11	13	2	4	0	1	0	0	0	0	31	18	58.07
Z2+3 Heath Scarp and Heath	3	3	0	1	0	0	0	0	0	0	7	4	57.14
Z4 Upper Ancholme and Middle Witham	12	12	3	10	3	2	1	2	0	2	47	30	63.83
Z5 South -Western Semi-Wolds	4	4	2	2	0	0	0	0	0	0	12	6	50
Z6 Central and South -Eastern Wolds	5	2	1	4	1	0	0	0	2	0	15	9	60
Z7 Middle Marsh	12	7	2	1	0	0	0	2	1	0	25	11	44
Z8 Salt Marsh	9	14	3	9	0	0	0	0	0	0	35	23	65.71
Z9 Fen Border Region	2	1	2	2	0	0	0	0	0	1	8	3	37.5
Z10 The Fens	33	26	18	18	0	0	0	2	5	6	108	51	47.22
All zones	91	82	33	51	4	3	1	6	8	9	288	155	53.82

Nature of alterations

S buildings remain the same
AB additional buildings in group
AB+BR additional buildings and buildings removed in group
BR buildings removed in group
CY covered yard added
CY+AB covered yard and additional buildings
CY+AB+BR covered yard and additional buildings and buildings removed
R complete rebuild
NB completely new building(s) in new location
Dis building(s) on 1st ed. disappeared on 2nd

level of improvement was experienced in the fenlands, Zones 9 and 10, which had 37.5% and 47.22% respectively. This meant that under half of the FBs in the fenlands were improved. The experience of the marshes was polarised. The Middle Marsh, Zone 7, had a low level of improvement (44%) but this was balanced by the experience of the Salt Marsh, Zone 8, where 65.71% of FBs, the highest of all, were improved. In the two clay vales, Zones 1 and 4, there was a high level of improvement, 58.07% and 63.83% respectively. In the uplands over half of all FBs were improved; exactly 50% of the FBs in Semi Wolds, Zone 5, were improved, 57.14% in the combined Heath zones and in Zone 6, the Central and South-Eastern Wolds, there was a high level of improvement (60%).

The value of the map exercise in clarifying the extent to which the evidence of dated examples of farm buildings constructed in depression, such as those at Hackthorn, Keelby and Asgarby (Plates 162-165), were representative of the general nature of farm buildings' activity in this period, is also demonstrated by the results in Table 13 which shows the nature of the improvements and alterations. There were only six complete rebuilds and eight entirely new FBs in the entire sample, indicating that the dated examples of entirely new steadings or complete rebuilds, such as the Ecclesiastical Commissioners' Farm at Asgarby, are the exception rather than the rule and that additions such as the cartsheds and granary at Keelby and the stables at Hackthorn, are more typical.

The instance of one of the completely new FBs which appeared on the second edition of the 25 inch OS, on a previously unoccupied site, is certainly unusual. FB193 (TF 163 597) was an entirely new, medium-sized steading on the north side of Timberland Drove, one of the long straight roads from Timberland village out onto the fen. The name Delph Farm linked it with FB192 (TF 157 604) which was recorded as Delph Farm on

the first edition but appeared as a smaller group of buildings with no name on the second.[627] The old steading was on the south bank of Timberland Delph, a major drainage ditch which would have been navigable with a small boat; Barnwell and Giles note the continued use of Lincolnshire's drainage ditches for water transport in the 1850s.[628] The resiting of the steading beside a road instead of a waterway is built evidence of a move from water transport to road transport in this region, in the course of the nineteenth century.

Despite the extensive nineteenth century literature which assumed complete rebuilds of steadings or construction *de novo*, Barnwell considers that, 'In reality.....relatively few farmsteads were completely reconstructed at one time, most receiving piecemeal additions and alterations'.[629] Phillips found that, even in mid-century, it was by no means inevitable that landowners would apply loan capital to the erection of entire steadings. Andrew Thompson's reports to the Inclosure Commissioners on proposals for improvement loans in Staffordshire, reveal that, of the 39 farms benefiting from building investment 1858-68, fewer than half were supplied with a complete new farmstead or steading.[630]

The map exercise provided significant evidence that piecemeal alterations were the predominant type of building activity in depression in Lincolnshire. Of the 197 FBs which were altered between 1885 and 1905, only 7% were provided with entirely new buildings; the remainder experienced additions and removals. An insight into the circumstances of these additions and removals is afforded in Wilson Fox's 1896 report to the Royal Commission. This contains evidence from agents of estates across the county stating that, owing to farmers' financial difficulties, landowners were being called

[627] OS 1:2,500 County Series, Lincolnshire Sheet 88.2, First Edition (1889), Second Edition (1905).
[628] Barnwell and Giles, English Farmsteads, (1997) p. 42.
[629] Barnwell, 'An Extra Dimension', Ag.HR (1998) p. 40.
[630] Phillips, Staffordshire Reports, (1996) p. 37.

upon to do repairs which previously had been undertaken by the tenant. Furthermore, the demand for improvements and repairs had increased; 'there has been a tendency for tenants to expect and ask for more, because they require every inducement to keep their money invested in what is now an unprofitable commercial undertaking.' The agent on an estate near Gainsborough stated that 'Tenants make many more demands now for buildings and repairs'.[631]

Turnor estate correspondence shows how buildings and other improvements were used as a bargaining tool when negotiating a new tenancy. On 3rd June 1889, a man named Allbones was offered a 274 acre farm at Wragby at a rent of £205 per annum. Improvements in the form of drainage and building works were to be carried out and the cost charged to the tenant at 5% per annum. Because it was not proposed that the work should all be done at once, the interest would only accrue gradually. By June 21st Turnor was writing to Allbones again. The tenant had apparently pressed for better terms because Turnor was now planning that the underdraining should be done before the existing tenant left and the building works the following summer. Furthermore, interest on the improvements was not to be charged to the tenant for the first four years.[632]

Wilson Fox records evidence from a meeting at Boston at which it was said that 'often the worse the land the better the buildings in order to attract tenants'.[633] By considering the data on levels of improvement in different zones (Table 13) in the context of Land Utilisation Survey land classification (Table 11) it was possible to see if this was indeed the case in the areas sampled in the map exercise (Table 14). It was found that the Salt Marsh, Zone 8, which had the highest percentage of buildings improved (65.71%), had good but heavy land with a high water table and danger of flooding. The

[631] Royal Commission on Agriculture, 'Report of Mr A. Wilson Fox on the County of Lincolnshire', BPP, C. 7671, XVI (1895) p.15.
[632] Turnor Letter Book, pp. 750, 780.
[633] Royal Commission on Agriculture, 'Report of Mr A. Wilson Fox', p.15.

Table 14
Percentage of FBs Improved 1885-1905
on Different Qualities of Land.

Zone	Quality of land	% of FBs improved
1. Middle Trent Clay and Sand Lowlands	2A+4G. Good general purpose farm land but some heavy with restricted working period.	58.07
2+3. Heath Scarp + Heath	6AG+2A approaching 1A. Thin light soils. Well farmed approaching 1A but with some less productive land on a steep slope.	57.14
4. Upper Ancholme and Middle Witham Clays	Mostly heavy 2A+4G but some ill-drained and approaching 7G.	63.83
5. South-Western Semi-Wolds	Mainly 2A. Good general purpose farm land with well drained soils, workable for much of the year	50
6. Central and South-Eastern Wolds	2A+5A. Good general purpose farm land plus some downland with shallow, light soils.	60
7. Middle Marsh	2A+4G. Good general purpose farm land but some heavy with restricted working period.	44
8. Salt Marsh	3G+4G. First class land but liable to flood plus good but heavy land with working period restricted.	65.71
9. Fen Border Region	2A+4G. Good general purpose farm land but some heavy with restricted working period.	37.5
10. The Fens	1A. First class land.	47.22

central clay vale, Zone 4, which ranked second in percentage of buildings improved (63.83%), also had some very heavy wet soils and would have suffered badly in the excessively wet seasons of 1875-82. Zone 6, the Central Wolds, the zone with the third

most improved FBs (60%), was at the other end of the spectrum, having downland with shallow, light soils. The fourth most improved zone, the Heath and Heath Scarp, also had thin, light soils. These lands were vulnerable in periods of drought such as those suffered in the summers of 1892-4.

After these zones which were particularly susceptible to extremes of climate, the pattern begins to break down; the two areas which experienced least improvement to their buildings, the Middle Marsh and the Fen Border, Zones 7 and 9, had the same quality of land as the Trent clay vale, which ranked fourth and the areas which had the uniformly best land, the Semi-Wolds and the Fen, Zones 5 and 10, had a higher level of improvement than the Marsh and Fen Border where the land was poorer. It was concluded that in the more extreme cases of particularly heavy, wet or light, dry land the high level of improvement would have helped to recommend holdings which were harder and more expensive to work, to prospective tenants. However, in the more confused pattern which emerged lower down the rank order of levels of improvement, there was the possibility that other factors came into play and influenced landlord-tenant bargaining over improvements. These might include the suitability of existing buildings, changes in organisation of holdings or the nature of the regime, all of which would alter an incoming tenant's building requirements.

Brown, considering the competition to retain and attract tenants, concluded 'that tenants had most of the advantages in negotiations and that concessions came mostly from the landlord'. He cited examples of tenants on a number of estates requesting additional buildings or adaptations for use in cattle keeping.[634] With the storing and threshing of the corn crop taking place outside in the stack yard, new buildings were required principally for the housing of livestock and their fodder; these included chaff houses, root houses, cut houses, straw barns, hay barns, feeding boxes, shelter sheds and covered yards.

[634] Brown, 'Agriculture in Lincolnshire', (1978) pp. 226; 166-168.

In Lincolnshire new covered yards were not a typical feature of alterations and improvements. Although mid-nineteenth century writers advocated the construction of covered yards as an economical means of providing the increased and improved accommodation for livestock which they foresaw would be required, the map exercise found a low incidence of covered yards being added; only eight out of 288 FBs gained a covered yard between 1885 and 1905 (Table 13).[635] Barnwell notes the contemporary commentators' recognition of the hesitance of farmers in eastern England to adopt covered yards and finds the built evidence inconclusive; on the Dysart estate alone some newly-planned farmsteads of the 1880s had covered yards and some did not.[636] The absence of new covered yards in the map exercise sample overcomes the uncertainty of the physical evidence on this point and demonstrates that covered yards were not generally adopted in Lincolnshire in the 1880s and 90s.

The exception to this may have been on large estates, such as the Dysart estate, where landowners were better placed to respond to tenant pressure for improvements. In 1888 Duckering, Edmund Turnors' agent, was writing to a Birmingham firm asking the price of large-headed nails or studs and 140 feet of large iron gutter, 'the same as supplied to Mr James Martin for the Withcall estate'. He goes on to explain, 'We are about to cover a Crewyard with a light boarded Roof and the nails or studs are required for holding the boards off the supports to prevent them rotting'.[637] There are plans in the Lincoln offices of Jas. Martin and Co., dated 1890, for 'Covered Crew Yards with Open Boarded Roofs' which show the type of covered yards Martin was installing.[638] The Withcall estate belonged to Nathaniel Clayton of the Lincoln agricultural engineering firm of Clayton and Shuttleworth. Although the Great Depression may have been putting

[635] W. J. Moscrop, 'Covered Cattle Yards', JRASE, 2nd ser. 1 (1865) pp. 88-99; H. S. Thompson, 'Letter on Covered Yards', JRASE, 2nd ser. 1 (1865) pp. 222-225; Arthur Bailey Denton, 'On the Comparative Cheapness and Advantages of Iron and Wood in the Construction of Roofs for Farm-Buildings', JRASE, 2nd ser. 2 (1866) pp. 116-148.
[636] Barnwell, 'An Extra Dimension', (1998) p. 43.
[637] Turnor Estate Letter Book, p. 397.
[638] Jas. Martin and Co., 8, Bank Street, Lincoln, visited 10th January 2000.

pressure on his estate activities, his business was booming as a result of the expansion of foreign markets for Clayton and Shuttleworth steam engines and threshing machines, allowing Clayton to invest in provision for better livestock keeping on his estate.[639]

Zone 4, The Upper Ancholme and Middle Witham Clays, saw the addition of six of the eight covered yards. There were two other isolated incidences; one in the Trent clay vale and one on the wolds but none in the heath or fenland regions. A cluster of three covered yards occurred in Faldingworth; FB52 (TF 043 842), FB53 (TF 046 842), FB57 (TF 064 844).[640] These were on the Cust estate where 10 loans were taken out for farm buildings improvements between September 1861 and June 1873, suggesting that, here again, the covered yards were part of an estate improvement programme.[641] The low occurrence of covered yards in the map exercise, other than at Faldingworth, demonstrates how conclusions regarding their adoption might be distorted if one was extrapolating from their incidence on an individual estate or in a single geographical area.

A most interesting discovery was a horse engine pathway at FB25, Lowfield Farm, South Lane, Willingham by Stow, in Zone 1 (SK 898 844), shown on the first edition of the Ordnance Survey County Series but not the second.[642] The cartographic evidence for an unroofed engine comprises a broken line in a circle round a central dot.[643] This is one of a number in the area, others being found just north of Zone 1 at Lea Grange, Lea (SK 836 864), and Park Farm North, Knaith (SK 856 844).[644] A roofed horse engine house is also recorded in the area north of Zone 1 at Stephenson's Hill Farm, Knaith (SK 834 852).[645] There were horse engine pathways on three of the 288 FBs in the sample, the other two being at FB56 Sycamore House, Faldingworth (TF 064 845), in the central

[639] Wright, Lincolnshire Towns and Industry, (1982) pp.140-143.
[640] OS 1:2,500 County Series, Lincolnshire Sheet 53.6, First Edition (1887), Second Edition (1906).
[641] NA MAF66/28/47; MAF66/28/30; MAF66/29/195; MAF66/30/207; MAF66/31/86; MAF66/32/210; MAF66/32/337; MAF66/32/382; MAF66/33/204; MAF66/34/161.
[642] OS 1:2,500 County Series, Lincolnshire Sheet 51.8, First Edition (1886), Second Edition (1906).
[643] Barnwell and Giles, English Farmsteads, (1997) p. 138.
[644] OS 1:2,500 County Series, Lincolnshire Sheet 51.1, Second Edition (1906).
[645] ibid.

clay vale and FB180 an unnamed farmstead beside Martin Drove (TF 150 616) in the fens. None of the horse engine pathways in the sample which appeared on the first edition were recorded on the second. However, the persistence on the second edition of those in the parishes of Lea and Knaith adjacent to Zone 1, demonstrates that their disappearance in the map exercise sample is real and not a consequence of changes in mapping conventions.

These were interesting finds because very little built evidence of horse engines is to be found in the county. There was a horse engine house extant at Chapel Farm, Barton on Humber (TA 019 190), in 1990. This was a brick and tile structure on the external face of the barn wall. On this farm the extant evidence suggests that horse power for threshing was superseded by an oil engine for which adjoining housing was constructed and that this in turn was replaced by an electric motor housed in the same building, amounting to built evidence of developments in motive power over more than a century.[646]

Threshing machine technology was developed in the corn growing districts of Scotland in the last quarter of the eighteenth century, the most successful machine being that invented by Andrew Meikle of East Lothian in 1786, which was patented in England in 1788. The spread of threshing machines is charted by Stuart MacDonald in diffusion maps based on references to them in reports to the Board of Agriculture. These show that no examples were found in Lincolnshire at the time of the first report in c.1794 but 'several' by the time of a later report c.1808, dating the inception of machine threshing in Lincolnshire to around the beginning of the nineteenth century.[647]

[646] Brook, 'Approaches to the Study of Historic Farm Buildings ', (1990), pp. 85-8.
[647] Stuart MacDonald, 'The Progress of the Early Threshing Machine', Ag.HR. 23 (1975) p.68; see also N. E. Fox, 'The Spread of the Threshing Machine in Central and Southern England', Ag.HR. 26 (1978) 26-28 and Stuart MacDonald, 'Further Progress with the Early Threshing Machine: a Rejoinder', Ag.HR. 26 (1978) 29-32 for discussion of the nature of early machines, their geographical distribution and the problems of the documentary record.

Documentary evidence of a Lincolnshire horse engine house survives in a list of improvements made in the 1830s by Thomas Moses, a tenant farmer at Stenigot. This is quoted by Beastall in his volume on the agricultural revolution in Lincolnshire. One of the items recorded was 'New gear house in brick and tile £7'; the cogs and shafts of a horse engine were referred to as 'gears'.[648] Early horse gears were wooden and frequently portable. They could be erected outside the barn with the shaft entering by the barn doorway or through a vent in the wall. The metal ones which succeeded them continued to be manufactured in the county until the early years of the twentieth century and appear in exhibitors' catalogues for the Lincolnshire Show in the Edwardian period.[649] Alan Adams' graphic illustrations for Barnwell and Giles' RCHME study show how these arrangements would have functioned.[650]

MacDonald notes the problematic nature of built evidence for horse engines, with their survival in the landscape being influenced by their materials of construction and the presence of housing at all being subject to local weather conditions.[651] It may be that Lincolnshire farmers were as reluctant to go to the expense of housing their horse engines as they were to spend on covered yards, on account of the low rainfall in the county. The use of unroofed, portable horse engines, especially if the power transfer shaft was passed through an open doorway rather than a vent in the wall, leaves no physical evidence once the pathway trodden by the horse has been obliterated by subsequent activity on the site. The cartographic record of unroofed pathways for horse engines as late as the 1904/05 second edition of the 25 inch OS reveals the limitations of relying solely on the physical evidence of extant buildings.

A distinction needs to be made between the level of buildings' improvement in the

[648] LA Hill 36/1 quoted in Beastall, Agricultural Revolution in Lincolnshire, (1978) p. 207.
[649] Information supplied by Ken Redmore of the Society for Lincolnshire History and Archaeology's Industrial Archaeology team.
[650] Barnwell and Giles, English Farmsteads, (1997) pp. 24, 107. See also R. W. Brunskill, Illustrated Handbook, (1987) p. 153.
[651] MacDonald, 'Progress of the Early Threshing Machine', Ag.HR, 23 (1975) p. 70.

previous chapter and the overall level of building provision reflected in average acreage per FB in the map exercise sample. The cartographic evidence provides a comprehensive picture of building provision per acre as opposed to investment per acre. The results of the map exercise, which showed clearly the average acreage for which a building or group of buildings was provided in the different land-type zones, recorded the level of building provision on various qualities of land (Table 11 (p. 251).

Consideration of the average acreage per holding in each zone in the context of the Land Utilisation Survey classification of land quality did not reveal an obvious relationship between quality of land and buildings' provision. Whilst the level of improvement was found to be higher on heavy, wet or light, dry lands reflecting the difficulty of working them and the consequent need to attract and retain tenants, the level of building provision did not vary in direct relation to land quality. A different pattern emerged which related to land type, regime and patterns of landholding rather than land quality. On the wolds the average acreages per FB were by far the highest with the Central Wolds having an average of 296 acres per FB and the Semi-Wolds an average of 253 acres per FB. The size of farms on the wolds is discussed by Rawding in his study of the region in the nineteenth century. He concludes that farms over 400 acres were common and *inter alia* cites the example of the Yarborough estate which had fifteen tenants with farms over 675 acres. He also notes one man who was farming over 3,200 acres in the 1870s.[652] The Heath, the other upland area, had the next highest acreage per FB (163.57).

David Grigg in his study of the agricultural revolution in South Lincolnshire quotes Samuel Sidney, writing of the heath and wolds in 1848: 'a light soil gives no choice between large farms, much manure and numerous stock or no cultivation at all'.[653] This

[652] Rawding, Lincolnshire Wolds , (2001) pp. 94-5
[653] Grigg, Agricultural Revolution in South Lincolnshire, (1966) p.127.

was the land type which was so energetically improved in the middle years of the century earning fulsome praise from contemporary commentators such as Pusey. Writing *'On the Agricultural Improvements of Lincolnshire'* in 1843, Pusey enthused that 'Lincolnshire affords a very high example of farming'. Travelling along Ermine Street over the heath north of Lincoln in 1842 he observed 'neat enclosures, heavy turnip-crops, numerous flocks, spacious farm-buildings, surrounded by...lofty and crowded corn-ricks'.[654] The land had been brought into this high state of cultivation by the adoption of the Norfolk four-course rotation, the use of artificial fertilisers and, above all, the generous application of muck from cake-fed beasts folded in the crewyards of large steadings which had been conveniently relocated near to their newly-enclosed fields.[655] There is evidence to suggest that fifty years later, the standard of cultivation in the uplands remained high. Wilson Fox's Report in 1895 noted that 'these districts today have reached a very high standard of excellence, which is still maintained and which probably cannot be surpassed by any others in the United Kingdom'.[656] This was a product of necessity, not fancy, however. Thirsk notes that this type of land had to be farmed wholeheartedly or not at all; it failed to pay entirely if inputs of labour and fertilisers were reduced.[657]

The strong, heavy lands of the clay vales were the traditional fattening pasture areas of the sample, where livestock numbers were high even before any increases in response to falling cereal prices. The central clay vale had some particularly heavy land which was often waterlogged, making it suitable only for grassland pasture. Thirsk, drawing heavily on Wilson Fox's Royal Commission evidence, identifies the clays as the most badly affected land-type in the county after 1870.[658] The average acreages per FB in the two

[654] Pusey, 'Agricultural Improvements of Lincolnshire', JRASE 4 (1843) pp. 288-9.
[655] For a more detailed discussion of improvement on Lincoln Heath see Brook, 'Farm Buildings of North Kesteven', (1994) pp. 21-32.
[656] Royal Commission on Agriculture, 'Report of Mr A. Wilson Fox' (1895) p. 7.
[657] Thirsk, English Peasant Farming, (1957) p. 322.
[658] OS 1 inch:1 mile Land Utilisation Survey of Britain (n.d.), Sheet 47; Thirsk, English Peasant Farming, (1957) pp. 320-1; Royal Commission on Agriculture, 'Report of Mr A. Wilson Fox', p. 8.

clay vales were almost identical; the Trent valley having an average of 154 acres per FB and the central clay vale 153 acres per FB.

The average acreage in the two marshland areas was lower than the uplands or clays and the averages for the inner and outer marsh very similar; the Middle Marsh averaged 111 acres per FB and the Salt Marsh 104. Thirsk notes that farmers in the marshlands were considered by their contemporaries to be less adversely affected than those in the uplands and clay vales but not as well off as the fenlanders in the period 1870-1914 but she presents a picture of greater hardship and retrenchment in the Middle Marsh than the outer marshes.[659] A detailed picture of the experience of one marshland farmer, William Paddison, who farmed over 100 acres and survived the Great Depression, is given by Linda Crust. She considers that the richness of his marshland pastures and his flexibility in diversifying into bulb growing and coal haulage after buying and selling wool proved unprofitable, enabled Paddison to continue to make ends meet albeit in a state of 'parsimony bordering on poverty'. However, his resilience was due also to his stage in life, which meant that he owned some of the land he occupied, had his farm stocked and some money in the bank, before the adversities of the times bit too deep. The pattern of his landholding, which was in several small parcels, some of which he owned, some he tenanted and some he sublet, contributed to his ability to survive because his circumstances were flexible.[660] This fragmentation of holdings explains the low average acreage per FB in the marshes and is similar to the experience of the fenland.

The average acreage per FB was lowest of all in the fenlands with the Fen Edge having an average of 46 and the Fen 68 acres per FB. Zone 9, the Fen Border Region, lay on the isthmus of fluvio-glacial sands and gravels known as the barff. This ground above the 5m contour, offered early settlers the opportunity to build their homes above the level of

[659] Thirsk, English Peasant Farming, (1957) pp. 318-20.
[660] Linda Crust, 'William Paddison: Marsh farmer and Survivor of the Agricultural Depression, 1873-96', Ag.HR. 43 II, (1995) pp. 193-204..

the seasonally inundated lands in the neighbouring fen, which provided their living.[661] In times past the inhabitants had enjoyed common rights of turbary and pasture in the fen and had developed a viable economy based on pasturing sheep and cattle on the rich grassland which became available when the waters receded in the summer months. Many upland estates, such as the Earl of Scarbrough's Lincolnshire estate based on the Summer Castle at Fillingham on the heath, held lands in the marshes and fens for this purpose.[662]

Thirsk makes no distinction between the Fen Border Region and the Fen, nor does Wilson Fox's report. Following drainage and enclosure new farms were created on the rich fen soils but many of those who lived on the slightly higher ground of the barff also had land on the fen itself. The lower acreage per FB in the Fen Border Region may, in part, be accounted for by the diversity of people's business activities. The Fen Border included the village of Billinghay, a large settlement which served as a centre for the surrounding area. A high number of people in the village had occupations other than agriculture. This is evident in *Kelly's Directory of Lincolnshire* 1896 which lists 85 people in the village with businesses other than farming. However, it was common for such people to farm alongside their other activities. Some record their dual occupation in entries such as 'blacksmith and farmer'; 'farmer, hay, straw and potato merchant';'baker, grocer and farmer'.[663] This is very similar to the experience of Billy Paddison in the Salt Marsh. The presence of those engaged in farming alongside other commercial activities sometimes led to difficulties in distinguishing agricultural buildings from the premises of tradesmen such as blacksmiths, wheelwrights, builders and coal merchants. When there was doubt they were omitted from the map exercise sample.

[661] Barff- Old English word meaning mount or hill, Oxford English Dictionary, Vol I, 2nd edn. (Oxford, 1989) p.956.
[662] Beastall, A North Country Estate, (1975) pp. 134-5.
[663] Dennis R. Mills, 'Population and Settlement in Kesteven (Lincs). c. 1775-c.1885', M. A. thesis, University of Nottingham, (1957) p. 213, Appendix 18-v; Kelly's Directory of Lincolnshire, (1896) p. 59.

Holderness noted the problem of identifying abandoned buildings from the cartographic record pointing out that a steading represented on a map might not still be in use for agriculture.[664] The results of the map exercise were not conclusive but shed some light on this. Table 13) shows that 91 FBs (31.6%) were the same on the first edition of the 25" OS as on the second and it is possible that some of these were redundant. On the other hand it is fairly certain that the 197 FBs (68.4%) which were altered were in use for at least some of the period. Even removal of buildings is indicative of the site being occupied, unless materials were being taken away for reuse elsewhere which, although a common practice, is unlikely to have been the case on all 197 FBs which saw alterations to their buildings in the period. The problem of secure identification of the proportion of the buildings' stock which was not in use remains and conclusions are tenuous. However, the results of the map exercise suggest that two thirds of the FBs in the zone, ie. those which experienced building activity in the period, were almost certainly in use and that only about a third, ie. those which did not experience any building activity, could possibly have been abandoned.

The recording of materials of construction on the first edition County Series maps afforded new insight into the fabric of the agricultural buildings stock in Lincolnshire in the 1880s. Timber and iron are less durable than brick and stone, therefore the physical remains of nineteenth-century buildings under-represent the proportion of the buildings' stock which was of more ephemeral construction. Nineteenth-century literature on farm buildings also concentrates on buildings of permanent construction. The engineers and architects, such as Denton, who published designs for farm buildings were professionals writing for landowners and both of these groups were influenced by the nineteenth century preoccupation with permanence. [665]

[664] Holderness, 'Investment, Accumulation and Credit', in Collins ed., The Agrarian History of England and Wales, (2000) p. 896.
[665] Denton, Farm Homesteads of England, (1864).

John Ewart, one of the entrants in the Royal Agricultural Society's Prize Competition for a design for farm buildings, admits the possibility of constructing cheaper and less-permanent buildings, in an appendix to his essay. He describes a method of constructing cattle sheds using timber and rubble walling roofed with sheathing paper, which was to be coated with tar and sand.[666] However, he makes the assumption that such buildings would be erected by a tenant rather than the landlord. Brown cited examples of allowances made for tenants' improvements to buildings on the Chaplin estate but it is generally difficult to quantify the incidence of building activity by tenants. Although buildings were included in improvements for which there was compensation under the 1883 Agricultural Holdings Act, the allowance for buildings under the Lincolnshire Custom, whose use persisted in the county after that date, was not as satisfactory.[667] The map exercise enabled a comprehensive audit of building materials and revealed that, in 1885-8, nearly two thirds of FBs in the sample included timber and/or iron structures (Table 15). If Ewart's assumption that buildings erected by the tenant would be of less permanent construction is correct then this admits the possibility of tenants having provided some of the buildings on nearly two thirds of the FBs.

The incidence of timber and/or iron was highest in the Salt Marsh and Fen where many FBs were entirely of that construction. Consideration was given in the previous study of farm buildings in Kesteven, as to whether this should be attributed to the limited capital of fenland smallholders, difficulties in transporting more permanent materials or the advantages of less rigid construction on the shrinking peat of the fens. It was concluded that the advantages of more flexible construction probably weighed heaviest in decisions regarding materials of construction because even the Education Authority, whose resources were adequate for the erection of masonry buildings elsewhere, chose wood for the school at Tan Vats, Metheringham Fen.[668] Around half of the FBs in the

[666] John Ewart, 'On the Construction of Farm-Buildings', JRASE, 11 (1850) pp. 268-270.
[667] Brown, 'Agriculture in Lincolnshire', (1978) pp. 246-7.
[668] Brook, 'Farm Buildings of North Kesteven', (1994) pp. 89-91.

Table 15
Timber and/or iron buildings

Each incidence of a building or group of buildings = 1FB

	Name	Total FBs in zone	FBs with t/i	FBs with t/i as a % of total FBs	Total Fbs with bdgs removed	FBs with t/i where bdgs removed	FBs w t/i where bdgs remvd as a % of all FBs with bdgs removed
Zone 1	Middle Trent Clay and Sand Lowlands	31	16	51.61	6	6	100
Zones 2&3	The Heath Scarp and Heath	7	1	14.29	1	1	100
Zone 4	Upper Ancholme and Middle Witham Clays	47	25	53.19	18	14	77.78
Zone 5	South -Western Semi-Wolds	12	7	58.33	4	3	75
Zone 6	Central and South -Eastern Wolds	15	8	53.33	5	4	80
Zone 7	Middle Marsh	25	13	.52	5	4	80
Zone 8	Salt Marsh	35	28	80	12	12	100
Zone 9	Fen Border Region	8	6	75	5	5	100
Zone 10	The Fens	108	78	72.22	42	38	90.48
Total	All zones	288	183	63.54	98	87	88.78

clay vales, wolds and Middle Marsh had timber and/or iron structures whilst the incidence of these less permanent materials was lowest in the Heath zones where only 14.29% of FBs had timber and/or iron.

It may be that the high proportion of timber and/or iron buildings which could readily be remodelled and adapted was a contributing factor in the ability of marsh and fenland farmers to survive hard times by diversification. The fens and marshes of Lincolnshire were no strangers to the concept of impermanent buildings, having a history of seasonal occupation for which temporary shelters were erected. Their presence is remembered in place names such as Potterhanworth Booths, Branston Booths and North Somercotes. In contrast, on the heath, 'abounding with spacious, well-constructed farm buildings', the experience was of solid, purpose-built structures and the substantial nature of their buildings may have locked farmers into existing regimes and prevented them from adapting to changed circumstances.[669]

Not unexpectedly, a very high proportion of buildings which occurred on the first edition but not on the second were timber and/or iron structures; such materials have a shorter life-span than brick or stone and are less labour-intensive and time-consuming to alter. Table 15 shows that nearly 90% of FBs where buildings were removed were ones with timber and/or iron. There was little variation between land types, with over three quarters of buildings removed in every zone being on FBs with timber and/or iron. In the Trent vale, Fen Border, Salt Marsh and Heath zones the incidence of buildings removed being on FBs which had timber and/or iron was 100%.

Unfortunately the materials of construction were not identified on the second edition of the County Series map sheets and the surveyors' notes which recorded them were destroyed in the Second World War, so it was impossible to know what proportion of

[669] J. A. Clarke, 'On the Farming of Lincolnshire', JRASE, 12 (1851) p. 340.

the farm buildings' stock was timber and/or iron in 1904-5. It was, therefore, not possible to test the impact of economies forced by depression on the materials of construction. There is written evidence that a change in the materials of construction such as 'the use of corrugated iron roofing where suitable, and the judicious use of such materials as can be procured on the estate, which, although perhaps of not very lasting quality, may serve until the advent of better times', was recommended to landowners.[670]

The map exercise enabled more to be discovered about the relationship between farmstead size and size of holding which was assumed by nineteenth-century writers such as Squarey, Denton, and Bright who estimated the cost of providing buildings on holdings of different sizes in terms of an amount per acre. Denton and Bright refined their calculations to allow for the fact that, whilst a minimum amount was required to provide a farmstead on a small-sized holding, the cost of buildings on larger holdings worked out at less per acre.[671] This economy of scale is clearly represented in evidence from the Brownlow estate reported by Wilson Fox, which states that the £650-£700 buildings necessary on a 100 acre holding would cost between £6.10.0d and £7 per acre; a £2,200 farmstead on a 300 acre holding would cost £7.6.8d per acre but a £4,500 farmstead on a 1,000 acre holding would work out at only £4.10.0d per acre. Evidence of the proportionately greater cost of buildings on smaller holdings was also given by Lord Ancaster who stated that buildings cost £7 per acre on holdings of 400-500 acres but £30 per acre on holdings of 5-10 acres.[672]

If the close connection between size of buildings and size of holding, assumed in this evidence, is correct then the cartographic evidence would be expected to show a direct relationship between size of FBs and the size of holdings in an area. The size of FBs

[670] A. D. Clarke, Modern Farm Buildings: their Construction and Arrangement, 3rd edn. (1899) p. 3 quoted in Brigden, Victorian Farms, (1986) pp. 42-3.
[671] Holderness, 'Investment, Accumulation and Credit', in Collins ed., The Agrarian History of England and Wales, (2000) p. 899, Table 13.5.
[672] Royal Commission on Agriculture, 'Report of Mr A.Wilson Fox ', p. 19.

Table 16
Size of FBs

Each incidence of a building or group of buildings = 1FB

	Name	Land Type	Number of FBs in zone	Sm (%)	M (%)	L (%)	VL (%)
Zone 1	The Middle Trent Clay and Sand Lowlands	2A + 4G	31	9 (29.03)	10 (32.26)	11 (35.48)	1 (3.26)
Zones 2&3	The Heath Scarp and Heath	6AG steeply sloping+2A Thin light soils. Well farmed approaching 1A	7	0 (0)	1 (14.29)	4 (57.14)	2 (28.57)
Zone 4	Upper Ancholme and Middle Witham Clays	Mostly heavy 2A + 4G. Some ill-drained and approaching 7G	47	7 (14.89)	11 (23.40)	24 (51.06)	5 (10.64)
Zone 5	South-Western Semi-Wolds	Mainly 2A	12	1 (8.33)	4 (33.33)	4 (33.33)	3 (25)
Zone 6	Central and South-Eastern Wolds	2A + 5A	15	0 (0)	8 (53.33)	2 (13.33)	5 (33.33)
Zone 7	Middle Marsh	2A + 4G	25	4 (16)	13 (52)	6 (24)	2 (8)
Zone 8	Salt Marsh	3G + 4G	35	10 (28.57)	9 (25.71)	12 (34.29)	4 (11.43)
Zone 9	Fen Border Region	2A + 4G	8	3 (37.5)	2 (25)	2 (25)	1 (12.5)
Zone 10	The Fens	1A	108	39 (36.11)	49 (45.37)	16 (14.81)	4 (3.70)
Total	All zones	All land types	288	73 (25.35)	107 (37.15)	81 (28.13)	27 (9.38)

Size
Sm below .25 acres
M .25 - <.5 acres
L .5 - <1 acre
VL 1 acre and over

Table 17

Size of FBs compared with Size of Farm Holdings

Source: Map exercise and Thirsk *English Peasant Farming* (1957) pp. 216, 242, 264, 298.

	% of small FBs *% of holdings under 50 acres*	% of medium FBs *% of holdings 50-100 acres*	% of lg/v.lg.FBs *% of holdings above 100 acres*
Zone			
Z 1&4	20.51	26.92	52.56
Clays & Misc. Soils	*69.67*	*10.99*	*19.35*
Z 2&3	0	14.29	85.71
Heath	*48.78*	*9.76*	*41.46*
Z 5&6	3.70	44.44	51.85
Wolds	*62.84*	*9.29*	*27.87*
Z 7	16	52	32
Middle Marsh	*77.27*	*10.49*	*12.27*
Z 8	28.57	25.71	45.71
Coastal Marsh	*84.04*	*8.15*	*7.81*
Z 9&10	36.21	43.97	19.83
Fens	*71.02*	*11.73*	*17.26*

identified in the map exercise (Table 16) was compared with the average size of holdings in various regions of the county sampled by Thirsk, using the annual agricultural returns as her source (Table 17).[673] Six regions which could be distinguished in Thirsk's data were related to zones in the transects of the map exercise. The two clay vale zones were compared with Thirsk's 'Clays and Miscellaneous Soils' and the combined Heath Scarp and Heath zones with Thirsk's 'Lindsey Cliff' which, for the sake of consistency, is referred to below as the Heath. The South-Western Semi-Wolds and Central and South-Eastern Wolds were compared with Thirsk's 'Wolds' and the Middle Marsh and the Salt Marsh zones with the 'Middle Marsh' and 'Coastal Marsh' respectively. The two fen zones in the Kesteven transect were compared with Thirsk's data for the Kesteven fens under the heading 'Fens'. To achieve this, Thirsk's 'not above 5 acres' category, her 5-20 acres and 20-50 acres categories were combined to produce a single category of 'holdings below 50 acres' with which the percentage of small FBs in the map exercise

[673] Thirsk, English Peasant Farming (1957) pp. 216, 242, 264, 298.

was compared. The percentage of medium FBs was compared with the percentage of 50-100 acre holdings and the percentage of large and very large FBs with the percentage of holdings above 100 acres in Thirsk's sample.

The relationship between the two sets of data was far from consistent. There was consonance in the results for the Heath which had the highest percentage of large and very large FBs and the highest percentage of large (over 100 acres) holdings coupled with the lowest percentage of small (5-50 acre) holdings and the lowest percentage of small FBs. However, there was no consistency in any other region, with no pattern occurring in the relationship between size of holdings and FB size. The Coastal Marsh was the area with the lowest percentage of holdings over 100 acres yet it had a moderately high percentage of large and very large FBs. The Fen had the highest percentage of medium-sized holdings, yet only the third highest percentage of medium-sized FBs. The highest percentage of small FBs was in the fenland, yet the area ranked only third in percentage of small holdings behind the Coastal Marsh and the Middle Marsh.

The complex pattern of these results can be attributed to the presence of factors other than size of holding which came into play in determining the size of FBs, factors such as the nature of the farming enterprise, the number of FBs serving a single holding and the number of holdings served by one FB. The absence of a constant link between size of holding and FB size is recognised by Ewart in his essay on construction of farm buildings; 'Stating the size of the farm is not a sufficient *datum* on which to design a set of farm-buildings.', he writes, 'The quality of the soil and the system of husbandry intended to be pursued are also necessary to be known before a judgement can be formed of the kind and extent of accommodation in buildings to be provided.'[674] Phillips notes that Andrew Thompson frequently reminded the Inclosure Commissioners, to whom he

[674] Ewart, 'On the Construction of Farm-Buildings' (1850) p. 266.

made reports on loan proposals 1857-69, that the farming system was an important variable in determining building outlay.[675]

The fertile soils of the fens resulted in flexibility and diversity of enterprise for which a number of versatile sheds, which could readily be relocated, were much better suited than an inflexible arrangement of buildings dedicated to a specific process. This, coupled with the high incidence of dual occupation and the tendency of fen farmers to occupy a number of parcels of land under a variety of arrangements, goes further to explain the high percentage of small FBs in the fen zones than does the size of holdings *per se*. Mills' description of the makeshift hovels roofed with floors of ex-Army sheds, supported on second-hand timber posts and thatched with straw, which served his grandfather's holding of about 37 acres, in eight parcels, belonging to three owners, at Mareham-le-Fen near Boston, illustrates the situation vividly.[676]

The incidence of the second highest percentage of medium-sized FBs in the wolds which was the area with the second lowest percentage of medium-sized holdings can also be explained in terms of the nature of the soil and the system of husbandry. On the light sandy soils of the wolds, the necessary applications of organic fertiliser which maintained the fertility of the land, were facilitated by placing cattle yards away from the main steading and on the tops of the wolds, near to the fields they were to supply with manure. Such arrangements pertained at Manor Farm, Kirmond le Mire and Binbrook Villa, Binbrook, on the Turnor estate in north Lincolnshire, two steadings which are discussed in detail in Chapter 4 and at Hallington House Farm, Hallington, on the wolds near Louth.[677]

[675] Phillips, 'Landlord Investment in Farm Buildings' in Holderness and Turner, Land, Labour and Agriculture, (1991) p. 204.
[676] Mills, 'The Small Farm', Lincolnshire Past and Present, (Summer, 1996) p. 7.
[677] Field visits, to Kirmond, Binbrook and Hallington House Farm, Hallington, (TF 304 855) 26th March, 2002.

Kirmond Top was an outfarm on the wold over a mile south-west of the main farmstead at Manor Farm, Kirmond le Mire, and Burkinshaw's Top was an outfarm of Binbrook Villa, tenanted for many years by William Burkinshaw. In each case the distance from the main farmstead to the outfarm was about a mile. Both outfarms had adjacent labourers' cottages which provided oversight of the beasts in the cattle yards as well as much-needed accommodation for the workforce on these remote lands which had been brought into cultivation after enclosure. At Hallington Top, an outfarm of Hallington House Farm, an older barn was converted for labourers' accommodation and a range of cattle yards constructed, three-quarters of a mile from the main farmstead. The high incidence of such arrangements explains the high percentage of medium-sized FBs on the wolds. Not only were the outfarms themselves often of medium proportions, as were five out of the seven identified in Zone 6, but also the main farm would not need to be as large as one without an outfarm. This was because the housing of some of the stock away from the main steading meant that medium sized accommodation was required rather than the main farm needing to be large enough to accommodate all the beasts on the home premises.

The correlation of FB size with size of holdings on the Heath, where the highest percentage of large holdings coincided with the highest percentage of large FBs and the lowest percentage of small holdings with the lowest percentage of small FBs, is symptomatic of the preoccupation with improvement, of much nineteenth century agricultural theory. The light soils of Lincoln Heath, with their low productiveness as rough pasture and warren, had repaid nineteenth-century improvement campaigns with impressive increases in productivity; 'the barren sheep walk and warren have been clothed in fruitfulness' extolled Clarke in his prize essay on the county in 1851.[678] The sheep-corn husbandry of the Lincolnshire uplands, with its high farming principles and practice maximising output from the land whilst ensuring that its fertility was

[678] Clarke, 'On the Farming of Lincolnshire', (1851) p. 340.

maintained, was regarded by many as the definitive farming system. Brown, identifying reasons why Lincolnshire farmers were so reluctant to reduce their corn acreage, cited examples of the tenet that corn growing was the 'professional pursuit' of farmers.[679] No wonder then, that the experience of the Heath with its approved farming regimes is the one which conforms to the textbook pattern of size of holdings corresponding to size of buildings

The other candidate for conforming, by virtue of its similar farming system, to the textbook pattern of size of FBs corresponding to size of holdings, is the wolds. However, this area did not have the same direct link between size of holding and size of FB because the exceptionally large size of many of its farms resulted in the practice, discussed above, of holdings having one or more outfarms. Seven (46.67%) of the 15 FBs in the Central and South-Eastern Wolds zone in the map exercise had no house and were therefore identified as outfarms. The introduction of these additional FBs on holdings explains the break in pattern in this upland area when compared to the Heath which had only one (14.29%) outfarm.

It has already been noted that proportionately the cost of providing buildings was perceived to be much higher for small farms than larger ones. Whether or not it was true that larger holdings always had larger buildings, and the results of the comparison of size of FBs and size of holdings in Table 17 suggest this was not always the case, there was a certain minimum provision which had to be made which would work out at more per acre for a small holding than a large one. This was because living accommodation would be required whatever the size of farm and the cost of the house is thought to have represented about 40% of the total expended on a farmstead.[680]

[679] Brown, 'Agriculture in Lincolnshire', (1978) pp. 110-111.
[680] Holderness, 'Investment, Accumulation and Credit', in Collins ed., The Agrarian History of England and Wales, (2000) p. 899.

Brown, in his consideration of farmers and their holdings, suggested that in the final quarter of the nineteenth century there was a pull in two directions; towards small holdings and towards large farms. His figures show that overall the balance was in favour of large farms with a .7% increase in the total number of holdings in Lincolnshire over 300 acres, compared with .3% increase for England and Wales, between 1875 and 1895. A decrease of 3.4%, equivalent to that in England and Wales, in the total number of holdings of 50 acres and under was experienced in Lincolnshire in the same period.[681]

Division of farms to create smaller holdings would entail erection of a completely new set of buildings and the map exercise showed that there was a very low incidence of this, supporting Brown's findings that, overall, the trend was towards larger farms. However he noted that in the fens, north wolds and clay vales, farm sizes reduced despite the overall trend towards larger farms.[682] This was partially reflected in the results of the map exercise (Table 13 (p. 260)) with five of the eight completely new FBs occurring in the Fen. A further two were erected in the Central and South Eastern Wolds, although Brown suggested it was the north wolds where farm sizes decreased. The remaining new FB was in the Middle Marsh, not an area which Brown identified as experiencing a reduction in farm size; and equally, in the clay vales, which Brown did consider to be an area where farm sizes reduced, there were no new FBs identified in the map exercise.

The foregoing discussion demonstrates that factors influencing building activity were complex and characteristics of farm buildings on the same land type or the same size of holding were by no means constant. There were few hard and fast relationships between variations in farm size, land quality, materials of construction and building provision but a variety of circumstances, particular to the experience of each area, influenced building activity in depression. Ewart suggested that a judgement regarding 'the kind and extent

[681] Brown, 'Agriculture in Lincolnshire', (1978) p. 203.
[682] Brown, 'Agriculture in Lincolnshire', (1978) p. 204.

of accommodation and buildings' was influenced not only by the quality of the soil but also by the 'system of husbandry intended to be pursued'.[683] The information contained in the annual agricultural returns provided an insight into the 'system of husbandry' in the sample area.

Although there had been experiments in gathering agricultural statistics in 1801 and 1854, a comprehensive annual collection of agricultural returns, sometimes known as the annual agricultural census, did not begin until 1866.[684] Returns for individual farms have not been retained but aggregations of the returns for every parish in Lincolnshire are available for every year between 1875 and 1900 with the exception of 1876, 1892 and 1893. Whilst this appears to be a comprehensive record it should be borne in mind that many farmers failed to fill in returns or did so inaccurately or inconsistently. There was widespread suspicion because officers who collected information for the Inland Revenue also collected the agricultural statistics. Also, many holdings fell within more than one parish and inconsistencies ensued, with land sometimes being returned in one parish and sometimes another. Matters were complicated further by changes in parish boundaries during local government reform in the 1890s.[685]

Notwithstanding these shortcomings, the annual returns are the most comprehensive record we possess and have been widely used by historians. They were used by Thirsk in *English Peasant Farming*, her pioneering study of Lincolnshire agriculture, whose data on size of holdings have been compared with the findings of the map exercise. They also formed the basis of Brown's doctoral study of Lincolnshire agriculture in the Great Depression, whose data are also compared with the findings of the map exercise. The data in these studies were chosen for comparison rather than the more general

[683] Ewart, 'On the Construction of Farm-Buildings' (1850) p. 266.
[684] J. P. Dodd, 'The Agricultural Statistics for 1854: an Assessment of their Value', Ag.HR. 35, (1987) 159-70; L. Napolitan, 'The Centenary of the Agricultural Census', JRASE. 127 (1966) 81-96; E. Thomas, 'The June Returns One Hundred years Old', Agriculture, 73 (1966) 245-9.
[685] Brown, 'Agriculture in Lincolnshire', (1978) p. 259.

aggregations for the county and the East Midlands region, in Afton and Turner's essays on basic statistical data and size of agricultural holdings in Volume 7 of the Cambridge *Agrarian History*, because, being specific to Lincolnshire, they were more detailed and considered land-type variations within the county.[686]

Brown's thesis presented detailed information on farm size and other categories of information derived from the annual agricultural returns. He presented this material, parish by parish for the whole of the county, for two dates: 1875 and 1900. By looking at his data for individual parishes in the map exercise sample it was possible to examine more closely the experience of changes in farm size and farming regime which influenced farm building provision and improvement in each of the nine zones. Brown presented his information in the form of maps showing every parish in Lincolnshire. For each category of information contained within the June Returns, such as numbers of stock or acreages under particular crops, parishes whose totals fell within the same parameters, eg. 40%-49.99% of total crops and grass or 55-59.99 animals per hundred acres, were shaded in a particular way on the map (Fig. 32).

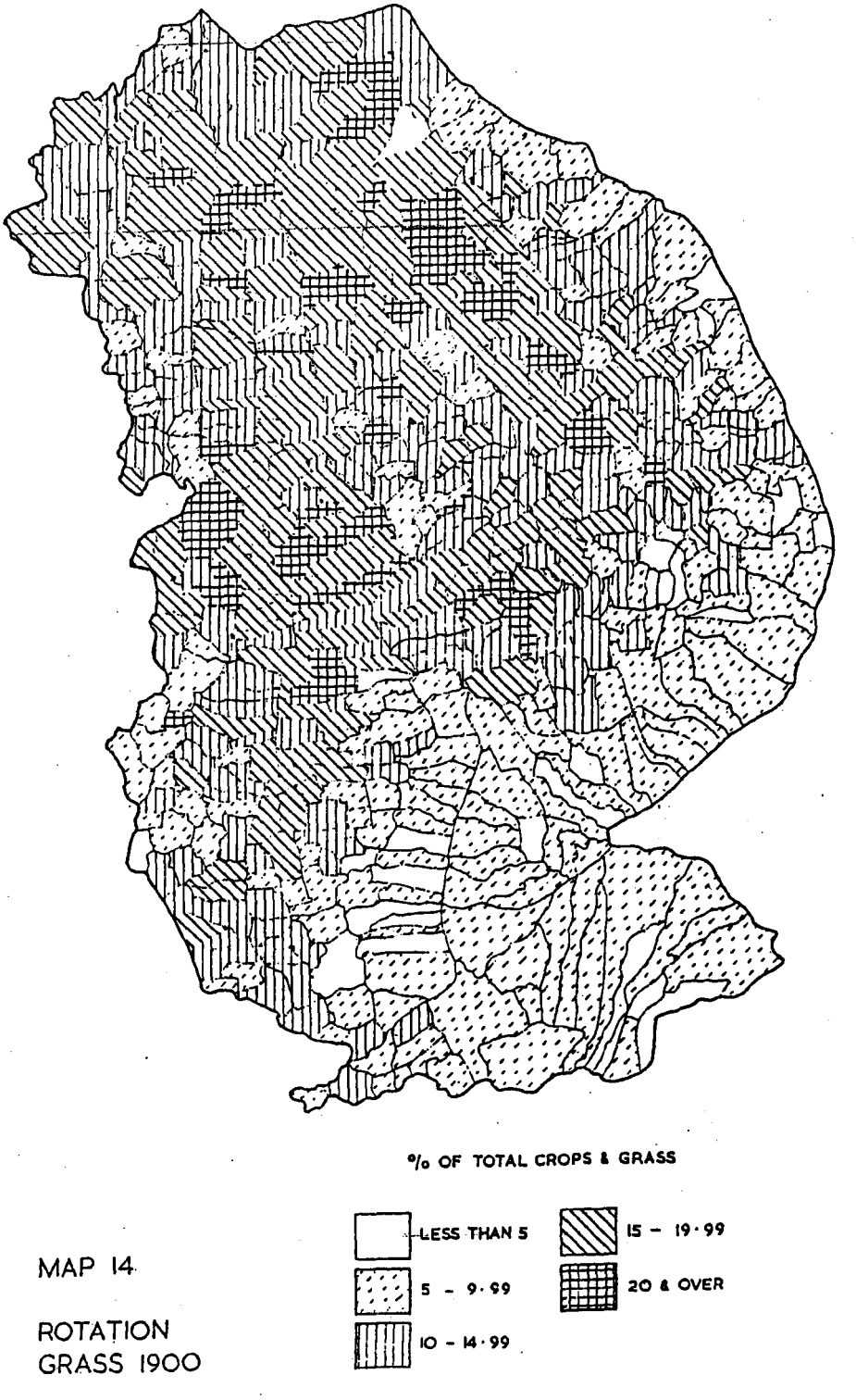
The methodology for the comparison of Brown's data on cropping and stocking with the results of the map exercise, was as follows. As far as possible, a parish was selected which fell entirely within each land-type zone of the Lindsey and Kesteven transects. This was difficult in Heath and Fen regions because attenuated parishes, which traversed two or more land types, had evolved in earlier times to enable farmers to offset the advantages and disadvantages of higher and lower ground, in wet and dry seasons. This was particularly so in the Fen and Fen Border zone where, prior to reliable drainage effected by steam engines in the second and third decades of the nineteenth century,

[686] Bethanie Afton and Michael Turner, 'Basic Statistical Data', in E. J. T. Collins ed., The Agrarian History of England and Wales, Vol. 7 1850-1914, (Cambridge 2000) 1759-1835; Bethanie Afton and Michael Turner, 'The Size of Agricultural Holdings', in E. J. T. Collins ed., The Agrarian History of England and Wales, Vol. 7 1850-1914, (Cambridge 2000) 1836-1876.

Figure 32

Example of the Type of Map on which Brown presented his Information from the June Returns

Source:Brown, 'Agriculture in Lincolnshire', (1978) p.145



people had lived on the sand and gravel ridge, above the five metre contour, but had pastured their animals in the adjoining fen. Accordingly the parish of each Fen Border settlement extended out into the fenland proper. Similarly, on the limestone heath, long narrow parishes had evolved which encompassed light upland soils and the heavy clays of the neighbouring lowlands. For the purposes of the map exercise comparison, parishes were selected in the Heath and fenland zones in which the land type under consideration predominated. The parishes chosen for each zone were: Zone 1, Willingham by Stow; Zones 2 & 3, Ingham; Zone 4, Faldingworth; Zone 5, South Willingham; Zone 6, Hallington; Zone 7, Legbourne; Zone 8, Gayton le Marsh; Zone 9, Billinghay, and Zone 10, North Kyme.

Brown recorded the annual returns of the different crops in each parish as a percentage of total crops and grass, and stocking in terms of the number of animals per 100 acres, which enabled comparison of the aggregated returns for each parish.[687] The figures he presented were for two particular years, 1875 and 1900, which offered a 'before and after' view of farming regimes in the parishes under consideration, in the Great Depression. That is not to say that the depression was over by 1900 but that, by then, farmers and landowners had accepted its reality and had responded to it. The year 1875 is ten years before the First Edition 1:2,500 County Series Ordnance Survey in Lincolnshire and 1900 is five years before the second edition. However, it should be remembered that the actual field surveys generally took place a year before publication (Table 12 (p. 253)).

Table 18 shows the aggregated returns for 1875 and 1900 in the nine parishes which were chosen for comparison with the map exercise findings, with an indication of whether particular categories of stock or crops increased or decreased in depression. The categories considered were: corn crops, permanent and rotation grasses, root crops and

[687] Brown, 'Agriculture in Lincolnshire', (1978) pp. 114-5; 138-9; 144-5; 150-3; 159-60; 173-4.

Table 18 Crop Returns for Sample Parish in each Zone 1875 and 1900

Parish, zone and rank order of FB imp.	Date	Corn as a % of total crops and grass	Permanent grass as a % of total crops and grass	Rotation grasses as a % of total crops and grass	Root crops as a % of total crops and grass	Green crops as a % of total crops and grass	Sheep - no. per 100 acres	Cattle - no. per 100 acres	Change in average farm size 1875-1900
Z1 Willingham by Stow (4)	**1875** 1900	**40-44.99** 30-34.99 *decrease*	**25-34.99** 35-44.99 *increase*	**10-14.99** 10-14.99 *same*	**Less than 7.5** Less than 7.5 *same*	**Less than 10** Less than 10 *same*	**70-89.99** Fewer than 50 *decrease*	**20-24.99** 20-24.99 *same*	decrease-excep tional for zone; generally inc.
Z2&3 Ingham (5)	**1875** 1900	**35-39.99** 30-34.99 *decrease*	**35-44.99** 35-44.99 *same*	**10-14.99** 10-14.99 *same*	**7.5-12.49** 7.5-12.49 *same*	**10-14.99** Less than 10 *decrease*	**90-109.99** 50-69.99 *decrease*	**10-14.99** 15-19.99 *imcrease*	decrease
Z4 Faldingworth (2)	**1875** 1900	**40-44.99** 35-39.99 *decrease*	**25-34.99** 25-34.99 *same*	**10-14.99** 15-19.99 *increase*	**7.5-12.49** 7.5-12.49 *same*	**10-14.99** 10-14.99 *same*	**70-89.99** 50-69.99 *decrease*	**10-14.99** 10-14.99 *same*	10-49.99% increase
Z5 South Willingham (7)	**1875** 1900	**35-39.99** 30-34.99 *decrease*	**25-34.99** 35-44.99 *increase*	**10-14.99** 5-9.99 *decrease*	**12.5-14.99** 12.5-14.99 *same*	**15-19.99** 15-19.99 *same*	**130 & over** 90-109.99 *decrease*	**10-14.99** 15-19.99 *imcrease*	Less than 10% increase
Z6 Hallington (3)	**1875** 1900	**40-44.99** 35-39.99 *decrease*	**25-34.99** 15-24.99 *decrease*	**5-9.99** 20 & over *increase*	**12.5-14.99** 15-19.99 *increase*	**15-19.99** 15-19.99 *same*	**130 & over** 110-129.99 *decrease*	**Fewer than 10** 10-14.99 *increase*	50% & over increase
Z7 Legbourne (8)	**1875** 1900	**45-49.99** 35-39.99 *decrease*	**25-34.99** 25-34.99 *same*	**10-14.99** 15-19.99 *increase*	**Less than 7.5** 7.5-12.49 *increase*	**Less than 10** 10-14.99 *increase*	**130 & over** 70-89.99 *decrease*	**15-19.99** 15-19.99 *same*	10-49.99% increase
Z8 Gayton le Marsh (1)	**1875** 1900	**40-44.99** 30-34.99 *decrease*	**35-44.99** 35-44.99 *same*	**5-9.99** 10-14.99 *increase*	**Less than 7.5** 7.5-12.49 *increase*	**10-14.99** 10-14.99 *same*	**110-129.99** 90-109.99 *decrease*	**15-19.99** 15-19.99 *same*	decrease-excep tional for zone; generally inc.
Z9 Billinghay (9)	**1875** 1900	**50 & over** 50 & over *same*	**Less than 15** Less than 15 *same*	**5-9.99** 10-14.99 *increase*	**7.5-12.49** Less than 7.5 *decrease*	**15-19.99** 15-19.99 *same*	**70-89.99** Fewer than 50 *decrease*	**10-14.99** 10-14.99 *same*	decrease
Z10 North Kyme (6)	**1875** 1900	**50 & over** 50 & over *same*	**Less than 15** Less than 15 *same*	**5-9.99** 5-9.99 *same*	**7.5-12.49** Less than 7.5 *decrease*	**15-19.99** 15-19.99 *same*	**Fewer than 50** Fewer than 50 *same*	**10-14.99** 10-14.99 *same*	decrease

green crops. Numbers of sheep and cattle were also included, as was change in average farm size between 1875 and 1900. Corn crops comprised wheat, barley and oats. Shifts within cereal regimes, such as the increase in acreage of high-quality malting barley at the expense of wheat on the wolds, are distinguished by Brown in his study but not included in the consideration of the map exercise parishes because such changes had little impact on buildings provision.[688]

Conversion to permanent pasture was not an attractive option in Lincolnshire. Landowners and farmers argued against it saying costs of conversion were too high, the length of time needed to establish good pasture too long and the land not suited to it. Furthermore, there was no compensation under the Lincolnshire Custom for unexhausted improvement in the form of conversion to permanent pasture.[689] Leaving the seed breaks in arable rotations for extra seasons was a preferred option and longer leys are represented in increases in the proportion of land under rotation grasses. These were mown for hay and were therefore a fodder crop. Sometimes long leys were left to tumble down into permanent pasture creating some confusion in the farmers' returns. Roots were principally turnips on the uplands and mangolds or swedes in the fens where the land was less suited to turnips except as a seed crop. Carrots and beets were also included in this category but very little grown.[690] Roots were principally grown for fodder especially on the uplands, although they could also be a cash crop. The green crops category included varieties of rape, kale, kohl rabi, cabbage and vetches, the majority of which were grown as fodder crops.

Brown's figures for these categories and for sheep and cattle numbers were the context for a consideration of building activity between 1885 and 1905. There was a decrease in the proportion of land under corn in all zones except the rich soils of the fenlands. This

[688] Brown, 'Agriculture in Lincolnshire', (1978) pp. 110-131.
[689] Thirsk, English Peasant Farming (1957) p. 315; Brown, 'Agriculture in Lincolnshire', (1978) p. 134-141.
[690] Brown, 'Agriculture in Lincolnshire', (1978) p. 147.

was attended by an increase in permanent pasture in the Trent vale and Semi-Wolds and increases in rotation grasses and other fodder crops such as roots and green crops, in the central vale and marshes. Decreases in both corn and green crops in the Heath zones, with no attendant increase in permanent pasture or any fodder crops, was unexpected, especially as this was one of the few areas where cattle numbers increased. That this was a consequence of the inaccuracies in farmers' returns, noted earlier, was rejected because the pattern was the same in other, surrounding Heath parishes. That some other crop was being grown, which was not represented in Brown's categories, was considered to be a possibility. Brown, in a recent paper on High Farming in Lincolnshire in the Great Depression, stated that peas were widely grown as a cash crop on the Heath as a response to falling cereal prices.[691]

Consideration of cattle numbers allowed the widely-held view that building in depression was associated with increases in livestock numbers, to be tested. The uplands, which had low cattle numbers in 1875, saw increases in all zones by 1900. These were accompanied in the Semi-Wolds by an increase in permanent pasture and in the Central Wolds by increases in rotation grasses and root crops. Although numbers of cattle increased, this was not accompanied by a clear pattern of buildings' improvement; the Central Wolds zone, which was third in overall rank order of improvement, was the most improved of the upland parishes, the Heath ranked fifth and the Semi-Wolds seventh, out of nine in the rank order of improvement between 1885 and 1905, which was well behind other areas where cattle numbers did not increase.

Changes in average farm size were recorded by Brown and these were considered alongside changes in regime as a possible reason for buildings' improvement.[692] There was a decrease in farm size in Ingham, the Heath parish, but no new FBs on a new site,

[691] Jonathan Brown, 'The ups and downs of High Farming: Lincolnshire and the Great Depression 1870-1914', Local History Conference, University of Lincoln, 26th July 2003
[692] Brown, 'Agriculture in Lincolnshire', (1978) p. 205.

which would be the expected result of a multiplication of farms. Both the Central Wolds and Semi-Wolds saw increases in farm size: over 50% increase in the case of Hallington in the Central Wolds zone and yet this was the zone in which two of the eight complete new FBs identified in the exercise occurred. An explanation for this lies in the fact that both were outfarms, not new steadings, and were therefore new buildings connected with the increase in livestock numbers, not the multiplication of holdings.

In addition to the two new outfarm buildings, FB106 (TF 299 853) at Hallington and FB105 (TF 299 853) at neighbouring Raithby cum Maltby, a covered yard was added at FB102, Donington Top Farm (TF 271 849). These buildings were typical of those an expanding livestock enterprise would engender. FB106 was a long building conveniently situated at the roadside, whose footprint and location suggested cattle housing, and FB105 was an L-shaped, open-sided structure whose footprint was typical of a hay barn.[693] Livestock business opportunities in this area were enhanced by the proximity of the Bardney-Louth railway which opened in 1876. Caird stressed the beneficial impact of the railway on agricultural development, a point reiterated by Barnwell and Giles in the RCHME study of South Lincolnshire. Denton also saw proximity to the railway as an asset and noted the distance from the station of each of the steadings he described in *The Farm Homesteads of England*.[694] The high level of building activity in this Central Wolds parish can be seen as a consequence of an expansion of livestock keeping linked to improved transport.

The increase in root crops on the Central Wolds may have been associated with intensified sheep farming regimes in the downland areas of the zone. Afton's study of the Hampshire Downs in the Great Agricultural Depression identified strategies adopted by farmers on similarly light land to meet changes in demand by producing high quality

[693] OS 1:2,500 County Series, Lincolnshire Sheets 55.7; 55.8, First Edition (1888), Second Edition (1906).
[694] James Caird, English Agriculture in 1850-51, (1852 repr. 1968) p.186; Barnwell and Giles, English Farmsteads, (1997) p.42; Denton, Farm Homesteads of England, (1864) passim.

products to supply a specialist market. On the Hampshire Downs farmers altered crop rotations to increase fodder for a new breed of sheep which produced sucking lambs at a season when such meat was not generally available. On the Lincolnshire Wolds sheep numbers, although they declined, held up better than elsewhere.[695] However, sheep regimes would not involve buildings' improvement. Buildings associated with sheep keeping in Lincolnshire are very rare; Barnwell and Giles found only a 'hint' of one, a possible wool store, in the RCHME survey area.[696] Another rare example still exists on the Turnor farmstead at East Torrington (Plate 166) where open-fronted sheds on the external face of a building were too low to be for cattle and oral testimony confirmed that they were sheep sheds.[697]

A possible explanation for the limited building response to increases in livestock numbers in the upland areas generally may lie in the existing buildings provision. The uplands had very low numbers of small buildings (Table 16), being characterised by the large, well-constructed steadings of mid-century high farming. Whilst changes in regime, such as increases in livestock keeping, may have been hampered by the permanence of the buildings and the specific nature of the spaces inside them, at the same time the size of the buildings would allow for adaptation within existing structures. Traditional threshing barns were not pulled down when crop storage and threshing moved outside to the stack yard, a point made by Barnwell and Giles, but they were adapted to other uses such as feed storage and preparation.[698] Examples of this are the adaptation of the traditional threshing barn at Saxby Cliff, on the heath north of Lincoln, which had a chimney added (Plate 148) and copper for boiling roots and the introduction of a make-shift wooden storage loft and line shafting for driving feed preparation machinery in the original threshing barn at Hall Farm, South Rauceby, on the heath west of Sleaford (Plate

[695] Bethanie Afton, 'The Great Agricultural Depression on the English Chalklands: The Hampshire Experience', Ag HR. 44 II (1996) 191-205; Brown, 'The ups and downs of High Farming',Conference 2003; Thirsk, English Peasant Farming. (1957) p. 332.
[696] Barnwell and Giles, English Farmsteads. (1997) p.63-5
[697] Ivy House, also known as Manor Farm, East Torrington (TF148834). Field visit April 2004.
[698] Barnwell and Giles, English Farmsteads. (1997) pp. 49, 52.

83).[699]

In considering the pattern of buildings' improvement in the context of farming regimes in the selected upland zone parishes, it was found that there was only a limited relationship between expansion of livestock keeping and the level of alterations and improvements to buildings. A more obvious link between intensification of livestock keeping and buildings improvement was observed in the Salt Marsh and clay vales. These areas have already been discussed in the context of heavy, wet land experiencing higher levels of improvement to retain and attract tenants. Although cattle numbers did not increase in the clay vales and Salt Marsh, 1875 levels were maintained in depression alongside increases in fodder crops or permanent pasture and a high level of buildings' improvement. The increased bargaining power of tenant farmers in these zones where land was more difficult to let encouraged buildings improvement which facilitated intensification of cattle keeping.

Willingham by Stow, the Trent clay vale parish, had the highest cattle numbers of the nine parishes in 1875 and numbers were maintained alongside an increase in permanent pasture in 1900. Thirsk, drawing heavily on Wilson Fox's Royal Commission evidence, identifies the clay vales as the land-type in the county most badly affected by the depression.[700] The Trent clay vale ranked fourth in level of improvement with over half its buildings being improved, suggesting that tenants of these difficult wet lands pressed for landlords to improve the profitability of farms by providing for intensification of livestock keeping. In Willingham by Stow FB24, Davidson's Farm (SK 900 848), had a covered yard added as part of an extensive alteration campaign between the initial survey of 1885 and the resurvey of 1905. A new building at Willingham House (SK 874

[699] Brook, Approaches to the Study of Historic Farm Buildings, (1990) Fig. 2, p.35; Fig. 3, p.37; field visit Hall Farm, South Rauceby (TF033456) October 1998.
[700] OS 1 inch:1 mile Land Utilisation Survey of Britain (n.d.), Sheet 47; Thirsk, English Peasant Farming, (1957) pp. 320-1; Royal Commission on Agriculture, 'Report of Mr A. Wilson Fox', p. 8.

845), FB12, was a structure with four open sides whose footprint corresponded to that of a hay barn.[701] A decrease in farm size in this particular parish was uncharacteristic of the experience of the zone as a whole and, as there were no completely new FBs in the zone, it is unlikely that buildings improvement was a result of multiplication of holdings.

In Faldingworth, the central clay vale parish, cattle numbers were not as high as in the Trent vale and marshes but 1875 numbers were maintained in 1900 alongside an increase in rotation grasses. The zone had the second highest level of buildings improvement which included six of the eight covered yards occurring in the map exercise sample. Three of the new covered yards were in Faldingworth yet cattle numbers had not increased in this parish in 1900, indicating that cattle keeping was being intensified rather than increased. Such a concentration of provision for housing cattle suggests that landowners were attempting to retain and attract tenants by offsetting the disadvantages of heavy, wet land through investment in provision for intensive cattle keeping. There were also two complete rebuilds of steadings in the central clay vale, again signifying an increase in the quality of buildings provision which, in turn, would enable higher quality farming. A 10-49.99% increase in farm size in Faldingworth and an increase in neighbouring Friesthorpe offers an explanation for one of the two complete disappearances of FBs in this zone. The other disappearance was in Legsby where farm sizes decreased. However, as it was an outfarm building constructed entirely of timber and/or iron, it may be regarded as a more temporary structure which may have simply worn out.

Brown states that not all cattle fattening was on pasture and that by the 1880s and 90s intensive feeding practice had spread through Lincolnshire. At Firsby in the Salt Marsh

[701] OS 1:2,500 County Series, Lincolnshire Sheet 51.8, First Edition (1886), Second Edition (1906); OS 1:2,500 County Series, Lincolnshire Sheet 51.7, First Edition (1886), Second Edition (1906).

in 1878-80 40.9% of cattle were under two years old but by 1895-7 the proportion had risen to 52%.[702] Gayton le Marsh, the Salt Marsh parish, saw no increase in permanent pasture but cattle numbers were maintained alongside increases in fodder crops. The zone had the highest level of buildings improvement, nearly a third of which could safely be identified as livestock housing, suggesting that traditional breeding and feeding activities were being intensified. However, this zone had the highest proportion (80%) of FBs with timber and/or iron. Also, 82% of additional buildings which were erected in this zone were on FBs which had timber and/or iron. This serves as a reminder that, although a large number of enterprises experienced improvement in buildings provision, much of it was of cheap materials which did not demand high levels of expenditure. Such improvement, whilst being very significant in farming terms, would not be identifiable in records of improvement based on amounts expended.

Like the Salt Marsh and clay vales, Legbourne, the sample parish in the Middle Marsh experienced maintained cattle numbers and increases in fodder crops between 1875 and 1900. Whilst the clays and Salt Marsh experienced high levels of buildings improvement, the Middle Marsh ranked low, eighth out of nine. There was undoubtedly great hardship but, in relative terms, the area was held to be less adversely affected by the depression than the neighbouring Salt Marsh, and the marshes together less badly off than the uplands and clay vales.[703] This may account for a greater reluctance to invest on the part of landowners. Their tenants were not perceived to be struggling as badly as their neighbours and so did not have the same bargaining power in the market for inducements to remain in, or take on, a tenancy.

Although the overall incidence of improvement in the Middle Marsh was low, some of those FBs which were improved received high quality treatment; there were two

[702] Brown, 'Agriculture in Lincolnshire', (1978) p. 171.
[703] Thirsk, English Peasant Farming, (1957) p. 318-20.

complete rebuilds and one completely new FB. The emphasis was on quality not quantity. More FBs were constructed of permanent materials than in the Salt Marsh, with only half having timber and/or iron structures. With regard to changes in farm size affecting improvement; Legbourne, the sample parish, saw an increase in farm size, not a decrease, suggesting again that new building provision was to improve existing enterprises rather than serve new ones.

A comparison of cropping, stocking and farm size in sample parishes from each zone of the map exercise sample has so far identified a pattern of increased cattle keeping served by limited buildings' improvement in the uplands and intensified keeping of the same numbers of cattle served by increases in fodder crops and substantial buildings' improvement in the clays and marshes. The final area, the fenlands, were perceived by contemporaries to be less badly affected in the depression than the marshes, clays and uplands. The annual agricultural returns for Billinghay in the Fen Border Region and North Kyme in the Fen were examined to further an understanding of building activity in depression in these two zones.

The experience of the two zones which comprised the Kesteven transect was very different from that of the zones in the Lindsey transect. Whilst the proportion of total crops and grass devoted to corn fell in the sample parishes in all other zones, in Billinghay and North Kyme the proportion remained very high (50% and over). In both parishes cattle numbers were low and remained so. It is clear that farming in the fenlands in the Great Depression was not about reduction of corn acreages accompanied by increases in cattle numbers or intensification of cattle keeping as it had been in the uplands, clays and marshes. Nor was fenland farming in depression about sheep; sheep numbers, which had been low in Billinghay in 1875, fell to the same consistently low level as that experienced in North Kyme in both 1875 and 1900 (fewer than 50 per 100

acres).

In the Lincolnshire fenland in the last quarter of the nineteenth century, the secret of survival was diversification. In her consideration of land use in the fens Thirsk emphasises the importance of vegetables, fruit and crops such as mustard and turnip which were grown for seed. Wilson Fox reported turnips, mangolds, white and brown mustard and blue peas being grown.[704] Hard times encouraged entrepreneurial ventures such as the development of new strains of seed potato.[705] The rich fen soils allowed farmers to experiment with new crops and in Billinghay and North Kyme the potato was one such crop. It had been grown in these two parishes alone, out of all those in the map exercise sample, in 1875. By 1900 the proportion of potatoes as a percentage of all crops and grass in the two parishes had risen from 3-4.99% to 5-9.99%, accompanied by a take-up in other parishes in the Witham fens.[706] These more unusual crops, along with pigs, poultry and horses, were mainstays of the fen economy in the Great Depression.

There were many small, often impermanent, buildings in the fenland. The Fen Border had the highest percentage of small FBs (37.5%), closely followed by the Fen with 36.11%. Small timber and/or iron fieldhouses were especially common in Walcott and Billinghay and after the Salt Marsh, which had the highest percentage of timber and/or iron buildings (80%), came the Fen Border Region with 75% and the Fen with 72.22%. The Fen Border ranked lowest of all for buildings improved, with the Fen ranking sixth. However, the record of buildings improved was not a measure of the particular form of building activity which was taking place in the fenland; one which provided the flexibility necessary for diversification and experimentation.

[704] Thirsk, English Peasant Farming, (1957) p. 314-17; Royal Commission on Agriculture, 'Report of Mr A. Wilson Fox' (1895) pp. 8-9.
[705] Dennis Mills, 'Potato that sold for £0.5m per ton', Lincolnshire Gazette, September 2004.
[706] Brown, 'Agriculture in Lincolnshire', (1978) p. 180-181.

The results of the map exercise suggest that, in the Lincolnshire fenland, buildings were being moved about. The Fen and Fen Border zones were the only ones in the map exercise sample where there was a significant incidence of individual structures being removed from groups and not replaced with another building on the same site. Another characteristic of these areas was the number of FBs disappearing altogether; 25% of FBs in the Fen Border zone and 16.66% in the Fen zone had structures removed and not replaced (Table 13 (p. 260)). In all 12.5% of FBs in the Fen Border and 5.55% in the Fen disappeared altogether, whilst five of the eight new FBs on a completely new site, in the map exercise sample, were in the Fen zone. Although there were no completely new FBs in the Fen Border both this region and the Fen had incidences of buildings being added to existing groups. Given the portable qualities of timber and/or iron, of which many fenland buildings were constructed, this was interpreted as evidence of buildings being relocated as the nature of the farming enterprise changed. Decrease in farm size in both Billinghay and North Kyme would be accommodated in the flexibility of such arrangements as would the complicated pattern of land tenure in the fens, with many farmers having scattered parcels of land individually served by small, makeshift buildings, such as those at Mareham le Fen.

To balance the picture, it should be remembered that not all fenland farmers were smallholders; large estates such as that of Henry Chaplin of Blankney, also held land in the North Kesteven fens. Equally, not all fenland FBs were small; a high proportion of FBs in the Fen zone were medium (45.37%) but very few large or very large. Large FBs were found principally in the north of the zone in Blankney and Martin Fens and the largest FB in either transect, FB173 (TF 143 634), was in Blankney Fen.[707] It remained unaltered throughout the period.

[707] OS 1:2,500 County Series, Lincolnshire Sheet 80.10, First Edition (1889), Second Edition (1905).

In this chapter and the one preceding it, an attempt has been made to understand the farm building activity of Lincolnshire landowners in the context of their expression of the culture of high farming as a set of adaptive strategies relating to ecology and resources. Ecological influences on the examples of the buildings of high farming and on Christopher Turnor's farm building campaign were shown to have been present in the fact that all examples of the buildings of high farming, except that of Loft's model farmstead at Trusthorpe Thorpe, were on land types which included some high quality arable. However, land type was shown not to have been an over-riding factor in dictating patterns of building provision. The spatial distribution of buildings erected with loan capital was also shown to have been influenced by the place of residence of those who commissioned them. Other cultural influences, such as imitation of others and the desire to display high status buildings by siting them prominently beside main roads, also came into play.

The influence of resources, in the form of loan capital, was examined. It was discovered that loan-financed building activity took place from 1855, the year of the first loan for farm building purposes in Lincolnshire, until 1909, the end of the period covered by the study. The NA MAF66 sample showed clearly that loan activity increased in volume in response to the difficulties faced by Lincolnshire farmers in the Great Depression but that amounts borrowed decreased, indicating that the character of building works altered. Depression building was characterised by piecemeal alterations and small-scale adaptations.

Ecological factors came into play in that poorer land, for which it was harder to attract tenants in times of depression, was subject to more building improvements than favourable agricultural regions. The fens, where the size of holdings decreased and their number multiplied, were the area in which the majority of new farm buildings on a new

site occurred but their incidence was not high. Building activity on the uplands was shown to be for accommodating increased numbers of livestock, whilst that in the marshes and clay vales was shown to be for intensification of livestock keeping, indicating that high farming principles of maximising profits through investment were being applied.

The Great Depression brought change which conditioned the adaptive strategies of the farmers and landowners of Lincolnshire to ecology and resources. In the fens, the response was diversification into new crops and flexibility of regime. This was facilitated by the adaptable character of the buildings' stock in this area where there was a high incidence of timber and iron structures. Whilst large farm buildings on the heath allowed for some remodelling to accommodate changes in farming practice, farmers in this area were locked into existing regimes not only by the requirements of the high farming regimes which had been implemented to improve the light soils of the area, but also by the permanence of their buildings. Between 1880 and 1910, not only were Lincolnshire farm buildings shaped by the land type and capital available, they themselves influenced the response of Lincolnshire farmers and landowners to their changed circumstances.

Chapter 7

Conclusion

The aim of this study has been to further our knowledge and understanding of the buildings of high farming in Lincolnshire and, like William Loft in his tower gazebo, it has attempted to achieve an all-round view. The nineteenth-century buildings' stock of the county is an important element of its Historic Landscape Character with farmsteads of this period contributing to the regional distinctiveness of Lincolnshire. At the recent Hoskins' anniversary conference Stephen Daniels remarked that 'landscape history is a hybrid discipline', therefore an interdisciplinary approach was adopted, which drew on a number of domains of thought.[708] The study endeavoured to achieve an understanding of the nineteenth-century farm buildings of Lincolnshire as an expression of a particular culture, that of high farming, using Rapoport's model of culture as a series of complementary definitions.[709] It was considered that this would serve as a framework, capable of embracing the breadth of the subject, whilst at the same time, maintaining a sense of unity and cohesion within the discourse.

An attempt was made to answer the questions 'Who was building what, where, when and why?'. The first of Rapoport's definitions of culture was that it could be regarded as a way of life typical of a group; a set of shared ideas, beliefs and values which identified and defined the members of a particular group and distinguished them from others. This enabled the question of who was erecting the buildings of high farming in Lincolnshire and what was influencing them, to be considered. It was found that there was an identifiable group within the county; the landowners, tenant farmers and owner

[708] Stephen Daniels, chairing 'Perceptions of Landscape', W. G. Hoskins and the Making of the British Landscape, University of Leicester, 7th-10th July 2005

[709] Rapoport, 'Vernacular architecture and the cultural determinants of form', in King ed., Buildings and Society, (1980) pp. 286-7.

occupiers, who were influenced by social contacts and by the information environment of high farming and who involved themselves in activities which embraced and promoted shared values based on this ideology. Tenant farmers were included in the consideration because, although they were not strictly responsible for farm buildings' provision, in practice they were found to erect buildings on their holdings. Furthermore, at times when there was competition to retain and attract tenants, their ideas and requirements assumed importance in decisions regarding farm buildings' provision.

The shared beliefs, values and ideas of the landowners and tenant farmers of nineteenth-century Lincolnshire were manifested in the aims and activities of agricultural societies which sought to promote proficiency in agricultural routines such as ploughing, hedging, draining, shepherding and skill with horses. Alongside these practical skills and often accorded greater importance, there was concern with fostering values such as toil, thrift and self help among the lower orders and an attempt to exercise social control by encouraging stability in the agricultural workforce. Agricultural associations had a dual function, not only did they transmit the beliefs and values of the landowners and tenant farmers of the county, they also provided a forum within which values and ideas were fashioned and reinforced by social contact and information exchange. The shared ideology which was shaped and transmitted by nineteenth-century agricultural societies was an element of the culture of high farming.

Within the landowning and tenant farming group there was an identifiable hierarchy of significant people. At the top were magnates such as Lord Yarborough at Brocklesby, in the north of the county and Baron Willoughby de Eresby at Grimsthorpe and the Marquis of Exeter at Burghley in the south. Such men were shown to be leading figures in promoting agricultural associations in their respective areas. Henry Chaplin, who was active both nationally as an M.P. and locally as one of Lincolnshire's largest

landowners, was important as a representative of the agricultural interest and was closely involved, with Lord Yarborough, in establishing the county agricultural society. Men of this social group, those whom Bateman would classify as 'Great Landowners', served as presidents and patrons of agricultural societies. Below them were the important tenant farmers, land agents and owner occupiers; men such as William Loft, James Martin and William Torr, who served as secretaries and organised shows.

Some of these Lincolnshire figures also held positions in the national society, the RASE, which Henry Handley of Sleaford helped to found. Its journal was foremost in the information environment of the county's nineteenth-century agriculturalists because its content filtered down to local level through abstracts in the popular farming press and readings and discussions in local societies. It transmitted scientific knowledge about soils and plant growth, technical information about machinery and practical advice about underdraining and farm buildings. John Algernon Clarke of Long Sutton was a contributor to the *JRASE.* The writings of James Caird, who was a leading advocate of high farming as a response to the abolition of Protection and John Bailey Denton, an engineer and surveyor, who wrote prolifically on underdraining and farm buildings, were also influential.

Whilst high farming ideas were disseminated in a sober and respectable manner in the pages of the *JRASE,* the writings and activities of John Joseph Mechi promoted them in a much more flamboyant and, sometimes reckless, way. That Mechi had great influence was demonstrated in the example of William Lawson who applied his principles at Mechi Farm, in the Cumbrian village of Blennerhasset. The visitors' book for Mechi's experimental farm at Tiptree identifies the Lincolnshire people whose interest in high farming prompted them to make the journey to Essex. This hitherto unexploited source was used to plot the spatial and temporal distribution of Lincolnshire visits to Tiptree

(Fig. 4 (p. 59) & Table 3 (p. 63)) and it was found that there was a connection between such visits and the existence of local agricultural societies. This is evidence of the influence of the information environment and social contacts on Lincolnshire high farming ideas and activities.

Visiting Tiptree was one of the criteria applied in the compilation of the nominative list of Lincolnshire improvers (Table 4 (pp. 66-74)). Other qualifying factors were the holding of office in either the LAS or the RASE, involvement with local agricultural societies, appearance in the picture of 'Celebrated Ram Breeders', mention as an important sheep breeder in Clarke's Prize Essay on the farming of Lincolnshire and inclusion in the list of breeders in the first Lincoln Red Shorthorn register. Social networks are intricate and fluid so this could not be taken as a definitive list of the high farmers of Lincolnshire. There were some, like William Loft, Joseph Livesey and Henry Chaplin, whose high farming credentials were apparent but who, for particular reasons, did not appear in the list or score as highly as they should. It was an exclusive list but not an inclusive one, in that only those who were high farmers were included, but not all the county's high farmers were guaranteed to have been captured by the criteria applied. It is therefore safe to say that some of those who were particularly active in agricultural circles in the county in the nineteenth century were identified and to note connections between names on the list and those whose improvement activities and farm building works were being discussed.

Another outcome of the detailed study of Mechi's visitors' book was the insight it afforded into the mid-nineteenth-century world of ideas. Many of the comments in its 'Remarks' column were not self-conscious expositions of best practice, such as those contained in contemporary agricultural literature, but spontaneous responses to the example of high farming presented by Mechi. The evidence of these comments was used

in the exploration of the meaning of the term 'high farming' which was undertaken. It was apparent that the term 'high' was a common expression of degree; many of Mechi's visitors pronounced themselves 'highly gratified' by what they had seen. The use of the term to describe farming of particularly fine quality, was the first of the definitions of high farming which were identified. High farming was also shown to be a convenient term adopted by later commentators for the prosperous period in British agriculture in the mid-nineteenth century, although there is some variation in the period to which this epithet is applied.

The third definition of high farming to be identified, was one in which it was used to denote certain practices; the employment of new machinery and power sources, the adoption of new regimes based on advances in scientific knowledge, the liberal application of chemical and organic fertilisers, capital investment in underdraining, subsoiling, reclamation and the provision of farm buildings, all of which were aimed at an increase in productivity. The idea of applying high inputs to achieve high outputs derived from the concept of improvement which was a fundamental element in the culture of high farming. In the nineteenth century the term improvement conveyed the sense of making things better and turning resources to a profit especially when applied to the management of a landed estate. This enlightenment concept was embraced by nineteenth-century agriculturalists and energetically promoted as a virtuous and moral undertaking and a patriotic duty, as well as being an expression of refinement and taste.

However, nineteenth-century high farming was not identical to eighteenth-century agricultural improvement. Another element, that of industrial capitalism, was also present in the ideology which underpinned the practice of high farming. Industrial capitalism involved increasing mechanisation of processes and an attendant centralising of production which created a need for integrated systems to manage labour and

materials. Rationalisation of time was required to promote synchronisation and efficiency in the exploitation of labour and resources. Therefore the working day was divided into clearly defined units of time within which specific tasks were to be conducted. Industrial capitalism was characterised by increasing specialisation and differentiation; functional differentiation relating to tasks and social differentiation relating to status. It also involved the creation and selective appropriation of a surplus. It was these pragmatic notions, fused with enlightenment ideas of improvement and progress, which created the culture of high farming.

The second of Rapoport's definitions of culture suggested that it was the manifestation of a common lifestyle and ideology through a system of symbols, meanings and codes contained within the environment designed by a particular group.[710] Thus the landscape and buildings of nineteenth-century estates were shown to be an expression of the legitimacy, hegemony and power of the landowner. They were part of his substance and a statement of his importance and social status. In twenty-first century terms they constituted part of his corporate image. These things were expressed in the architectural style and detail of estate buildings and in their siting within the landscape. It is important to stress that messages conveyed in this way were not necessarily consciously framed but were subconsciously transmitted as a result of cultural conditioning; what Barthes referred to as 'secreted' messages as opposed to 'concocted' ones.[711]

The form and siting of farm buildings, including labourers' cottages, were shown to be used as a means of social control. Cottages were designed without front doors to encourage honest toil rather than gossip. They were placed inland of the farmhouse in

[710] Rapoport, 'Vernacular architecture and the cultural determinants of form', in King ed., Buildings and Society, (1980) pp. 286-7.
[711] Roland Barthes, Mythologies, (1957)) discussed in Pringle, 'The privation of history', in Cosgrove and Daniels, Iconography of Landscape, (1988) pp. 142-161.

order that the farmer might monitor the comings and goings of their occupants and farmhouse kitchen windows were designed to overlook the farmyard so as to allow close supervision of the workforce. At the same time, the increasing social status of the tenant farmer and the need to attract tenants with the necessary education and capital to engage in high farming, meant that the style, size, and appointment of the farmhouse were designed to appeal to this class of person. Within cottages and farmhouses, provision was made for sleeping arrangements which raised the moral tone by separating the sexes and allowed for the segregation of live-in servants from the farmer and his family.

The culture of high farming included a sense of moral duty to set an example and encourage emulation. This was one of the stated aims of many agricultural societies, a purpose of the shows they staged and a reason why sets of model farm buildings were sited in prominent positions beside main roads. It was recommended that home farms should be within an easy walk of the owner's residence to allow him to display his enlightened agricultural arrangements and encourage his visitors to emulate his good practice. In line with enlightenment notions of rationalisation and industrial capitalist ideas of systemisation, approved characteristics of farm buildings were identified and codified by nineteenth-century commentators such as Denton and those who published farmstead plans in text books on estate management or articles in the *JRASE*.

From this evidence the study identified the principal characteristics of the buildings of high farming to be an integrated, planned layout, with clearly designated spaces for particular tasks. Such buildings were designed to utilise the latest advances in scientific knowledge and technological innovation. Whilst the steading itself might have an industrial appearance, the farmhouse would be aesthetically pleasing and commodiously appointed, designed to attract a tenant with capital who would farm high. The position of the farmhouse in relation to the working buildings of the steading would combine the

need for supervision of the workforce with the status appropriate to the social position of the Victorian tenant farmer and the construction of all the buildings would be substantial and durable so as to ensure the permanence of this manifestation of the common lifestyle and ideology of high farming.

The study draws on the results of over 15 years of field visits. The method of recording approximated to that of Level 3 of the RCHME specifications for recording historic buildings.[712] The principal form of record was black and white photographs accompanied by a visual survey of both the exterior and interior of the buildings. Fieldwork was supported by evidence from oral testimony and documentation such as maps, estate records, family papers and sale particulars. The record exceeded that of RCHME Level 3 in this respect but fell short of it in that measured drawings were not attempted. The outcome, presented in the thesis, constitutes an example of what is achievable, without specialist technical skills, in the recording of historic farm buildings. It is important that examples such as this continue to be put forward in order to encourage the recording of this vanishing class of buildings.

The vulnerability of the evidence is illustrated by the fact that, already, some of the buildings recorded have disappeared. Parts of Home Farm, Great Sturton have been demolished and others of its buildings converted. Valley Farm, Little Ponton has been converted into two dwellings and Grange Farm, East Barkwith is the subject of an ongoing programme of conversion to holiday cottages, in response to the need for modern farmers to diversify into other forms of business. The buildings at Hall Farm, Coleby and Saxby Cliff are empty and deteriorating and the Grade II Listed Buildings at Kirmond le Mire are in a state of imminent collapse. In such instances, the photographic record becomes increasingly important and even a poor image may be the best remaining evidence of the building.

[712] RCHME, Recording Historic Buildings: A Descriptive Specification, 3rd edn. (Swindon, 1996) pp. 1-5.

It was in the interests of presenting a readily accessible archive, that the farmsteads recorded in detail were considered as discrete units. However, it is now possible to assess them collectively, as evidence of the buildings of high farming in Lincolnshire, which answer questions about the nature of what was being built. The characteristics of buildings of high farming identified in the study should be regarded a continuum with different farmsteads falling at various points along it. Some examples, such as Newstead Farm, Stixwould; Binbrook Villa, Binbrook; Manor Farm, Kirmond le Mire and Woodnook Farm and Grange Farm, Little Ponton, all versions of the Macvicar plan featured by Denton (Fig. 5 (p.110)), are classic examples of the buildings of high farming. Sandpit Farm, North Kyme is a fine example of a small model farmstead erected by an owner occupier and Hall Farm, South Rauceby; Home Farm, Stoke Rochford; Hall Farm Coleby and Cold Harbour Farm, Bishop Burton are also good examples which display many of the recommended features.

With its distinctive communicating passageway behind the crewyards and the projection of the straw barn into the centre of them, the Macvicar double E plan fulfilled the high farming prescriptions for ease of communication and economy of labour in feed distribution. Hall Farm, South Rauceby was similarly well appointed with feed passages in the covered yards and cattle houses. Documentary evidence revealed that Home Farm, Great Sturton once had sophisticated feed distribution arrangements involving a tramway and trucks although, sadly, the physical evidence for these had been all but destroyed. At Home Farm, Stoke Rochford, Grange Farm, Little Ponton and Manor Farm, Kirmond le Mire sliding doors and hatches allowed easy communication between feed distribution passages and troughs and mangers.

Lengths of line shafting and pulley wheels to be driven by an externally located portable

steam engine, were evidence of mechanisation of processes at Hall Farm, South Rauceby, Manor Farm, Kirmond le Mire, Grange Farm, Little Ponton and Binbrook Villa. The dereliction of Manor Farm, Kirmond meant that this evidence was particularly undisturbed and here there was even a Clayton and Shuttleworth corn mill still *in situ*. The water wheel powering barn machinery as well as the estate sawmill, at Home Farm, Stoke Rochford, was evidence of an earlier source of power whose installation may be attributable to the Scottish influence of the architect, William Burn.

Evidence for the change in use of the barn from a place for hand threshing and housing unthreshed corn, to one in which feed was stored and processed, was noted by Barnwell and Giles in their RCHME South Lincolnshire study area.[713] They considered that this development took place in the second half of the nineteenth century. Evidence from the farmsteads recorded in this study confirmed that the change had certainly been effected by the time of the erection of Sandpit Farm, North Kyme in 1876 and, on the Turnor estate, by around 1860. The evidence for this is that Newstead Farm, Stixwould (1847) and Hill Farm, Wispington(1855), were designed with the barn at one end of the north range and presented no evidence of mechanisation of barn processes, whereas Macvicar's design had been modified to place the barn at the centre of the north range and utilise steam power from a portable engine, by the time Binbrook Villa, Binbrook, Grange Farm, Little Ponton and Manor Farm, Kirmond le Mire, were constructed in the 1860s.

One of the industrial capitalist influences on high farming was the designation of particular spaces for particular tasks and the organising of these in an hierarchical manner. The placing of subsidiary agricultural processes such as dairying, poultry keeping and pig keeping in a separate area of the steading at Hall Farm, South Rauceby and Newstead Farm, Stixwould, was evidence of this. So, too, was the placing of the

[713] Barnwell and Giles, English Farmsteads, (1997) pp. 49-50.

waggon shed in a range which extended beyond the outer walls of the core of the steading at Sandpit Farm, North Kyme. This arrangement also provided for unrestricted vehicular access to the waggon house and was part of the concern for a convenient flow of activity in and around the steading which was another characteristic of the buildings of high farming.

There was strong evidence on the Turnor estate, for the provision of high status farmhouses, which would reflect the social position and importance of the substantial tenant farmer and serve to attract a man with the education and capital to farm high. The houses at Newstead Farm, Stixwould; Binbrook Villa, Binbrook; Woodnook Farm, Little Ponton and Grange Farm, East Barkwith, were particularly fine examples. Many of the farmsteads visited sported a cupola and dovecot. This was an ostentation which evoked the suggestion of seigniorial rights and permanence of occupation. Scopwick House, Scopwick; Hall Farm, Coleby; Newstead Farm, Stixwould; Abbey Farm, Stixwould; Manor Farm, Kirmond le Mire and Grange Farm, Little Ponton all had cupolas.

Extreme examples of the buildings of high farming were often of an industrial appearance. This was not the case on the Turnor estate, where the landed proprietor in question preferred to project an image of refinement and taste, but it was apparent on farms constructed by those with industrial or commercial backgrounds such as Livesey and Mechi or men such as Lawson and Loft who aspired to make a name for themselves as enlightened improvers. By going to extremes and investing heavily in excessive innovations Mechi, Lawson, Livesey and Loft all overreached themselves and their enterprises failed. A revealing insight into their attitude to this is afforded by Lawson, who wrote 'Tis better to have farmed and lost than never to have farmed at all', but conceded that this was 'true as regards some men who can afford that excellent experience; it being one of the advantages of the rich, that they are able to test that,

which, because of its uncertainty and expensiveness, few can try'.[714]

Not all of the nineteenth-century Lincolnshire farmsteads visited exhibited a majority of the characteristics of high farming. Some were examples of developed steadings which were the subject of piecemeal additions, over time and included some recommended features but not all. In the case of the Turnor estate, the steadings at Grange Farm, East Barkwith, Grange Farm, Mareham on the Hill and Manor Farm, East Torrington, deviated from the recommended layout, although they were of a quality of construction and permanence which was in line with high farming prescriptions. Grange Farm, East Barkwith had been provided with a high status farmhouse. All three had a regular and coherent layout, as had the small vernacular Turnor farmstead at Valley Farm, Little Ponton. Heslin's Barn Farm, Stoke Pasture, also a Turnor farmstead, was essentially an eighteenth or early nineteenth-century threshing barn to which a shelter shed had been added, at right-angles to its south wall. These examples serve as a reminder that not all Lincolnshire's nineteenth-century farm buildings' stock were text book examples of the buildings of high farming, yet many exhibited high farming influences. Furthermore, although the Turnor estate had its own particular version of a high farming design for its steadings, not all farms on the estate were equipped to this high standard.

The developed steadings at Heslin's Barn Farm and Saxby Cliff were essentially manure factories on the newly-enclosed light soils of the heath. As such, they were responses to the requirements of the particular type of land they served. The example of the Turnor estate, which covered a considerable area of upland, clay vale and fen edge but not marsh and fenland proper, enabled the distribution of farm buildings' provision on a range of land types within these regions, to be considered. Denton noted that Turnor had provided buildings to the same Macvicar plan on a number of farms across his extensive

[714] Lawson, Ten Years of Gentleman Farming, (1874) p. 147.

estates.[715] The results in Table 6 (p. 191) showed that the buildings of high farming were provided on all land types ranging from good arable to heavy, ill-drained land, some of it of the very poorest quality. Table 6 also showed that Macvicar plan buildings were not the only ones provided on good land, steadings of all types occurred in all zones and on all qualities of land. The one constant factor was the fact that there was always some good arable land present when high farming buildings were provided. It can be concluded that land type was not an overriding factor but one of a number of influences, some conscious and others subconscious, which affected decisions regarding building provision.

The example of the Turnor estate provided evidence of other elements at play in the decision-making process. The steadings at Woodnook and Grange Farm, Little Ponton were both large versions of the Macvicar plan, prominently sited beside main roads. Close inspection of the steadings revealed that they had been provided with a high status stone façade but cheaper, less prestigious brick, had been used for walls on elevations which were not visible from the road. This was also the case at Hall Farm, South Rauceby, a high status, architect designed home farm which was faced with stone but given brick façades on less prominent elevations. The conclusion is that although the buildings of high farming were working buildings, carefully designed to serve a practical purpose, their siting and appearance were also important. They were part of the conspicuous consumption of the landowner reflecting his taste and social status.

It has been suggested that estate buildings were used to identify the landowner, that they were likely to be more ornate when in a prominent position and nearer to the nucleus of the estate and that distance decay would take place with increasing distance from the estate heartland. However, this was found not to be entirely the case on the Turnor estate, with high farming buildings being provided on holdings in all parts of the

[715] Denton, Farmhomesteads of England, (1864) p. 48.

county. It may be that this indicates that farmsteads were not as favoured for this type of statement as cottages, schools and public houses, or it may be that Turnor's individual circumstances influenced his pattern of behaviour. Barnwell and Giles suggested that family fortunes and personalities were probably as important as statistics in determining the nature and timing of farm buildings' investment.[716]

The Turnor estate was essentially bifocal with a centre at Panton in the north as well as Stoke Rochford in the south and farm building began soon after Christopher Turnor inherited, in the north of the estate, where he was currently based. A decade later, when his new mansion was built in the south at Stoke Rochford, he began to build more frequently in this area as well. It could be that Turnor was building close to the current nucleus of his estate or that he was using high status farm buildings in the more remote detached portions of his estates, as a reminder of his presence and to maintain his influence from a distance. The wide geographical spread of steadings constructed during his intensive building campaign 1867-72, would support this second interpretation.

The Turnor evidence is inconclusive and further investigation of distance decay in buildings' provision is required, taking a larger sample of estates. Unfortunately, it was not possible to undertake this using the land improvement loan data, the major body of quantitative evidence assembled for the study, because in these records borrowing is located by parish and it was common for landowners to borrow for groups of parishes in different parts of their estates, all under the same loan.

The decision to build as a means of retaining and attracting tenants was shown to be the case on the Turnor estate and in the later cartographic analysis of building in depression. Detail of Turnor building activity showed that farm building works were often initiated at the time of a prospective change in tenancy on a holding. In the map exercise sample

[716] Barnwell and Giles, English Farmsteads, (1997) p.154.

it was found that there were high levels of improvement on particularly heavy, wet or light, dry lands during the Great Depression, suggesting that landowners were using buildings in their bargaining to secure tenants, at a time when many unlet holdings were having to be taken in hand. There was documentary evidence to support this conclusion. It was also apparent that tenants' preoccupations altered with the deterioration in agricultural profits. Fine houses were important in the prosperous years mid century and at Binbrook Villa, Binbrook and Woodnook Farm, Little Ponton, in the 1860s, a fine house was constructed before the new steading. The pressure to improve buildings' provision in the depression years, on lands which were more difficult to cultivate, suggests that with adversity, tenants' priorities altered and decisions became more closely related to practical farming concerns.

There was considerable evidence from the land improvement loan data, of building activity being undertaken as a result of social influence. Sometimes there was a practical element to this with neighbours co-operating on a particular improvement scheme such as draining and enclosing, which led on to the provision of farm buildings on newly-created holdings. In other cases, the activity of neighbouring landowners prompted imitation and resulted in farm building activity by residents in the same area even when no immediate need for new buildings was apparent.

Often it was the incumbent who imitated the landowner's borrowing and the land improvement loan data and the records of loans taken out under the provisions for Mortgages under Gilbert' Acts, provided new insights into the rise in status of the clergy, their involvement as part of the landowning group in the county and the extent to which they were engaged in practical agricultural activities. Agricultural society membership lists showed that clergy involved themselves in this aspect of the activities of landowning and tenant farming society. There were 51 clergy listed as members of the

LAS in 1871 and six Lincolnshire members of the RASE in 1873. Some, for example the Rev. J. Tunnard of Frampton, held office. Tunnard was a Vice President of the LAS and President of the Boston Agricultural Society.[717]

Between 1855 and 1910, over a quarter of Lincolnshire farm buildings' loans were taken out by clergy and they also took out mortgages for farm buildings on their glebe and provision of agricultural buildings connected with their parsonage houses. Whilst this is important evidence which invites further consideration of the agricultural activities of nineteenth-century Lincolnshire clergy, it should not be taken to mean that clergy were responsible for over a quarter of all the farm buildings erected in the county during this period. Clergy are disproportionately represented in the loan data because the nature of their land holding and their level of income, meant that they were more likely to resort to borrowing for farm buildings than members of other social groups.

Rapoport suggested that culture could be defined as a set of adaptive strategies to ecology and resources and it was within the framework of this definition, regarding ecology as land type and resources as capital, that the spatial and temporal distribution of farm building activity was considered along with the level of expenditure on farm building provision.[718] The identity of those investing in farm buildings was found to be a significant factor in the spatial distribution of loan activity. It was concluded that it is unsafe to draw conclusions about the level of buildings' investment on different land types generally, from the loan data because this plotted where the landowners who borrowed had estates, rather than showing the overall response of landowners to different land types.

[717] Lincolnshire Agricultural Society Annual Report, 1871, pamphlet in LAS archive; 'Members of RASE' JRASE, 2nd ser. 9 (1873); Mona Skehel, Tales from the Showyard, (Lincoln, 1999) p. 121.
[718] Rapoport, 'Vernacular architecture and the cultural determinants of form', in King ed., Buildings and Society, (1980) pp. 286-7.

The loan data are used for farm buildings' study because they are the most comprehensive source identified so far . However, it is important to remember that Phillips estimated that they represent only about 10% of estates over 100 acres, leaving the activity on the other 90% to be investigated by some other means.[719] The map exercise was an attempt to develop a new methodology for this purpose. One of the major strengths of the cartographic evidence analysed in the map exercise, is that it encompasses every farm building, in all forms of ownership.

Barnwell suggested that small owner occupiers might be more likely to invest in major improvements in prosperous times, than large landowners.[720] However, although not affording evidence of the activities of small owner occupiers, the improvement loan data showed clearly that large landowners frequently borrowed for farm building works, prior to 1880. Over a quarter of the largest landowners in Lincolnshire, including Henry Chaplin, the third largest and Turnor, the fourth, began borrowing for farm buildings' improvements before 1880, suggesting that there was no lack of investment by large landowners in Lincolnshire in prosperous times.

Turnor's most energetic phase of farm building activity was identified from the loan data and other sources, as 1867-72. This coincides with a sub-peak in farm building investment nationally, which was identified by Phillips from the loan data. However, it predates the peak in Lincolnshire farm buildings' activity, identified from the same source, in the current study.[721] In Lincolnshire, about two-thirds of all loans taken out 1855-1909, were for farm buildings' purposes. The highest amounts invested were in the period 1870-89 with investment peaking in 1880-84. Lincolnshire experienced a more prolonged period of investment than that identified by Phillips nationally and its peak was five years later. The inference is that Lincolnshire landowners remained

[719] Phillips, SSRC Report HR7263, 'The spatial adoption', (1983) p. 1.
[720] Barnwell, 'An Extra Dimension', Ag.HR (1998) pp. 43-44.
[721] Phillips, SSRC Report HR7263, 'The spatial adoption', (1983) p. 1.

optimistic longer than landowners nationally and tried to invest their way out of difficulty. Barnwell and Giles attributed this pattern of behaviour to the previous experience of the county where, in the 1820s and 30s, under-performing agriculture had been rescued by high levels of investment.[722] It is also a reminder of Jonathan Brown's point that whilst we, in retrospect, consider the Great Depression to have begun in the late 1870s, the causes of the downturn were not immediately apparent to people at the time. He considered that it was in the mid-1880s, that it was realised that the problems were attributable to factors other than a run of bad seasons.[723]

An important finding, as a result of looking at the number of loans 1855-1909, as well as their value, was that farm building activity actually increased in depression, with the average number of loans per annum being 12.57% higher, after 1880. However, the nature of building activity was very different, with amounts borrowed falling away after 1885. The average amount of each Lincolnshire farm buildings' loan before 1880 was £852-2s-8d and after 1880, £597-3s-8d, a 30% reduction. There was a minor upturn in amounts expended on farm buildings' improvement 1905-09, which agrees with suggestions that the Great Depression had abated by this time and a tentative recovery had begun.[724]

It is not surprising that building activity took on a new urgency in depression. Changes in circumstances, whether for better or worse, demand a response. What is clear is that whilst numbers of loans may have increased after 1880, their value dwindled once the seriousness of the situation became apparent. This suggests that the nature of building works changed. Farm building costs in the 1860s are thought to have been £7-£9 an acre for equipping a holding with a complete set of buildings, including a farmhouse,

[722] Barnwell and Giles, English Farmsteads, (1997) pp. 149-50.
[723] Brown, 'Agriculture in Lincolnshire', (1978) p.191.
[724] E. J. T. Collins, 'Rural and Agricultural Change', in Collins ed., The Agrarian History of England and Wales, (2000) pp. 208-223.

constructed in line with recommended high farming principles. This was the level of expenditure suggested by Denton and Phillips' study of Staffordshire 1858-68, found outlay to be of this order.[725] Grange Farm, Little Ponton was the one Turnor farm for which sufficient information was available to calculate the level of investment in the new farmstead and, at £7-16s-0d per acre, it was found to reflect these estimates closely.

However, not all farm buildings' schemes involved the provision of a complete new farmstead even in the prosperous times mid century. Most were more modest undertakings in which existing buildings were extended or remodelled. It was found that only 8 (16.66%) of the 48 large holdings in the Turnor rent book transcriptions were equipped with buildings to the Macvicar high farming plan. Costs for remodelling and extending farm buildings are estimated to have been around £2-£3 per acre mid-century and Turnor's expenditure of £2-7s-2d per acre on works of this nature at Grange Farm, East Barkwith, coincide with this suggestion.[726] The more modest amount per loan, expended on farm buildings' schemes after 1880, suggests that it was works of this nature which were being undertaken.

Farm building in depression was characterised by judicious investment in works which were carefully contrived to meet the necessities of the times and bring a satisfactory return on the investment. This was evident from the analysis of map evidence for changes in the 288 sets of farm buildings which fell within two transects of the county, between the mid-1880s and the middle of the first decade of the twentieth century. This found only six entire rebuilds and eight completely new steadings in the 54 square miles sampled. Five of the eight new steadings were in the Fen zone where farm size decreased in the period and the attendant multiplication of holdings would necessitate additional

[725] Denton, Farmhomesteads of England, (1864) used as the basis of Holderness, 'Investment, Accumulation and Credit' in Collins ed., The Agrarian History of England and Wales, (2000) Table 13.5, p. 899; Phillips, Staffordshire Reports,(Stafford 1996) pp. 3, 38.
[726] Phillips, 'Landlord Investment in Farm Buildings', in Holderness and Turner, (1991) p. 204.

farm buildings.

It was found that the assumed relationship between size of holdings and size of buildings, upon which calculations of investment are often based, did not pertain except on the Heath (Table 17 (p. 280)). The Heath was an area in which the type of high farming advocated by nineteenth-century agricultural writers, was practised. The fact that it was this area which fitted the text book principle of size of buildings reflecting size of holdings is therefore not unexpected. The breakdown of the relationship observed in all five other land-type regions of the county is a reminder of the dangers of relying too heavily on contemporary comment, when studying nineteenth-century buildings' provision.

The cartographic analysis afforded increased knowledge of two particular types of farm buildings; horse engines and covered yards. Horse engines are under-represented in the physical evidence for forms of motive power being utilised on late nineteenth-century Lincolnshire farmsteads because of the ephemeral nature of their construction. However, the discovery of a number of horse engine pathways on the exterior of the barn wall, on the maps under scrutiny, revealed that this form of motive power continued in use for barn processes on Lincolnshire farms, into the early twentieth century.

Eight covered yards were identified in the map exercise sample. Their infrequent incidence in the county was attributed by contemporary writers, to the low rainfall of the area. Six of the eight examples were in the central clay vale with a cluster of three in one parish; Faldingworth. This was on the Cust estate and it was considered from the built evidence, the findings of the RCHME survey and the documentary record, that their provision was often a feature of estate improvement policy. The clays were the area of the county worst affected by the depression and provision of covered yards

might have resulted from tenant pressure for improvements to buildings. The map exercise found that buildings' improvements were most common in areas which experienced greatest hardship during the depression, suggesting that landlords in these areas acceded to requests for improvements to secure tenants.

The provision of covered yards was a feature of the intensification of livestock keeping in the clay vales and salt marshes during the Great Depression, which was identified in the study. Numbers of cattle in these areas were found not to have increased but the growing of feedstuffs, turnips especially and the improvement in accommodation, suggested that here the response to depression was the intensification of livestock keeping. On the uplands, cattle numbers increased and this was accompanied by a limited response in terms of alterations and improvements to buildings. However, it may be that the large, permanent buildings which characterise these upland areas, allowed for internal adaptation for increased livestock numbers, which was not revealed in the map exercise.

The sufferings of the Heath during the Great Depression were aggravated by the inflexible nature of regimes implemented to maintain the fertility of its light soils and the permanence of its buildings, which militated against re-equipment and diversification. In contrast, the fenland, which was widely regarded as faring better during the depression, was an area where flexibility and diversification were promoted by the pattern of landholding, the fertility of its soils and the adaptability of its buildings. This area had a high percentage of timber and/or iron structures. Such buildings had the great advantage of admitting easy removal and relocation and it was found that part of the response of fenland farmers to the Great Depression was to move their buildings about to serve changes in regime and cropping.

There are two major outcomes of this study. One is a significant body of material recording the form and substance of Lincolnshire's nineteenth-century farm buildings' stock, much of it relating to Turnor farm buildings, about which there had been calls for more to be discovered. The other principal outcome is an extension of our knowledge of the identity of those who constructed the buildings of high farming in Lincolnshire and an increase in our understanding of the factors which influenced decisions to build. The variation over time in the amounts which were expended and the nature of the buildings which were constructed, are other important factors which were investigated. The study has also furthered our knowledge of the response of Lincolnshire landowners and farmers to the Great Depression.

New sources of information about farm buildings' provision have been identified. The land improvement loan records, including the reports of Andrew Thompson, have been thoroughly interrogated by Phillips to construct a picture of farm building activity at national level and to consider more intimate detail at local level, in the case of Staffordshire. However, the borrowing activity of Lincolnshire landowners, Christopher Turnor in particular, has not been recognised widely prior to this research project. The records of Mortgages under Gilbert' Acts have yet to be fully examined to discover more about the agricultural activities of Lincolnshire clergy and Mechi's visitors' book and the identity of Lincolnshire improvers are both subjects which invite further study. The use of a series of maps to examine change in farm buildings' provision in detail, for a large area, is now being developed by English Heritage, using the latest Geographic Information Systems (GIS) technology. Although the medium of research and record is different, the methodology developed for the map exercise and the possibilities of analysis it identified, are relevant to this latest study.

It is intended that what has been discovered in this study will be shared through

publication. Farm buildings are a class of building which is gravely under-researched. It is hoped that the findings of the study will be of use in helping to characterise the historic farm buildings of Lincolnshire and that it will assist in the identification of those which are exceptional and those which are significant examples of the typical, thereby informing policy regarding the preservation and management of this important landscape element. Over and above this, it is hoped that this study will make a worthwhile contribution to the overall body of knowledge about the buildings of high farming in Lincolnshire.

Appendix 1

Plates

The compilation and presentation of a record of the nineteenth-century farm buildings of Lincolnshire was one of the main aims of the thesis. In the interests of objectivity and consistency they were recorded in black and white, which is the natural language of reportage. This reveals the form and substance of the buildings without the embellishment and variation introduced by colour photography. Farm buildings are difficult to photograph because of their large proportions and their proximity to one another. In some instances aesthetic considerations relating to composition of a picture were sacrificed in the interests of achieving a better record of details of construction.

A **magnifying glass** is recommended for examining the architectural detail.

The location is Lincolnshire and the source of the photographs A. S. Brook, unless otherwise stated.

Plate 1 Longhouse, Lettaford, Dartmoor, Devon. An early building form in which humans and cattle were accommodated under one roof, separated by a cross-passage

Plate 2 Early 16thC timber-framed wool barn, Greatford

Plate 3 13thC monastic barn, Frocester Court, Gloucestershire

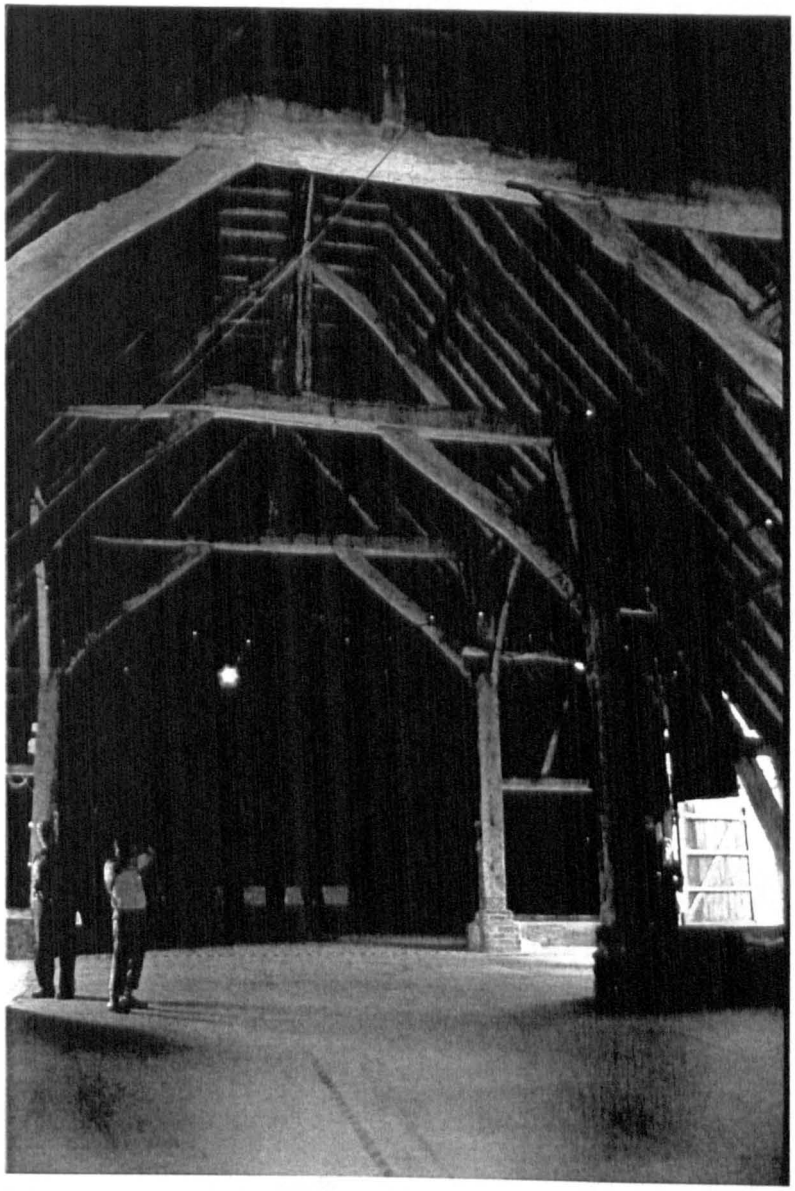


Plate 4 Interior of 14thC barn, Court Lodge, Lenham, Kent

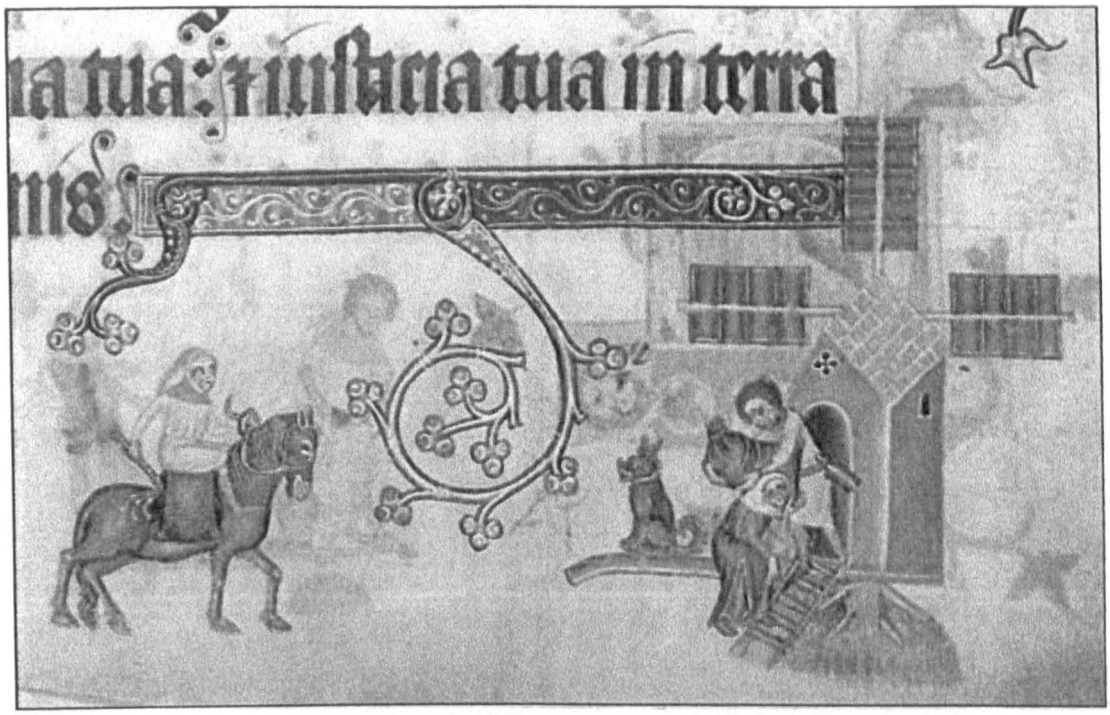


Plate 5 Tiled windmill of post construction, Luttrell Psalter
Source: Luttrell Psalter, British Library,
http://www.fathom.com/feature/122156/1642_windmill_LG.html, accessed 5/12/05

Plate 6 Timber and thatch watermill, Luttrell Psalter
Source: Luttrell Psalter, British Library,
http://www.fathom.com/feature/122156/1642_watermill_LG.html, accessed 5/12/05

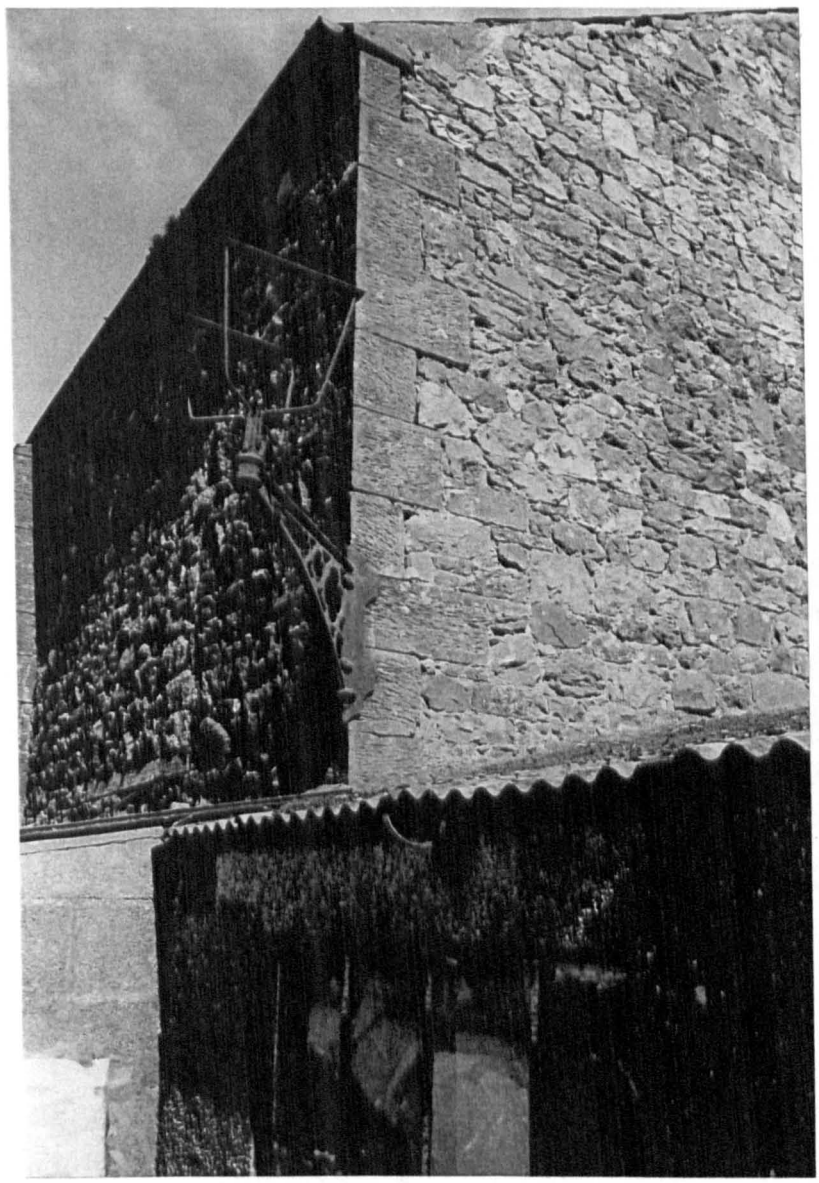


Plate 7 Gas light bracket, Mechi Farm, Blennerhasset, Cumbria

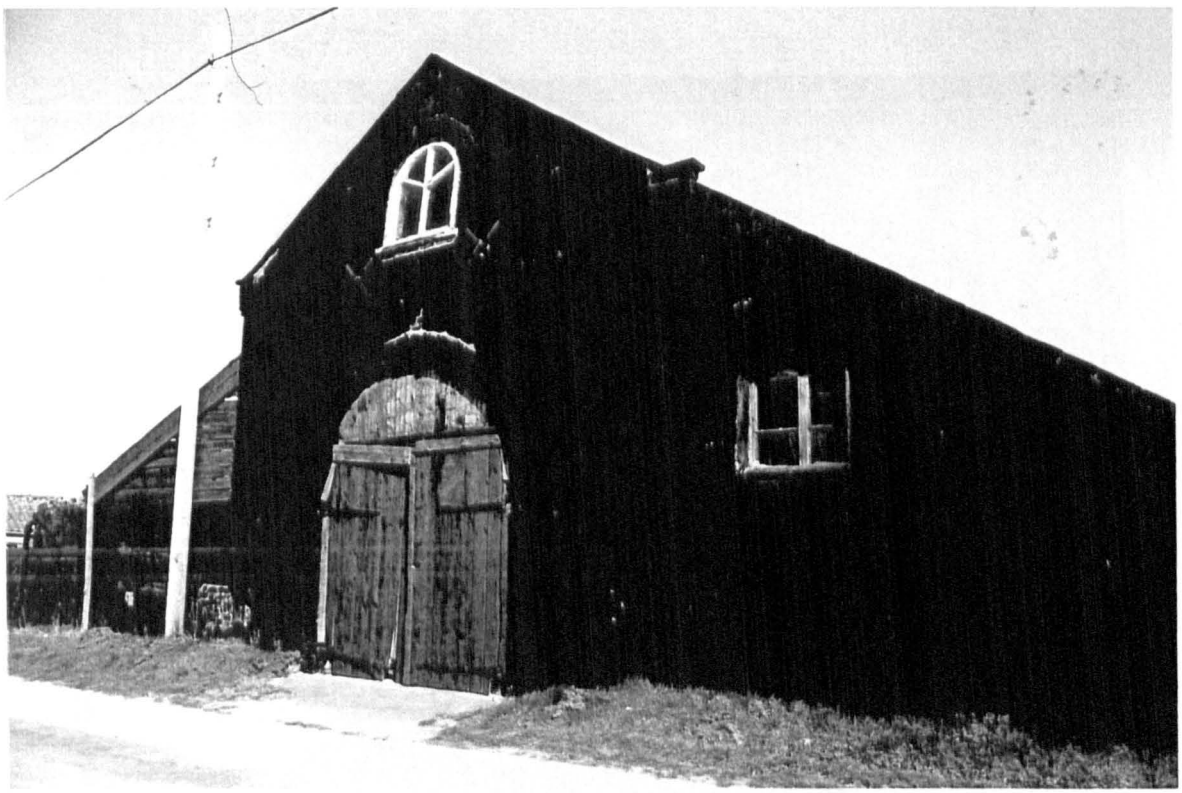


Plate 8 Turnip barn with lean-to cattle sheds, Toft Monks, Norfolk

Plate 9 John Constable's view of Preparations for Spring Sowing, Stour valley, Suffolk, 1814
Source: http://www.wga.hu/frames-e.html?/html/c/constabl, accessed 5/12/05

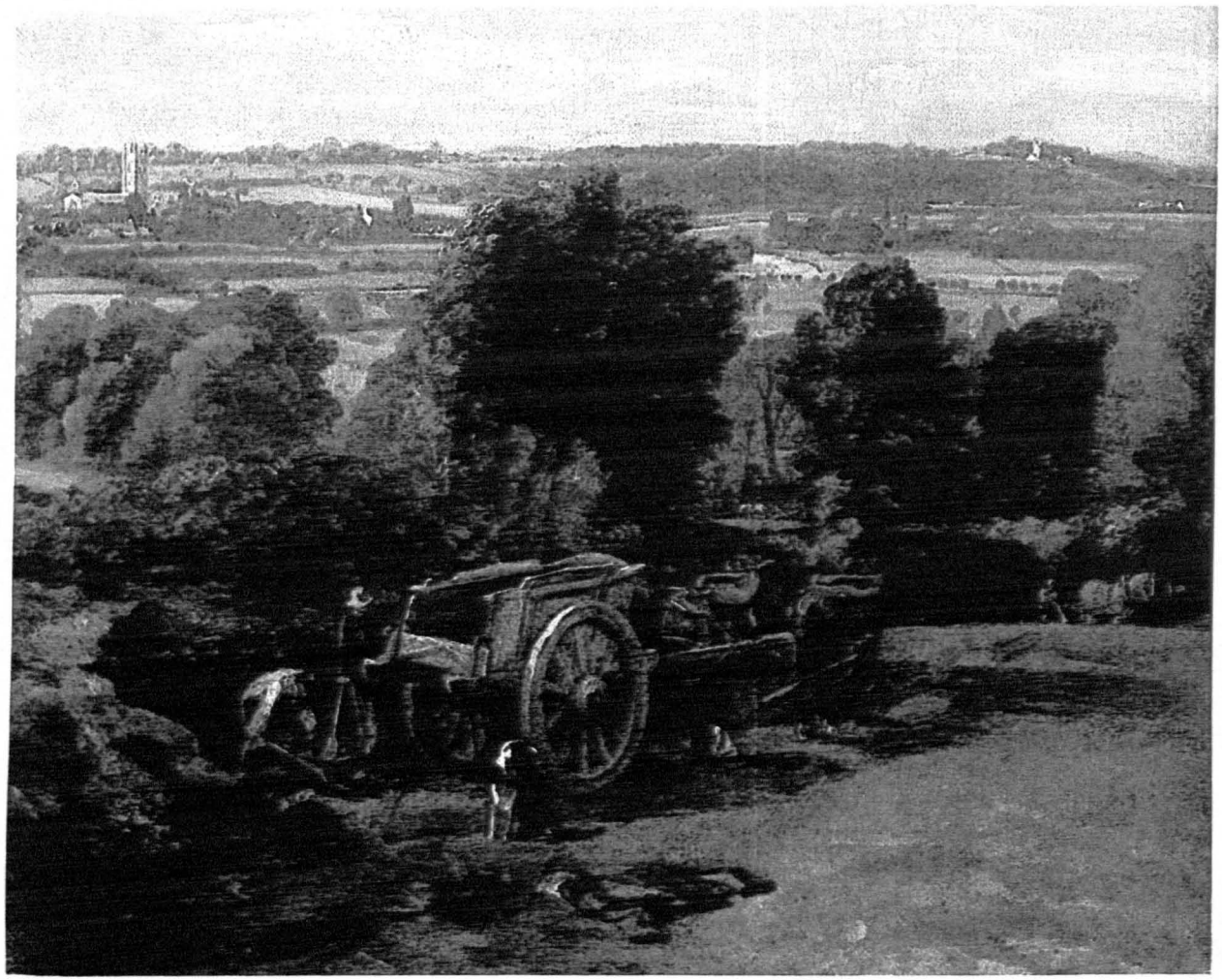


Plate 10 Heavily-ornamented cottage, Blankney

Plate 11 Tudor-style cottages, Blankney

Plate 12 Vernacular cottages, Blankney

Plate 13 Vernacular steadings, Blankney

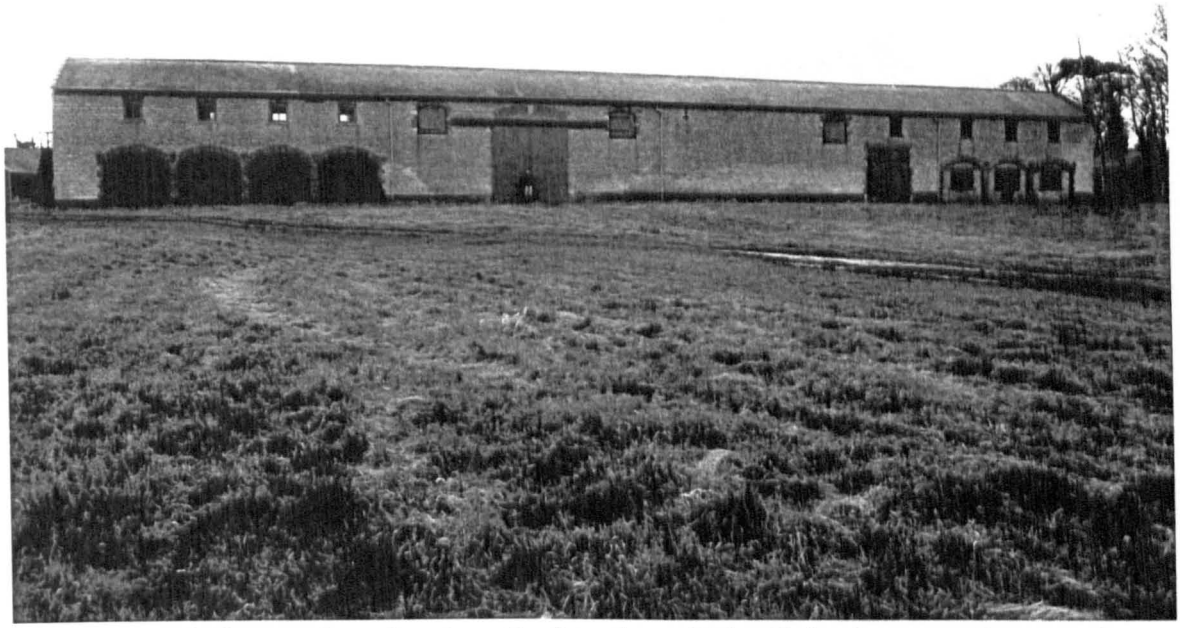


Plate 14 Vast stackyard and north elevation of Chaplin's showcase farmstead, Scopwick House Farm, Scopwick. The six foot figure in front of the barn is dwarfed

Plate 15 Date, initials and Whichcote crest on estate cottages, Aswarby

Plate 16 School with Whichcote crest, Osbournby

Plate 17 Pub with Whichcote crest, Osbournby

Plate 18 Ancaster coat of arms, Red House Farm, Walcott near Folkingham

Plate 19 Cottages without front doors, Chaplin estate, Thompson's Bottom

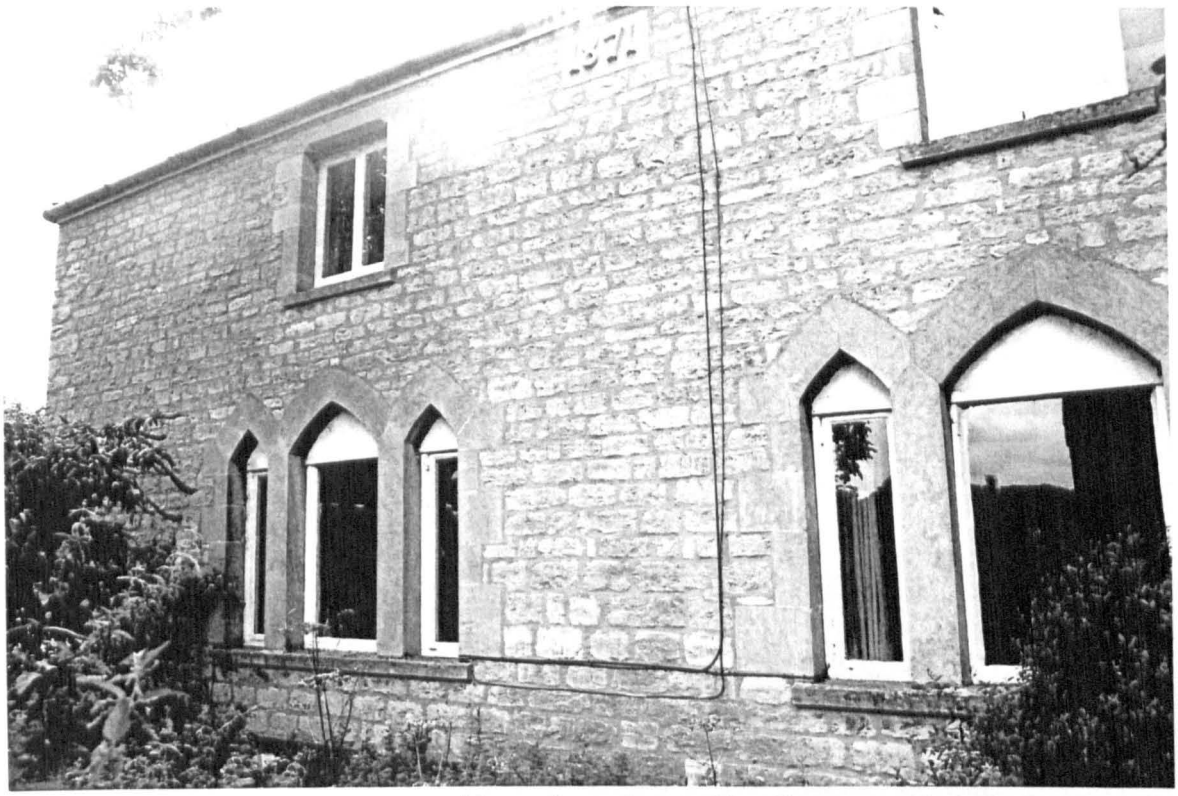


Plate 20 Dated cottages without front doors, Chaplin estate, Temple Bruer

Plate 21 Cottages without front doors, dated 1894 and initialled C. C. S. (Coningsby Charles Sibthorp), on the Sibthorp estate, Canwick

Plate 22 Cottages on the Heneage estate, South Willingham, again without front doors

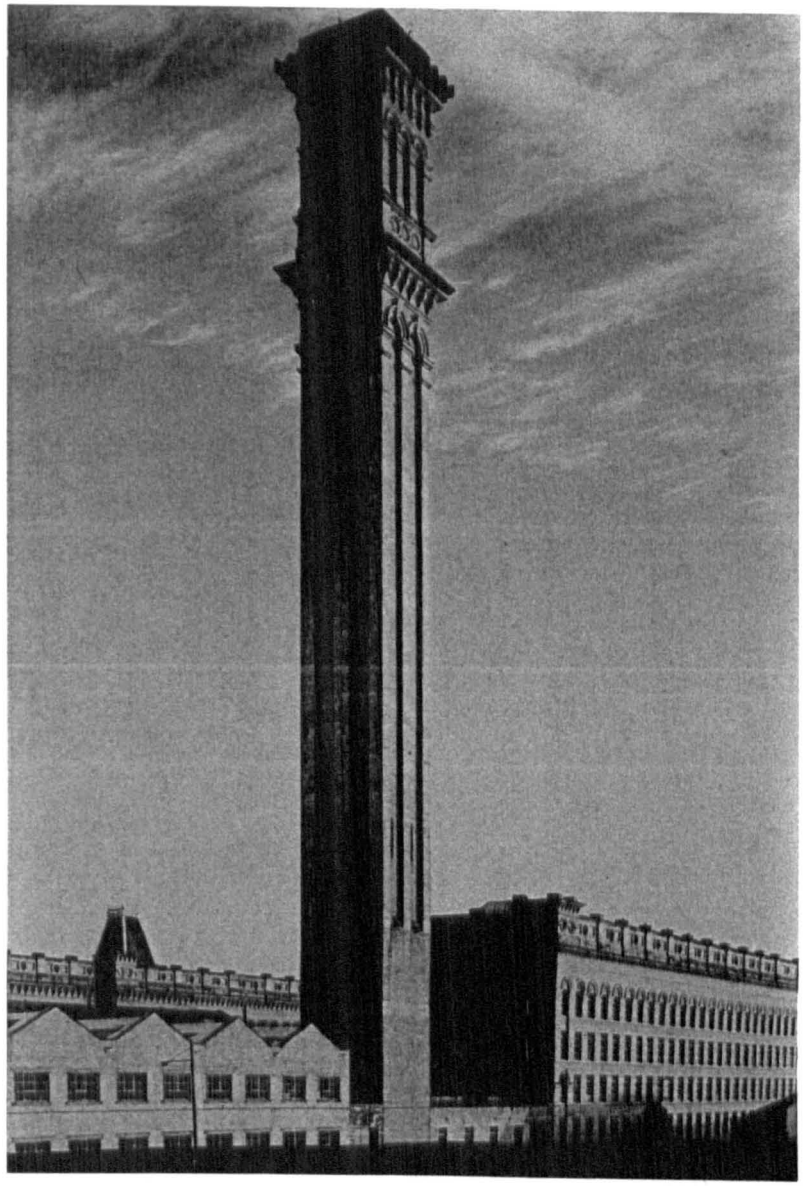


Plate 23 Italianate tower, Lister's mill, Manningham, Bradford, West Yorkshire

Source: http://en.wilkipedia.org/wiki/Lister%27s-Mill, accessed 28/7/05

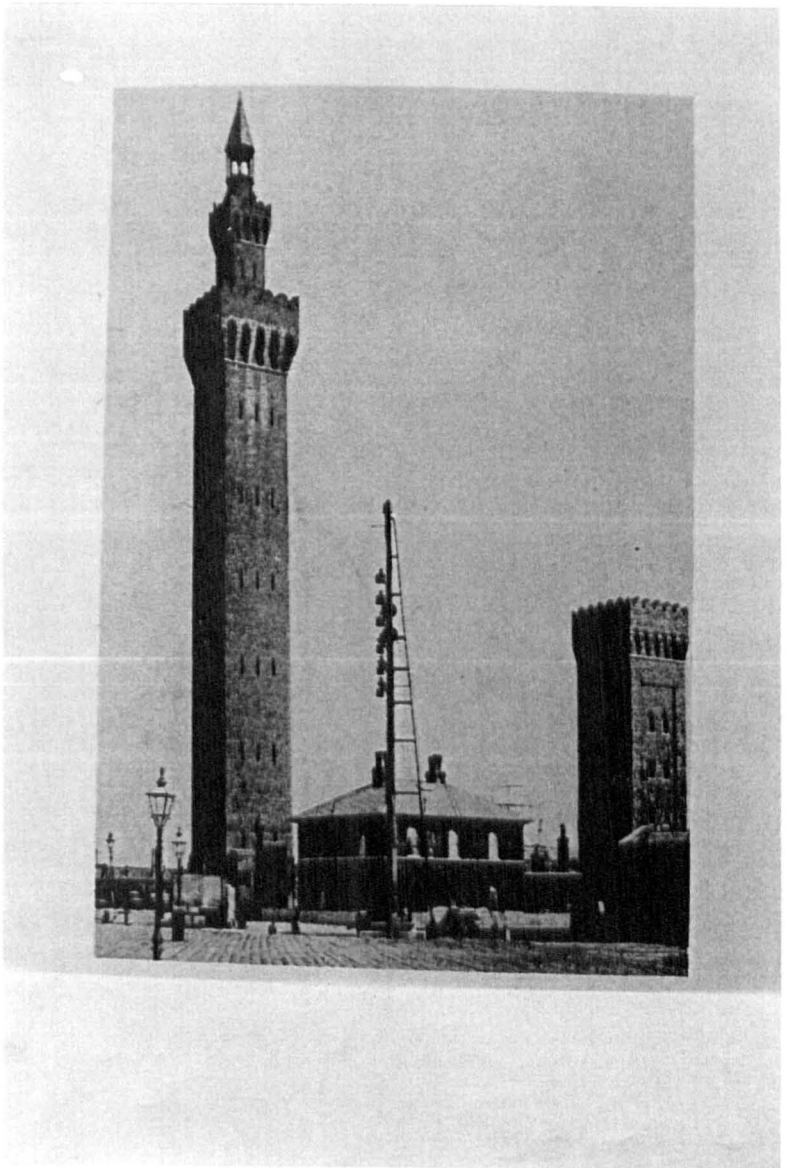


Plate 24 Grimsby Dock Tower

Source: David Kaye, The Book of Grimsby, (Buckingham, 1981) p. 89

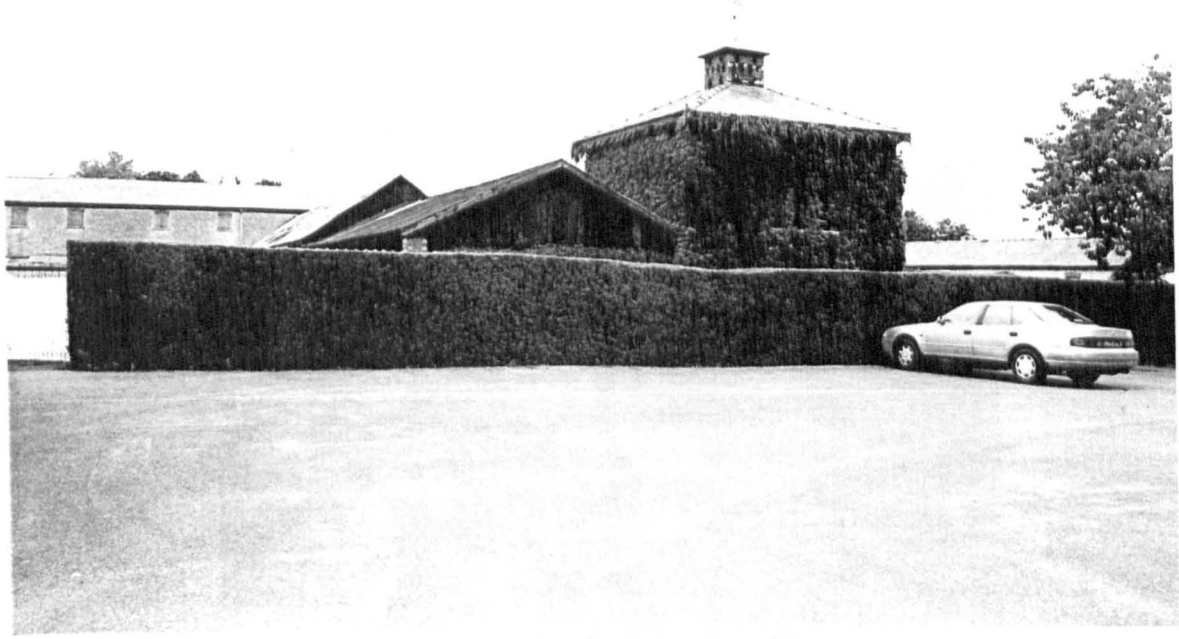


Plate 25 Dovecote, Scopwick House Farm, Scopwick

Plate 26 Clock tower, now missing its clock, Mechi Farm, Blennerhasset, Cumbria

Plate 27 Dovecote and clock, Cold Harbour Farm, Bishop Burton, East Yorkshire

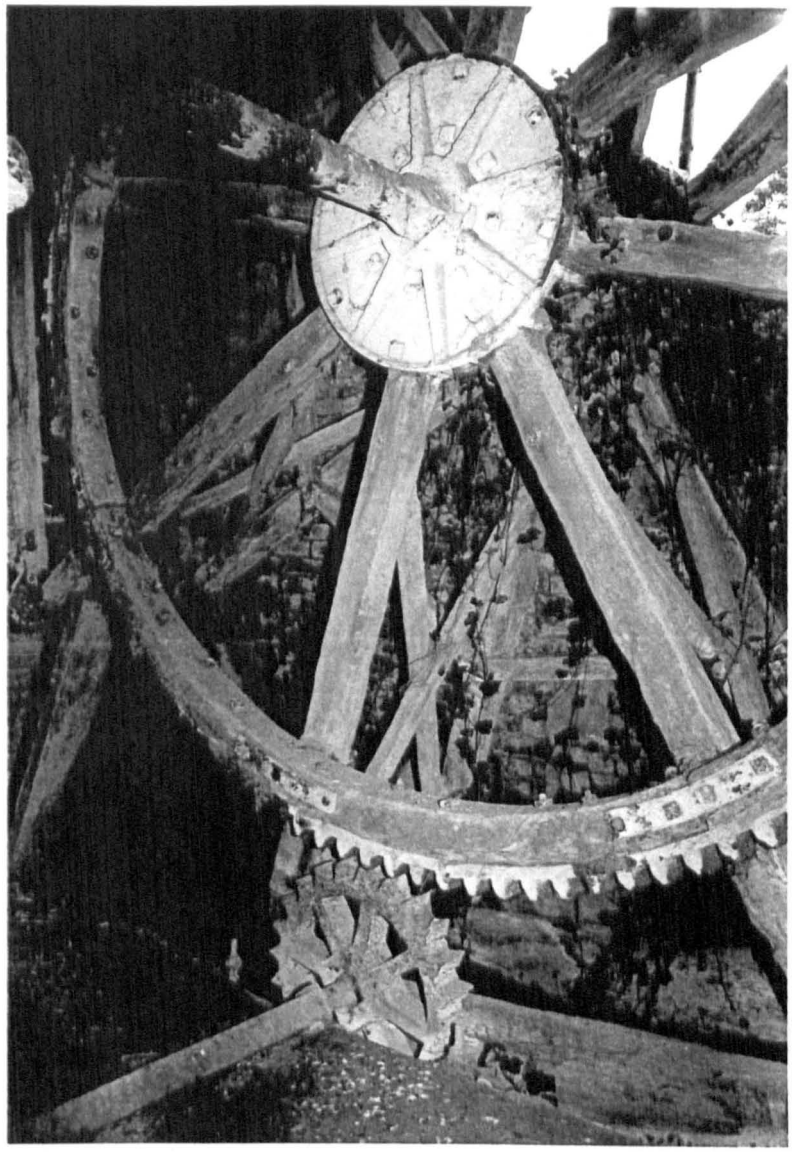


Plate 28 Water wheel, Thoresway

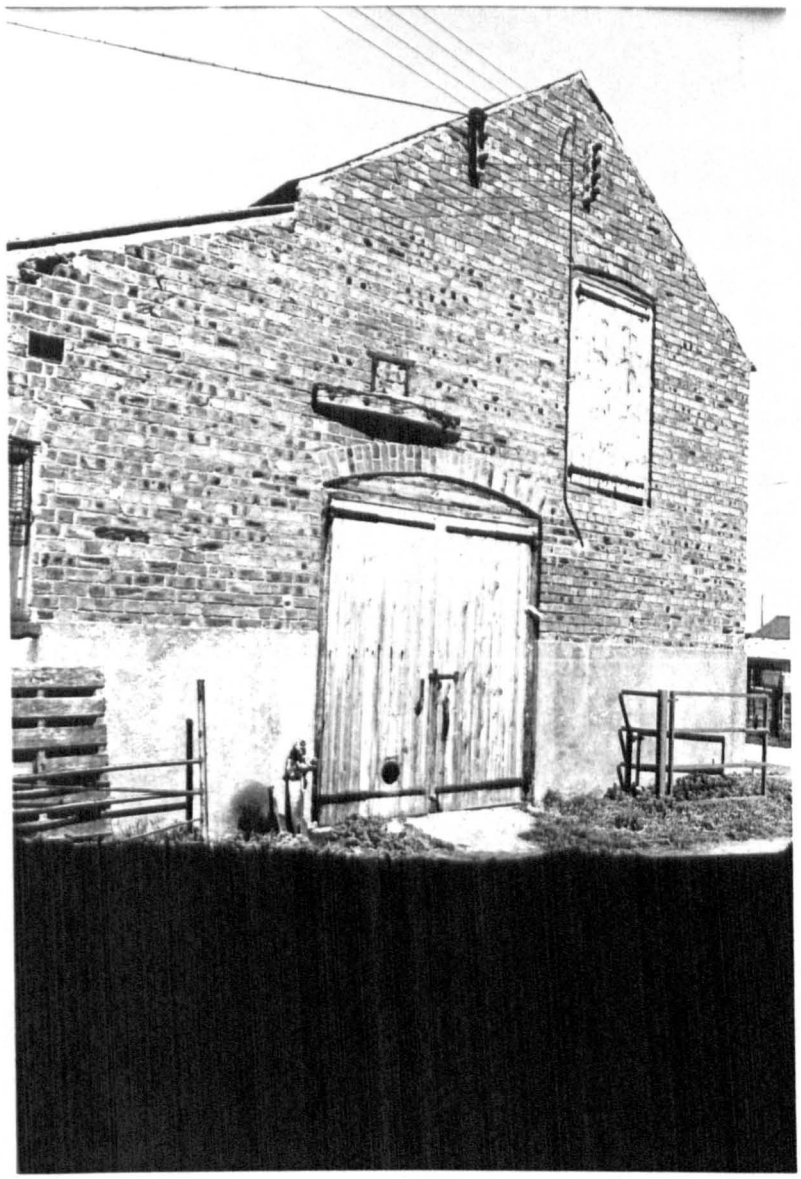


Plate 29 Blocked shaft-hole *(above barn door)*, Willow Grove Farm, Blankney Dales

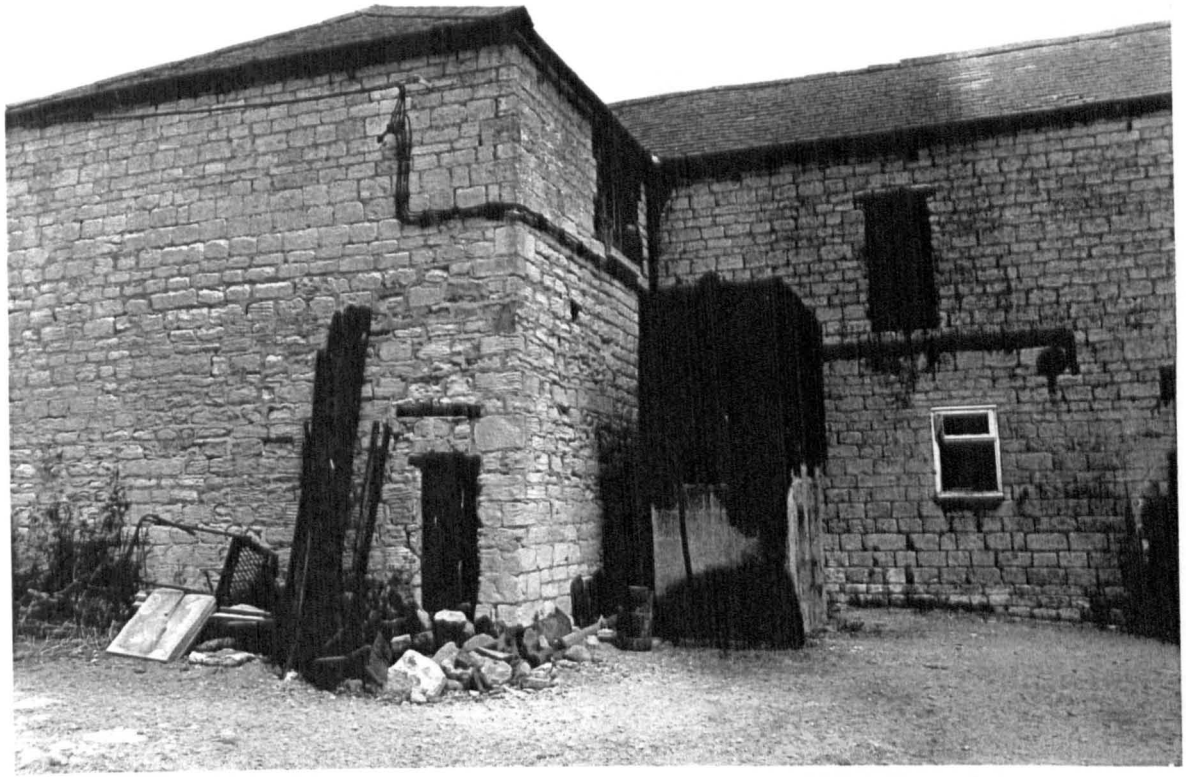


Plate 30 Belt vent with door, Lodge Farm, North Rauceby

Plate 31 Elegant farmhouse with carriage sweep, Thompsons's Bottom, Temple Bruer

Plate 32 'Scottish baronial' farmhouse, Sunnyside Farm, East Linton, East Lothian

Plate 33 Joseph Montague Livesey of Stourton Hall near Horncastle

Source: Livesey family photograph album

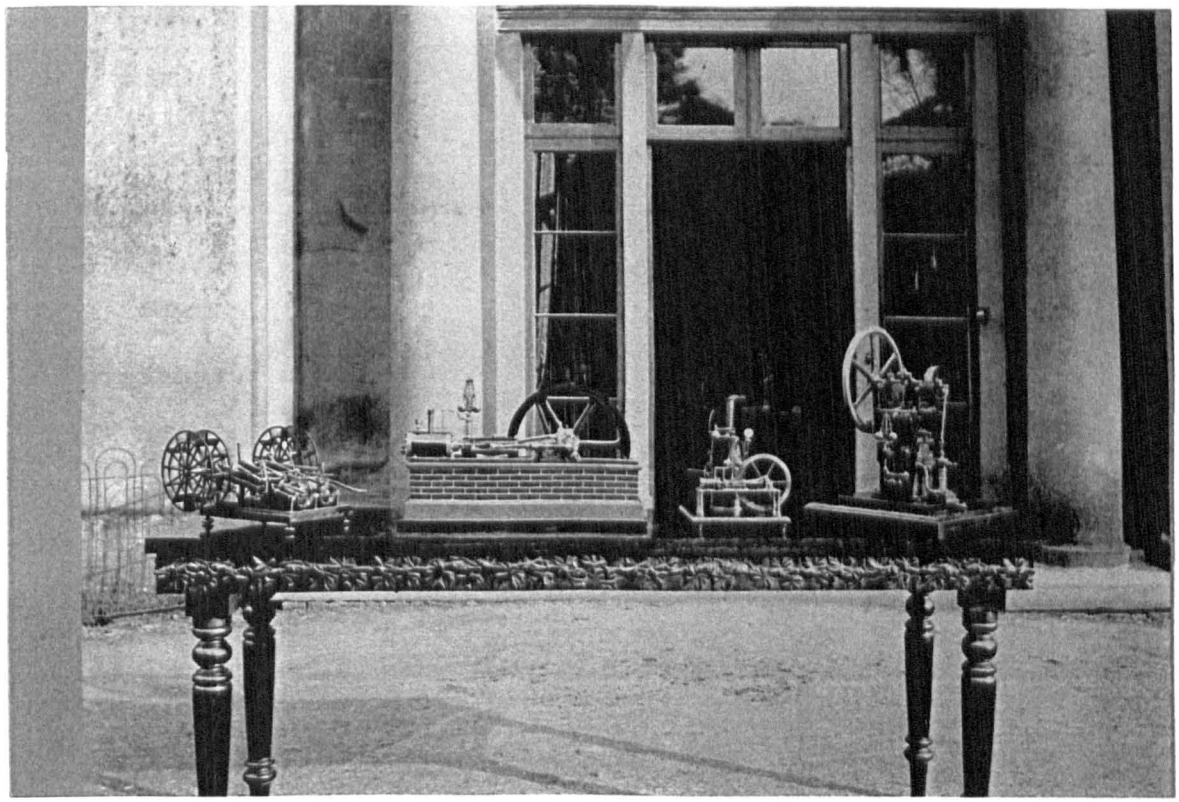


Plate 34 Engineering models displayed outside Stourton Hall

Source: Livesey family photograph album

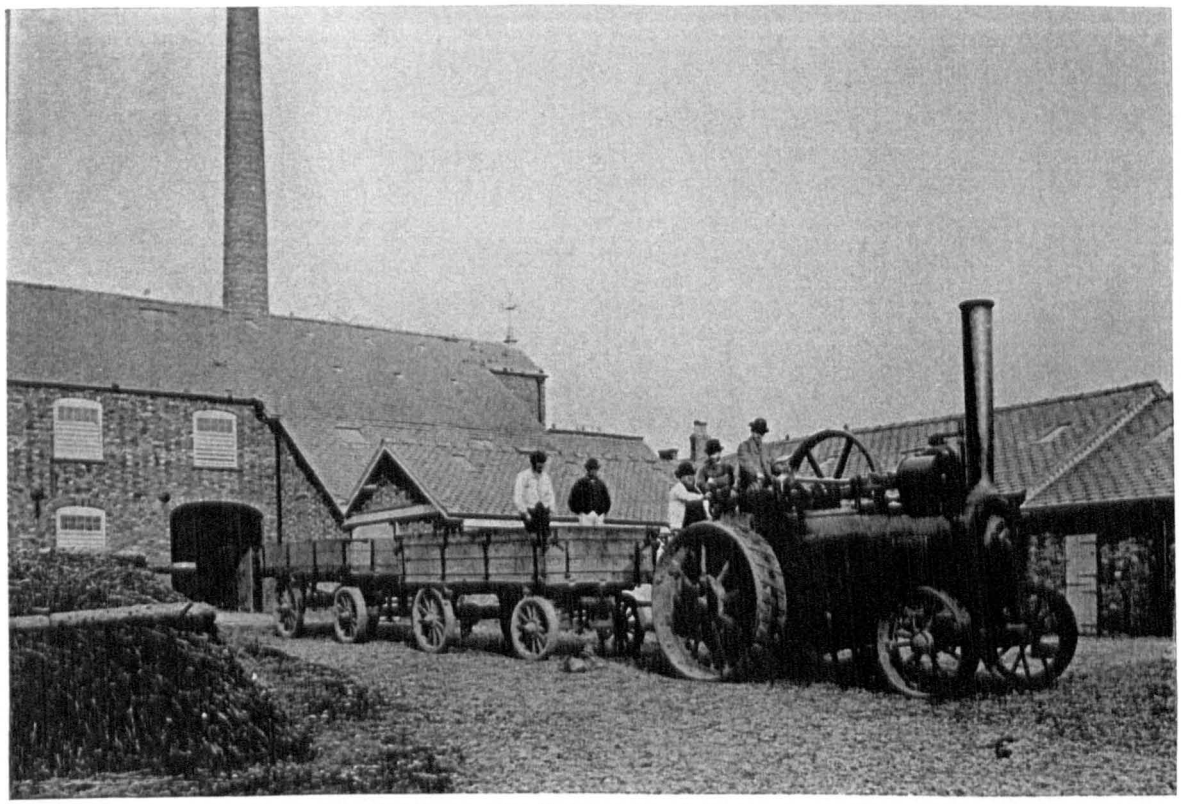


Plate 35 Joseph Montague Livesey *(right)* driving his steam engine, with its name plate on the side, at Home Farm, Great Sturton

Source: Livesey family photograph album

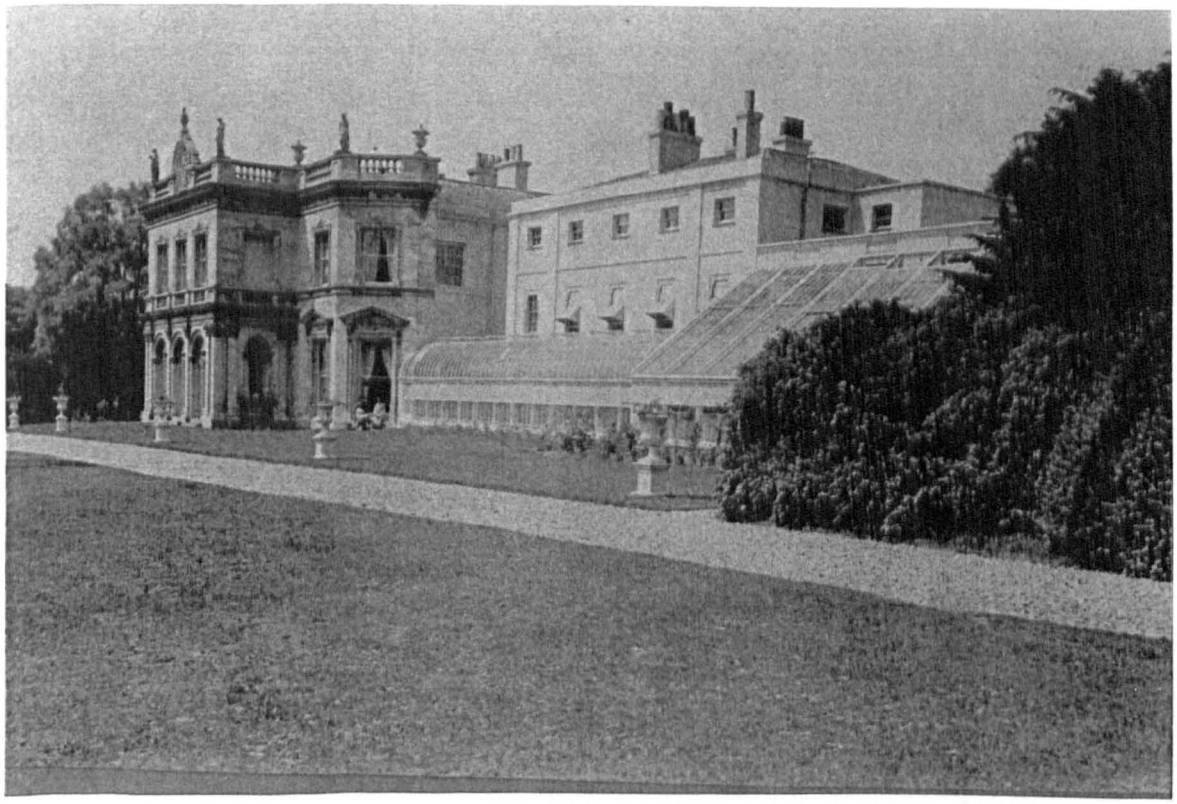


Plate 36 Livesey's Italianate extension *(left)* to his mansion at Stourton Hall

Source: Livesey family photograph album

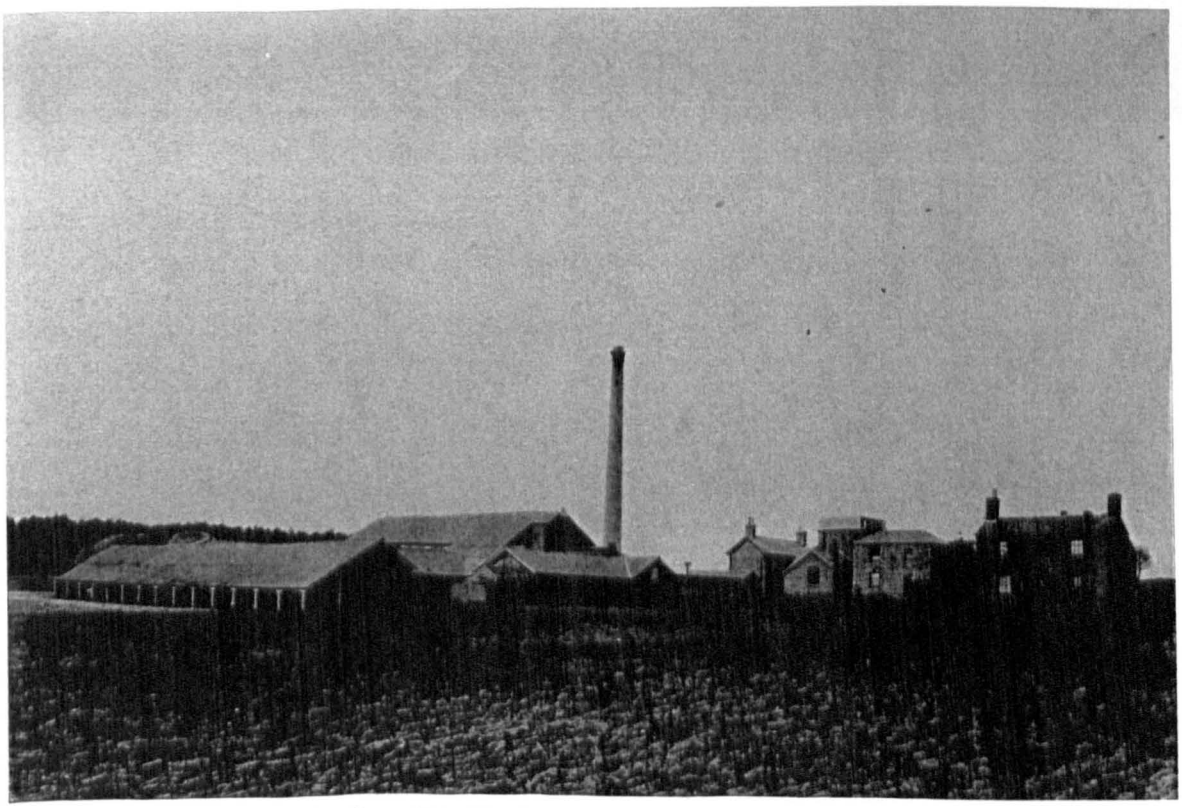


Plate 37 100 foot (30.48m) chimney at Home Farm, Great Sturton

Plate 38 West Fenton Farm, North Berwick, East Lothian

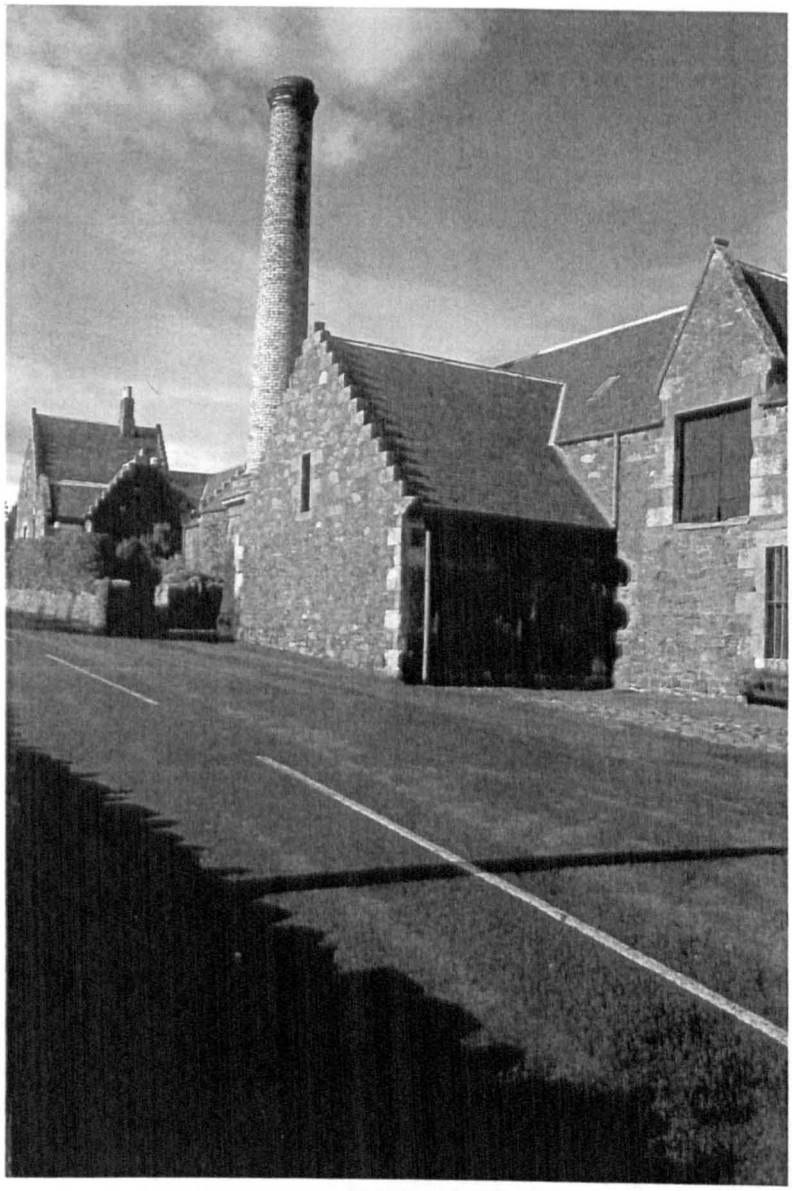


Plate 39 Sunnyside Farm, East Linton, East Lothian

Plate 40 Furnace House with iron roof members, Home Farm, Great Sturton

Plate 41 Coal House *(right)* at Home Farm, Great Sturton. (The road name was a later addition)

Plate 42 Gasometer pit, Home Farm, Great Sturton

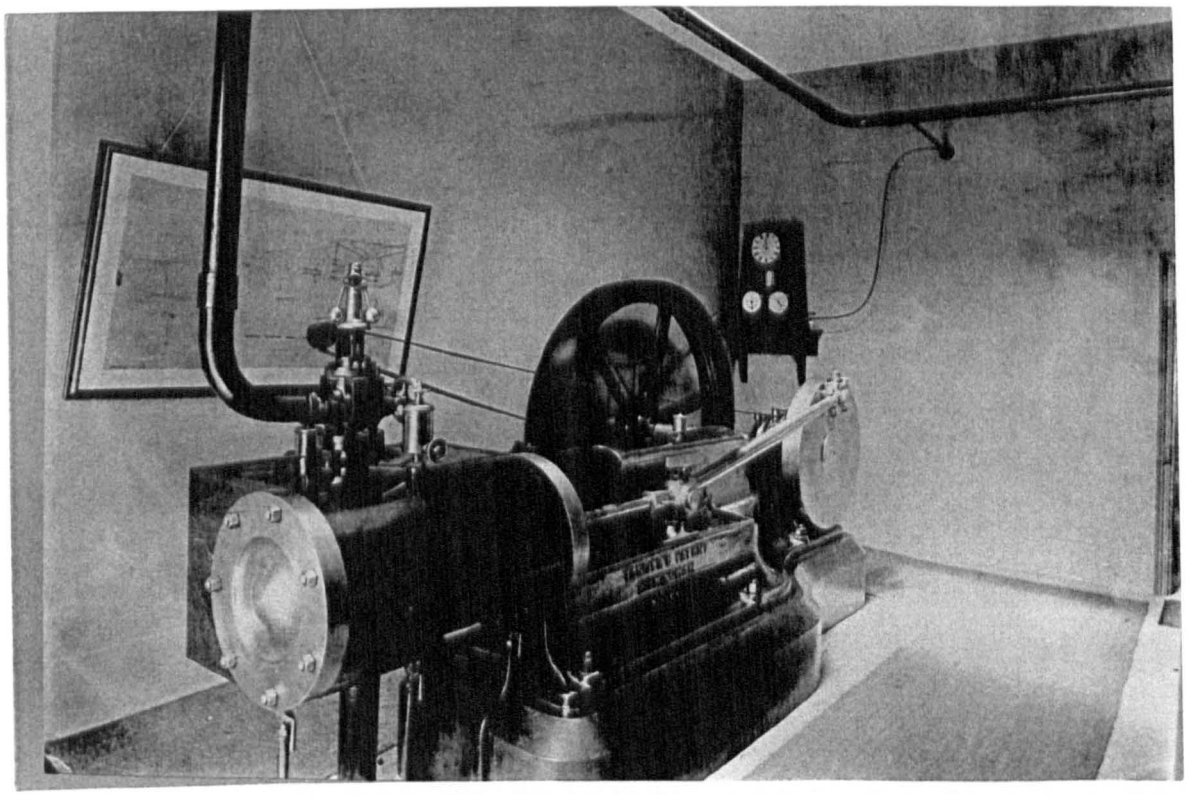


Plate 43 Tangye Patent Engine for producing electricity from gas, Stourton Hall. Note the technical drawings in the frame on the wall

Source: Livesey family photograph album

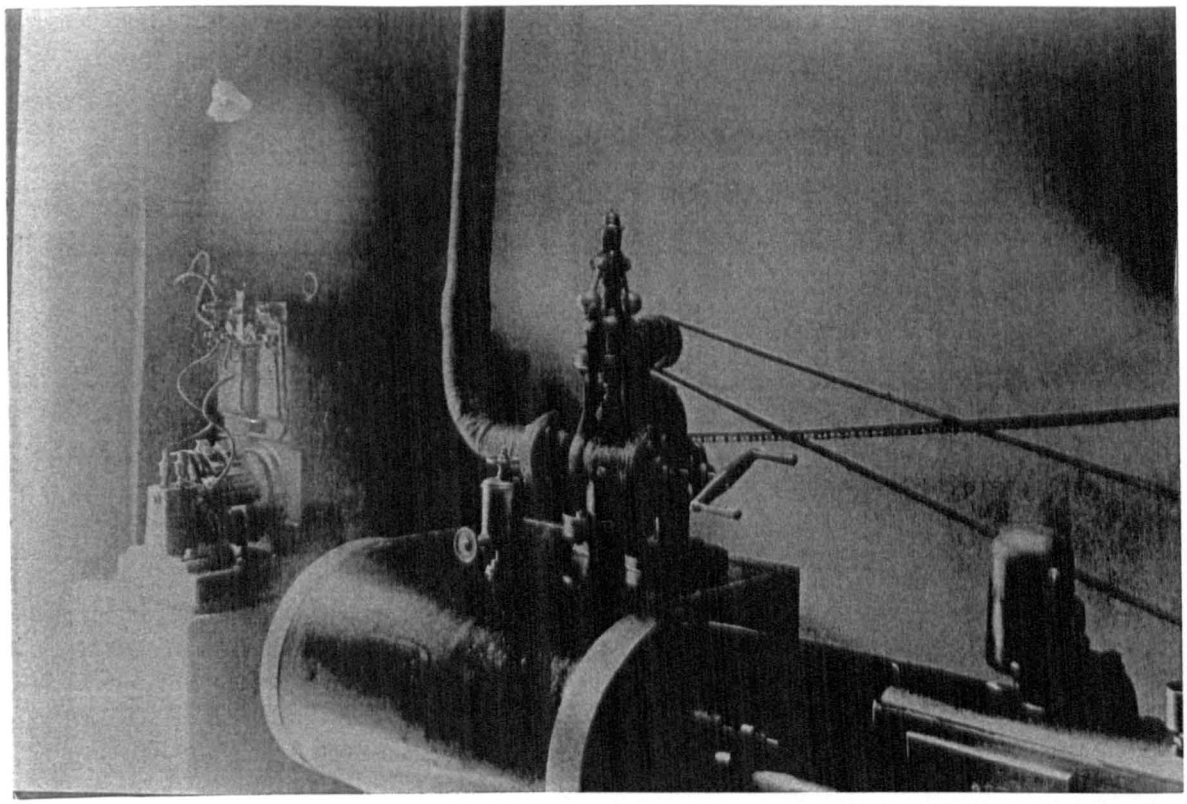


Plate 44 Light illuminated by electricity generated by Tangye Patent Engine, Stourton Hall

Source: Livesey family photograph album

Plate 45 Joseph Montague Livesey *(3rd from left)* at the helm of his steam yacht on the lake at Stourton Hall

Source: Livesey family photograph album.

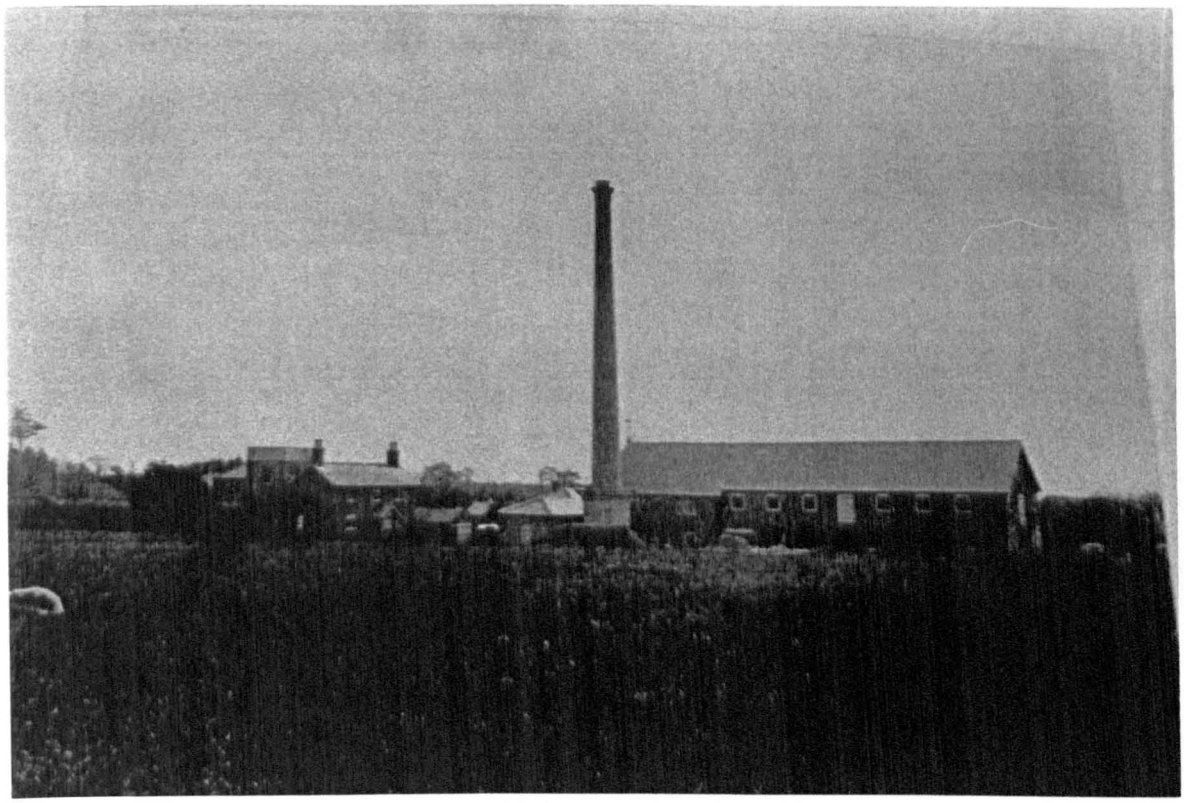


Plate 46 Water tank on the roof of the dairy *(left of house)*, Home Farm, Great Sturton

Source: Livesey family photograph album

Plate 47 Dairy with water tank now removed *(above left of house)*, Home Farm, Great Sturton

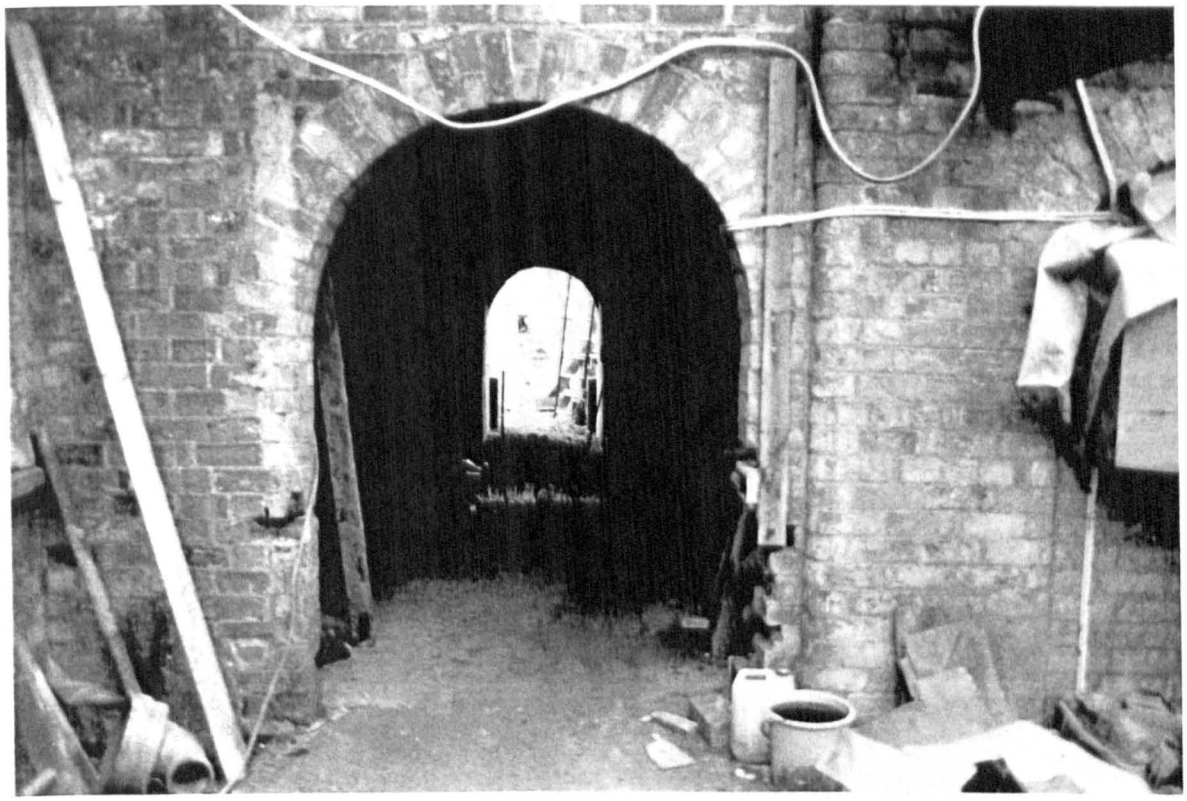


Plate 48 Passageway along which tramway ran, Home Farm, Great Sturton

Plate 49 Remains of crib, Home Farm, Great Sturton

Plate 50 Possible remains of hanging door from rear of crib *(propped up against back wall)*, Home Farm, Great Sturton

Plate 51 Tramway and truck, Court Farm, Hartpury, Gloucestershire

Plate 52 Residential conversion with distinctive pattern of slates, Home Farm, Great Sturton

Plate 53 Distinctive pattern of slates on roof of animal shed *(right)*, Home Farm, Great Sturton

Source: Livesey family photograph album

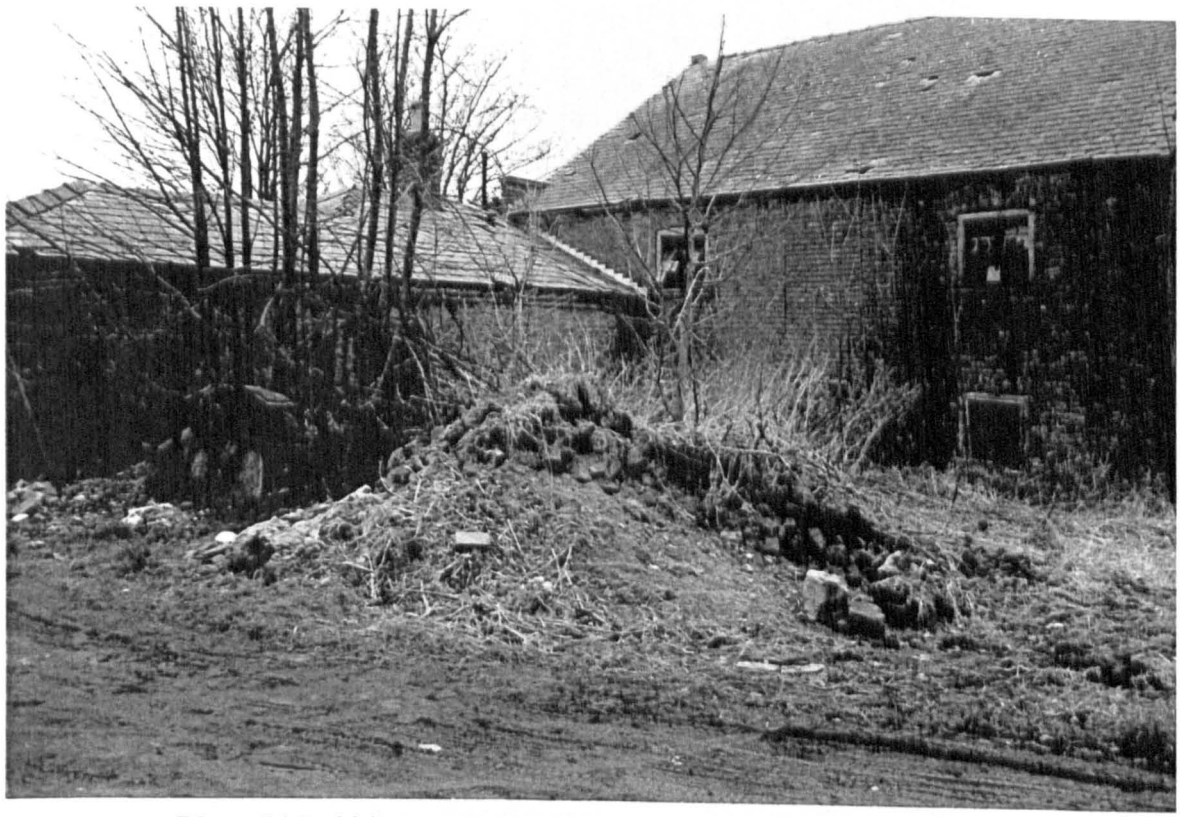


Plate 54 Rubble remains of chimney, Home Farm, Great Sturton

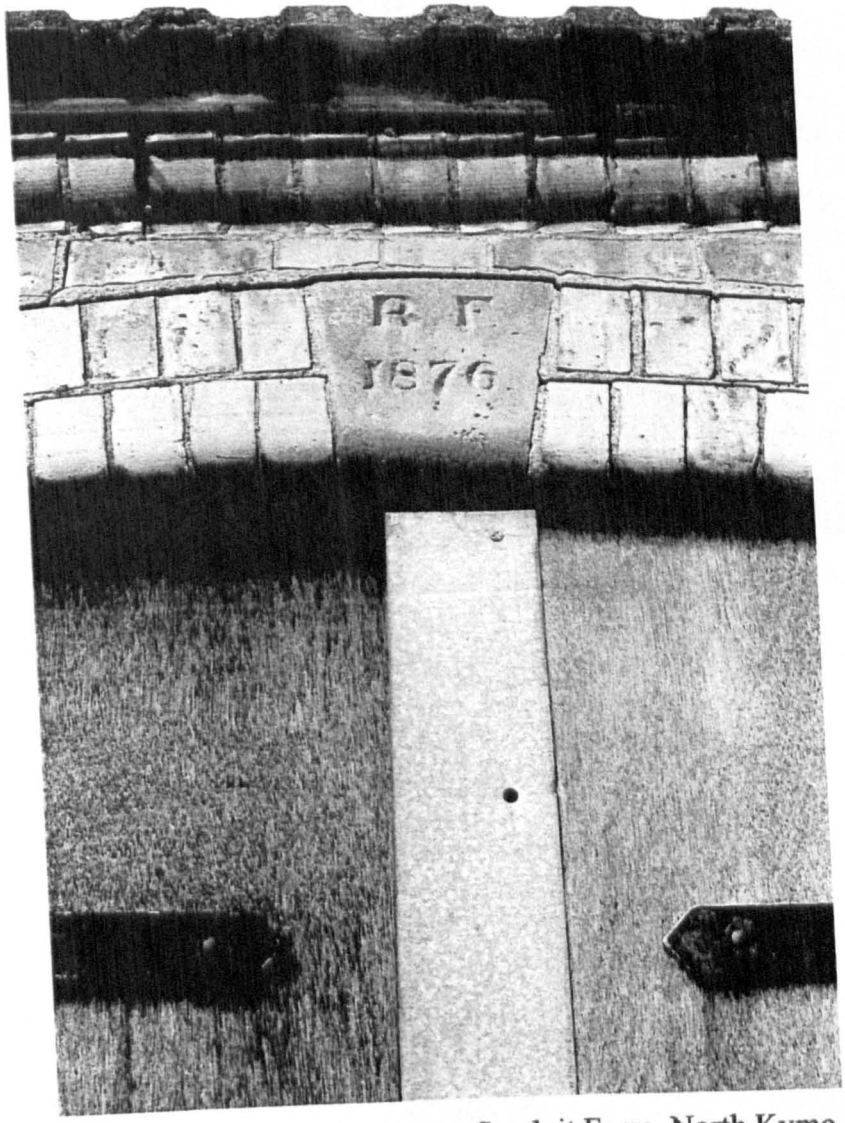


Plate 55 Initialled date stone, Sandpit Farm, North Kyme

Plate 56 Small, planned farmstead, Sandpit Farm, North Kyme

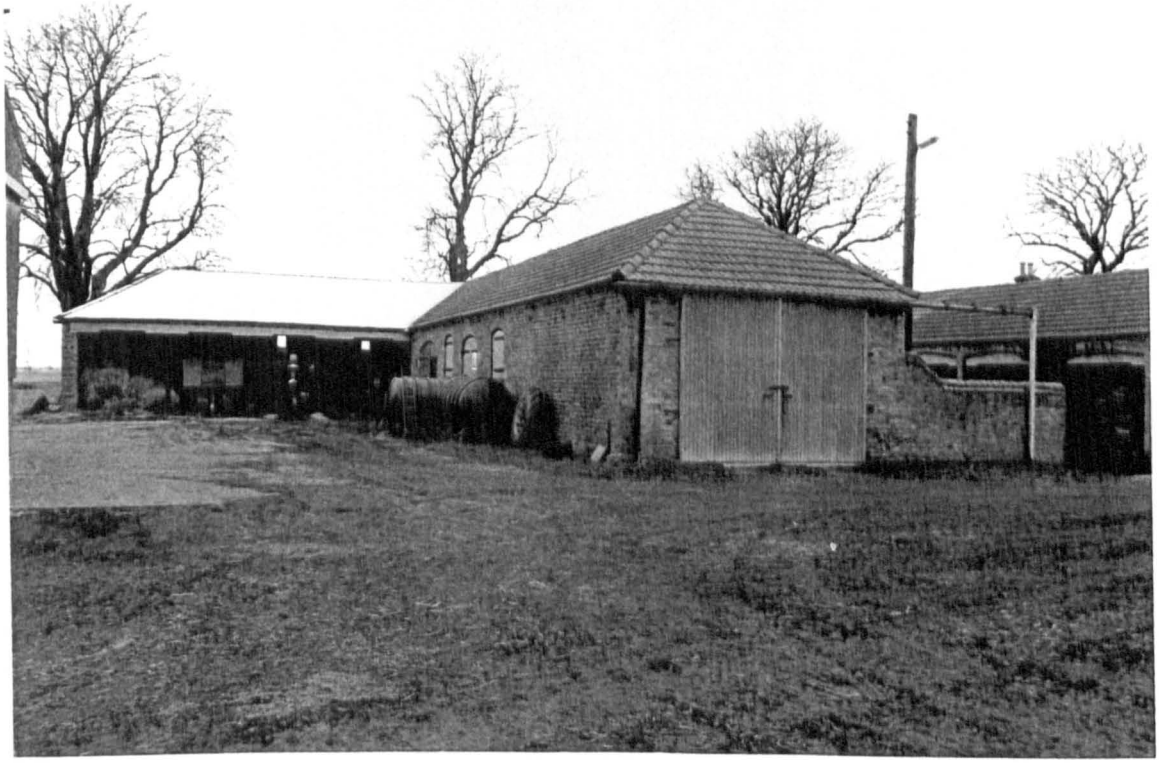


Plate 57 Implement and cart shed, Sandpit Farm, North Kyme

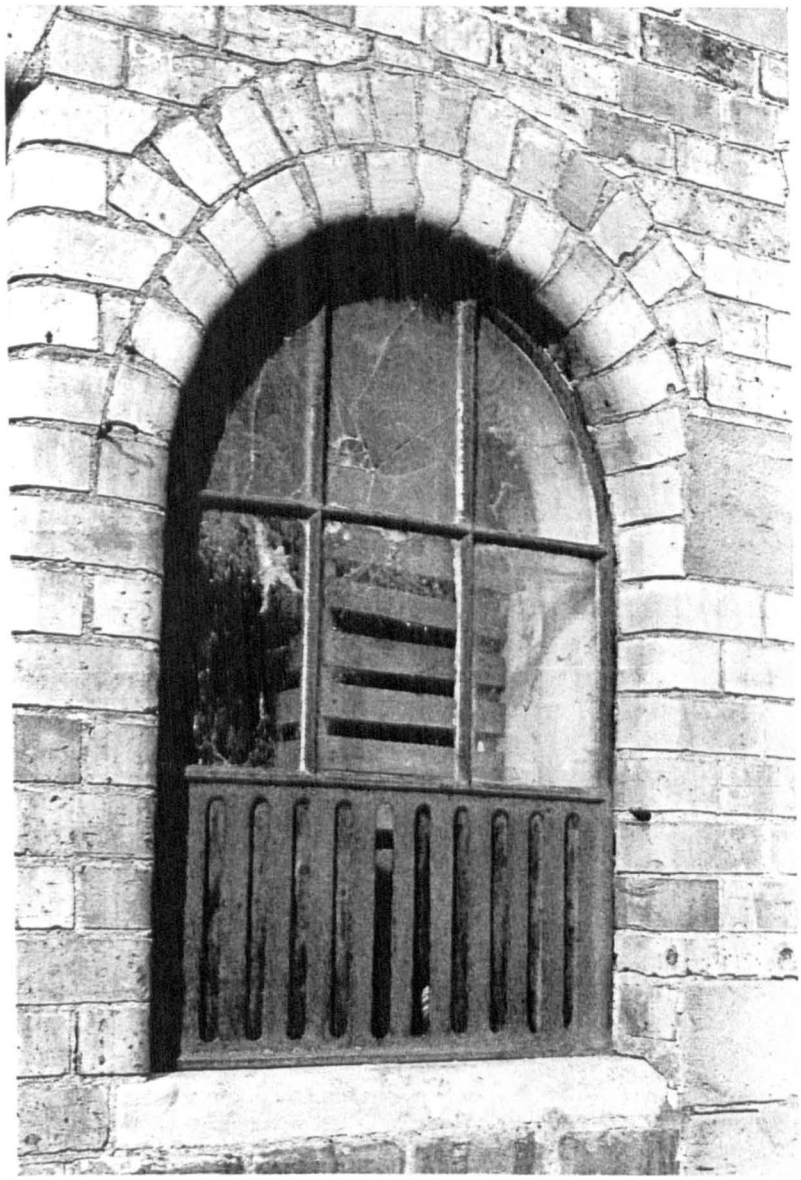


Plate 58 Cast iron window, Sandpit Farm, North Kyme

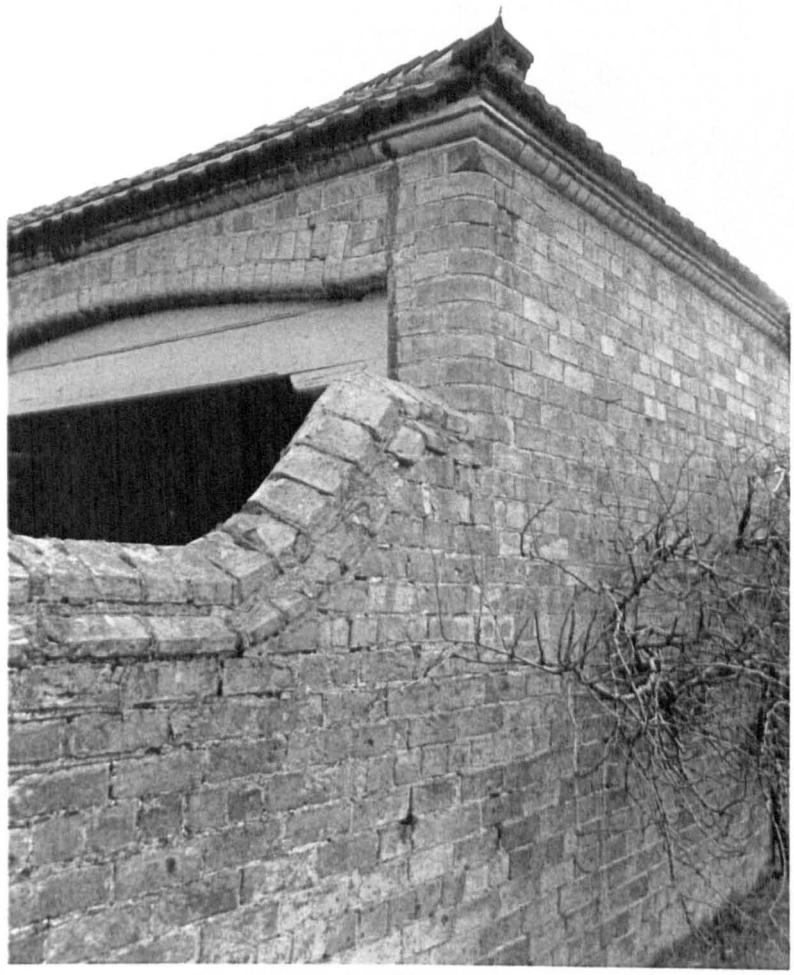


Plate 59 Refined brickwork, Sandpit Farm, North Kyme

Plate 60 Farmhouse, Sandpit Farm, North Kyme

Plate 61 Cottages erected to James Martin's 1878 *JRASE* plans, Hungram Yard, Baumber

Plate 62 Off-yard designed by James Martin, Hungram Yard, Baumber

Plate 63 Aerial view of Postland Farm , Crowland c.1971 Source: W. Riddington, former owner

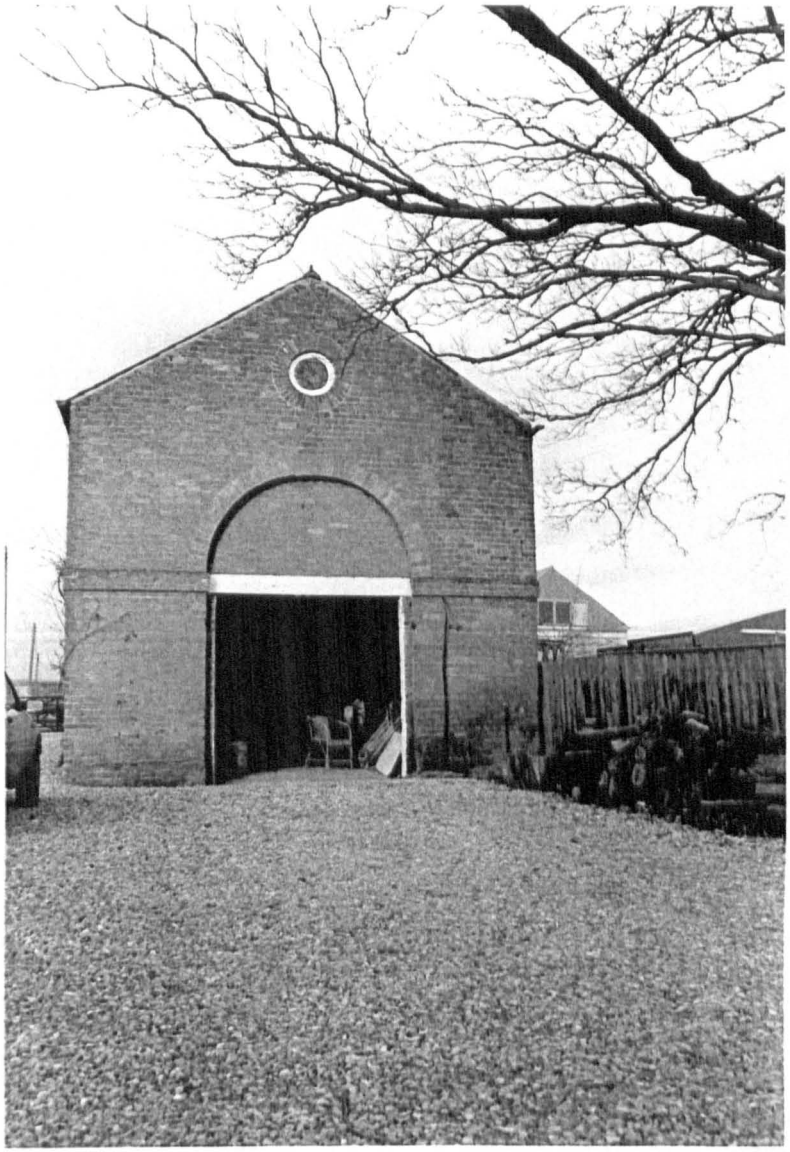


Plate 64 Surviving fragment of Postland Farm, Crowland

Plate 65 Farm name and road laid with rubble from the demolished farm buildings, Hill Farm, Wispington

Plate 66 Cottages at Stoke built in the ornate version of John Young Macvicar's first design in his 1849 JRASE essay

Plate 67 Plain version of cottages built to John Young Macvicar's JRASE essay design, initialled C. T. and dated 1855, at Stixwould

Plate 68 Evidence of two phases of Turnor estate building, Red Cottages, Stoke

Plate 69 Central coach house range, Hall Farm, Coleby

Plate 70 General view of Hall Farm, Coleby

Plate 71 General view of Cold Harbour Farm, Bishop Burton

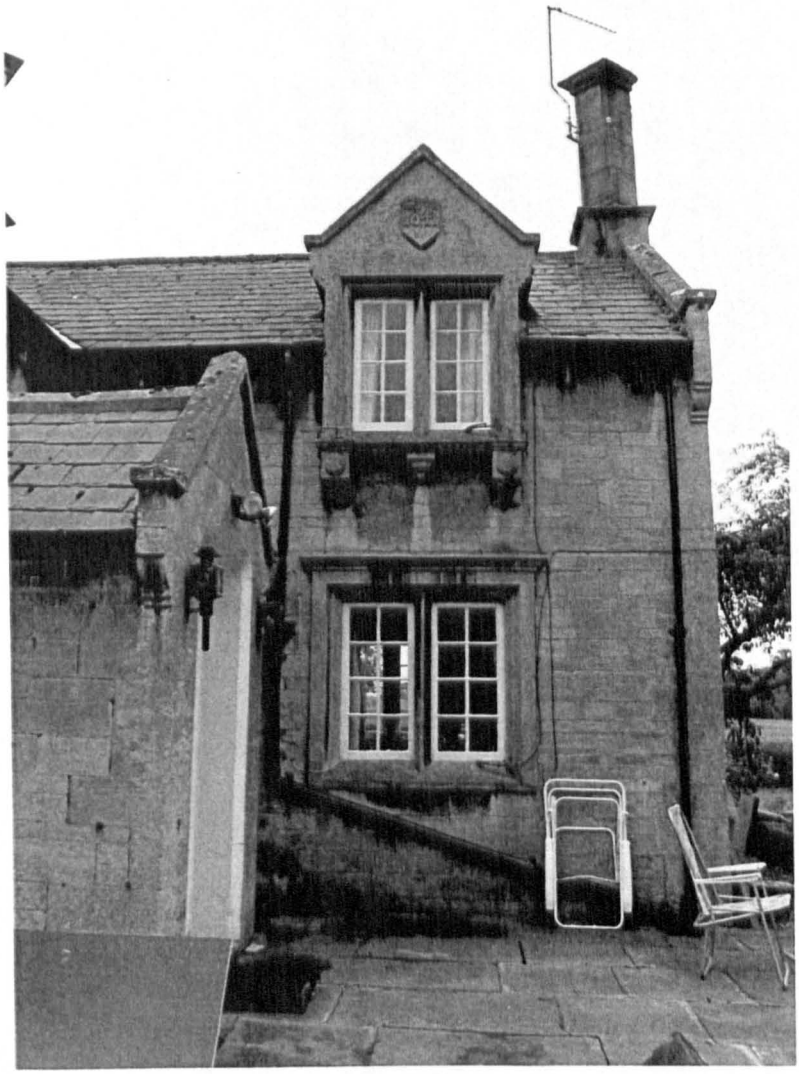


Plate 72 Foreman's house dated 1841, Hall Farm, South Rauceby

Plate 73 Rauceby Hall erected by William Burn for Anthony Peacock Willson

Plate 74 Foreman's house and farm buildings, Hall Farm, South Rauceby

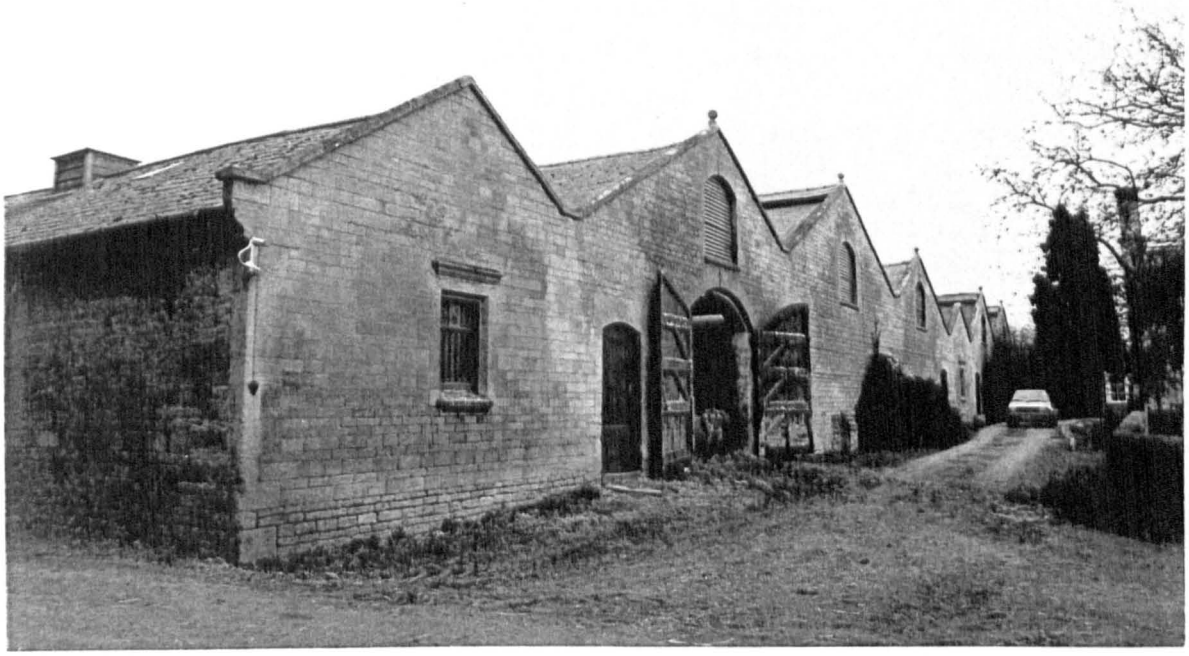


Plate 75 South elevation of the steading, Hall Farm, South Rauceby

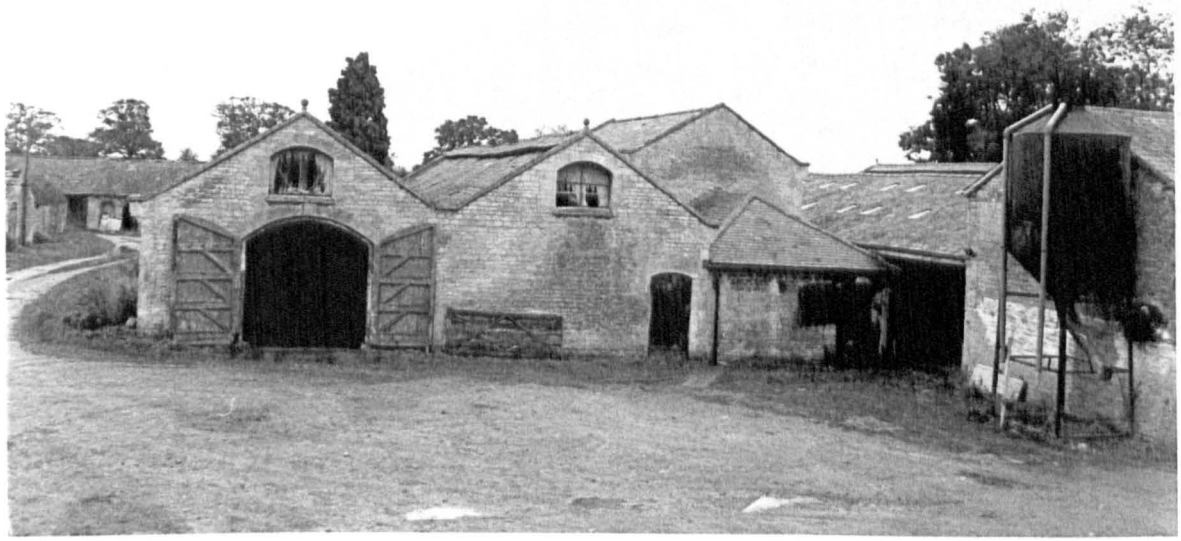


Plate 76 Additional cattle sheds, Hall Farm, South Rauceby

Plate 77 Interior of additional cattle sheds, Hall Farm, South Rauceby

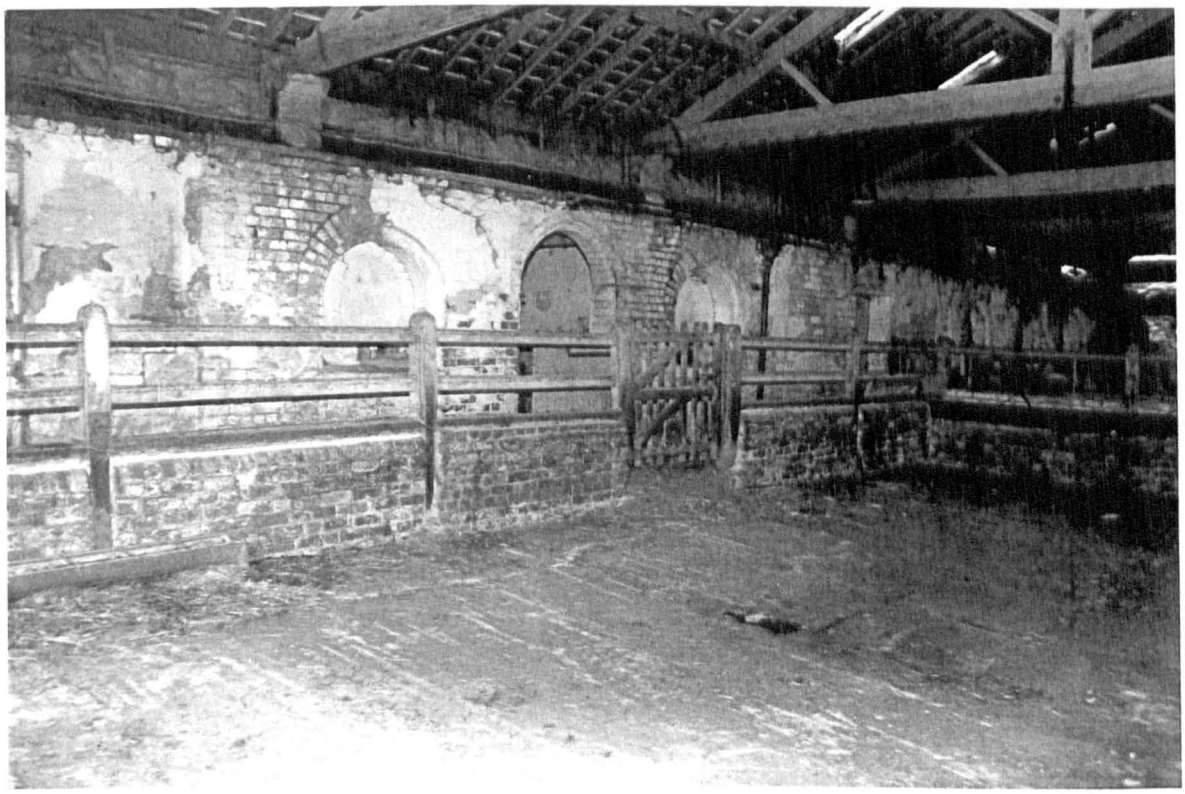


Plate 78 Interior of covered yard, Hall Farm, South Rauceby

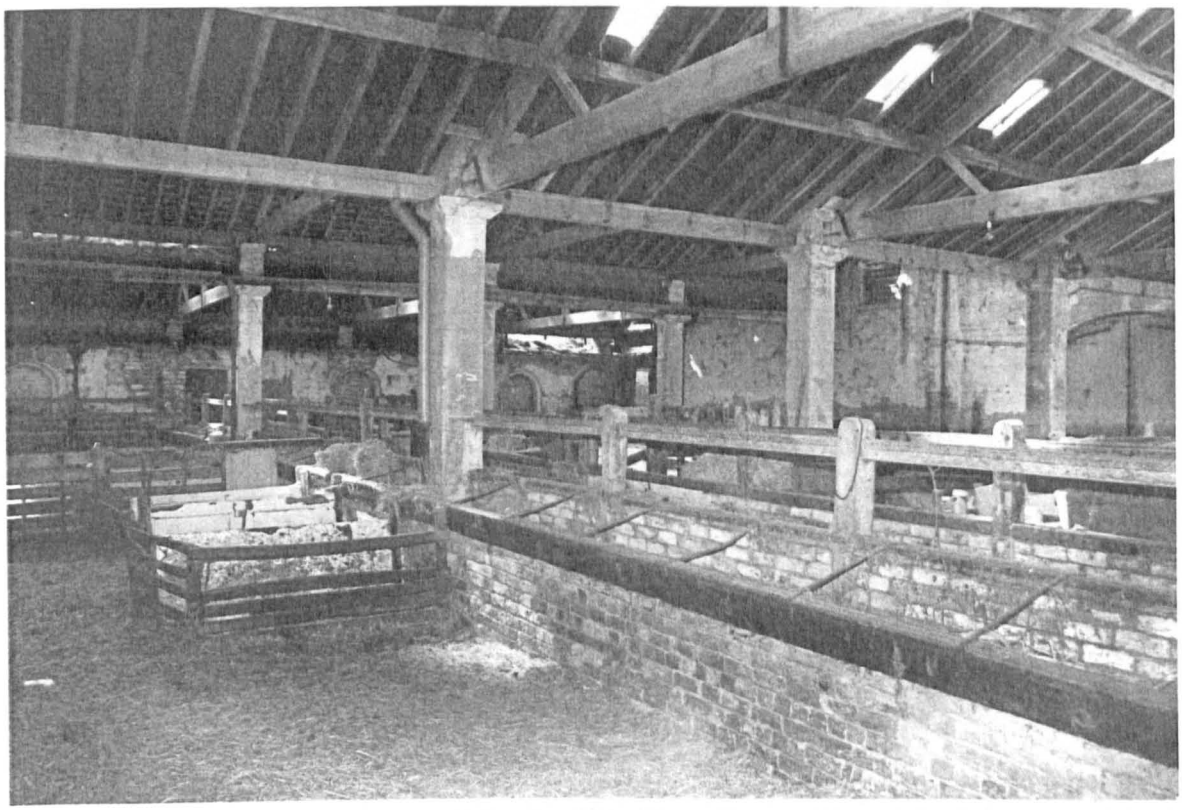


Plate 79 Troughs and ties for stall feeding, interior of covered yard, Hall Farm, South Rauceby

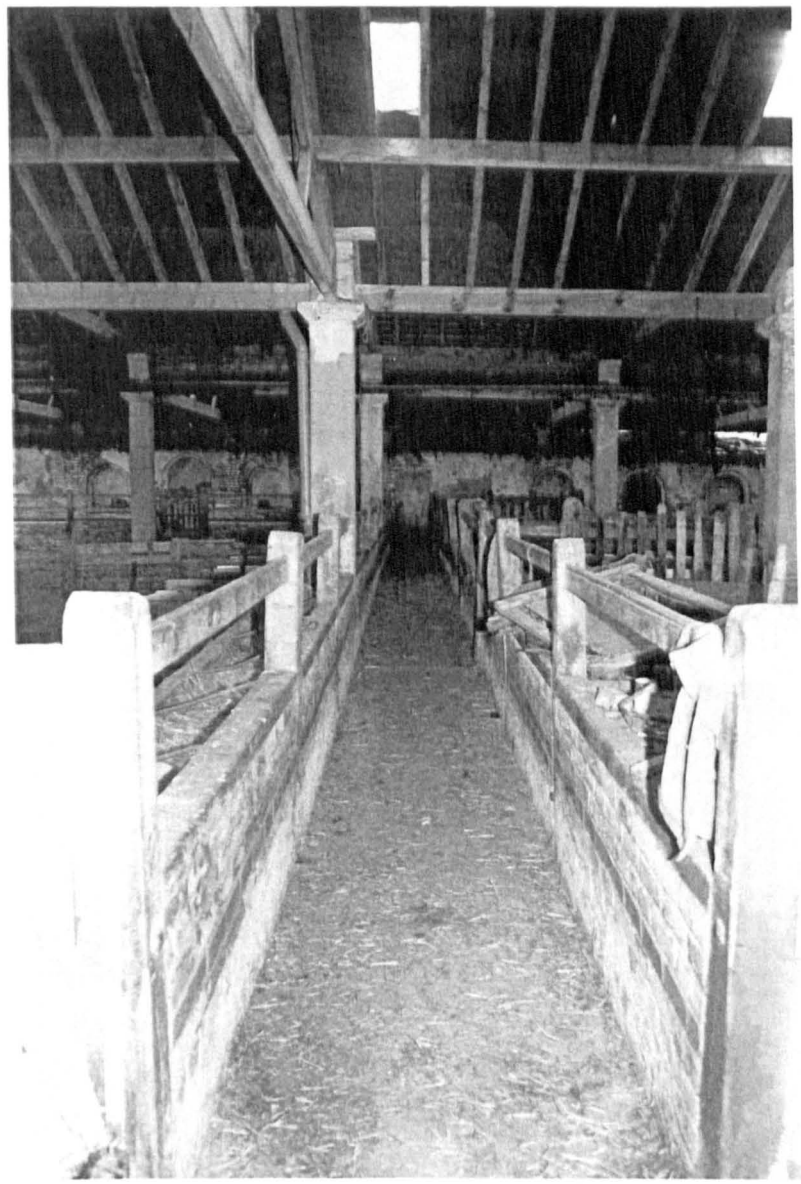


Plate 80 Feed distribution passage running between feed troughs, Hall Farm, South Rauceby

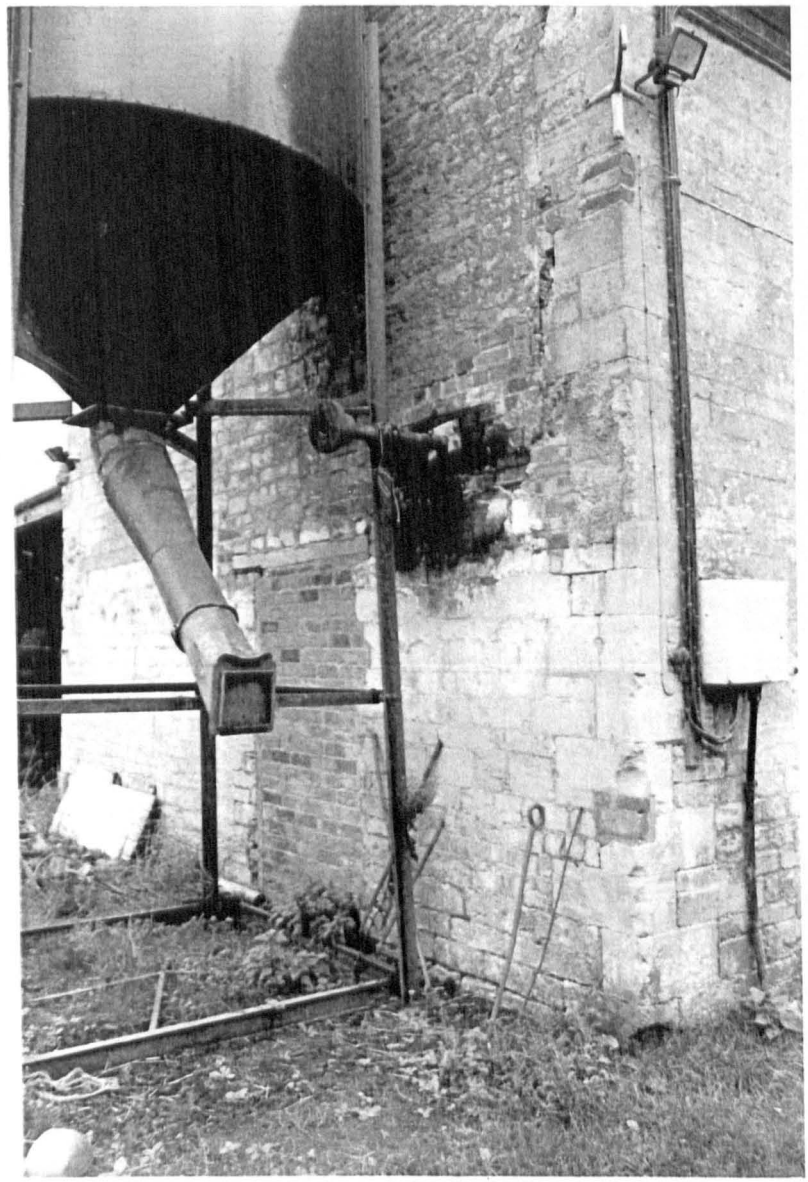


Plate 81 Remains of pulley wheel on exterior of barn wall, Hall Farm, South Rauceby

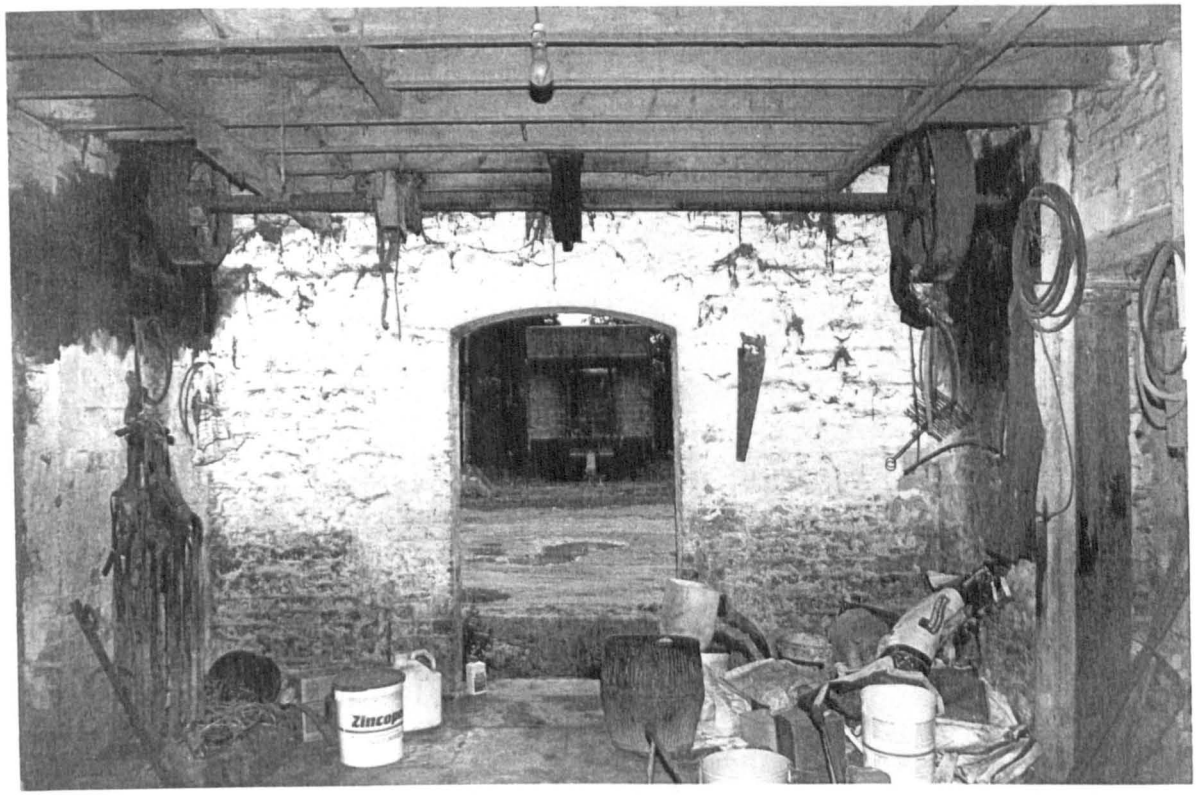


Plate 82 Line shafting and pulley wheels for driving barn machinery, Hall Farm, South Rauceby

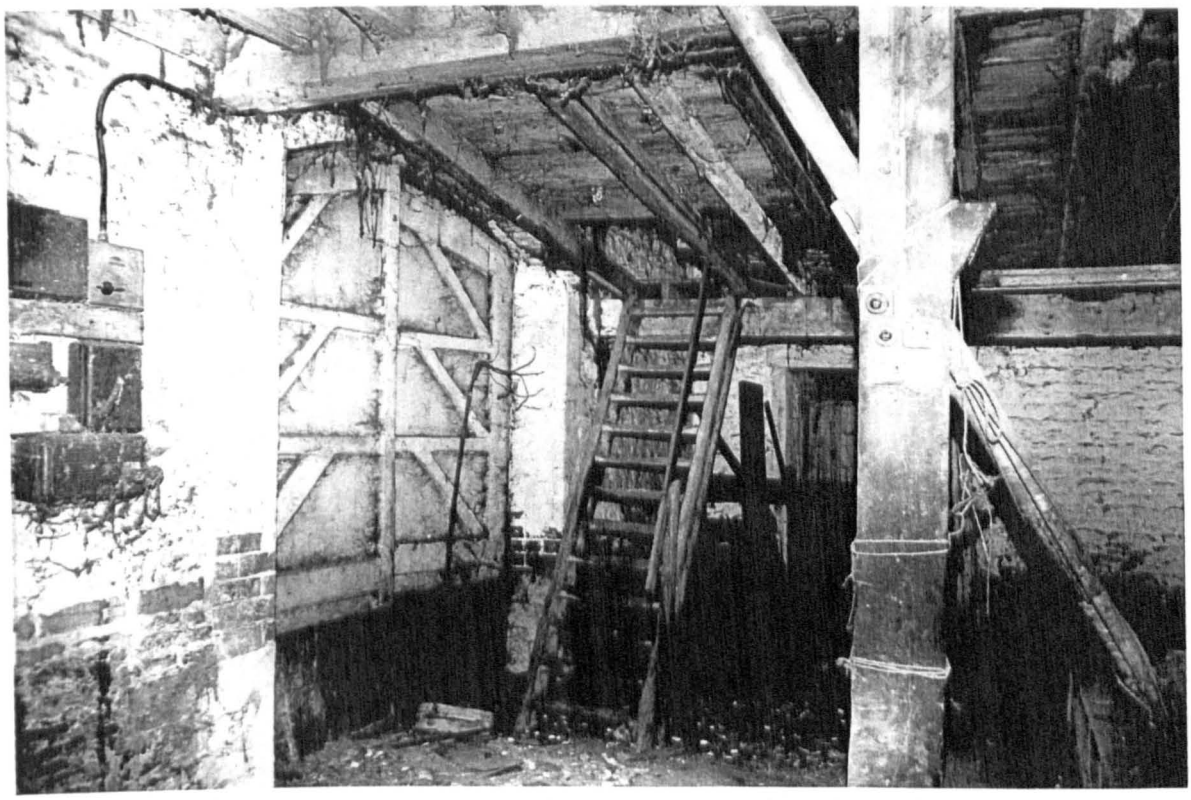


Plate 83 Deep threshold *(darker colour)* and later wooden loft inside barn, Hall Farm, South Rauceby

Plate 84 Waggon sheds with granary over *(right-hand end)*, barn range, Hall Farm, South Rauceby

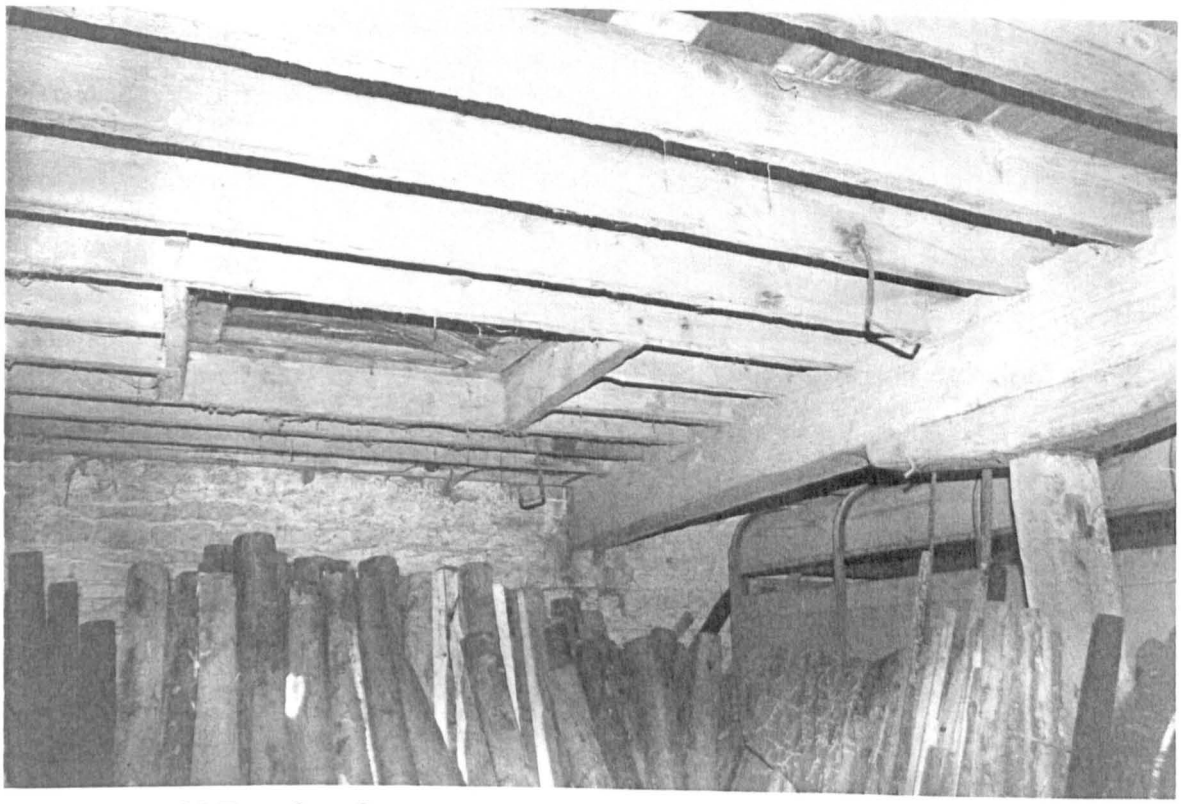


Plate 85 Trap door from granary to waggon shed, Hall Farm, South Rauceby

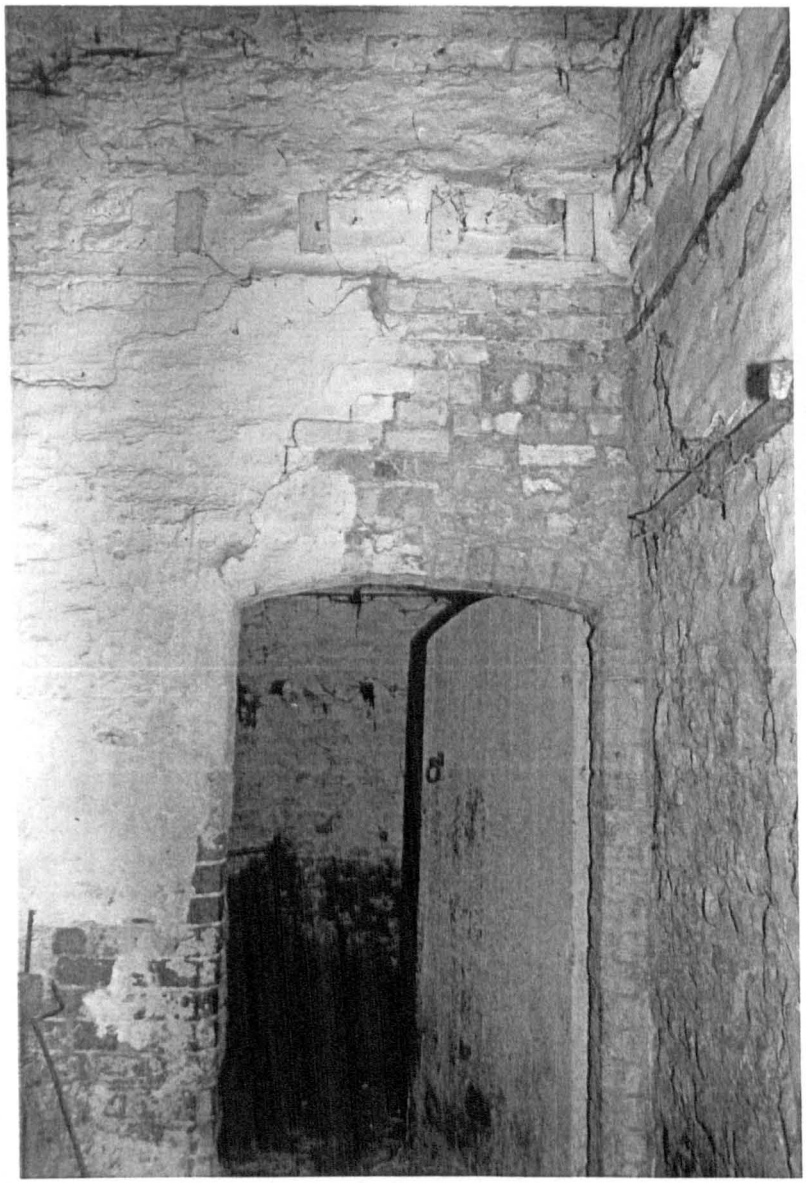


Plate 86 Stable interior with evidence of two phases of construction *(in brickwork above door)*, Hall Farm, South Rauceby

Plate 87 General view of estate yard and peripheral farm buildings (*left*), Hall Farm, South Rauceby

Plate 88 Piggeries and boiling house *(with chimney)*, Hall Farm, South Rauceby

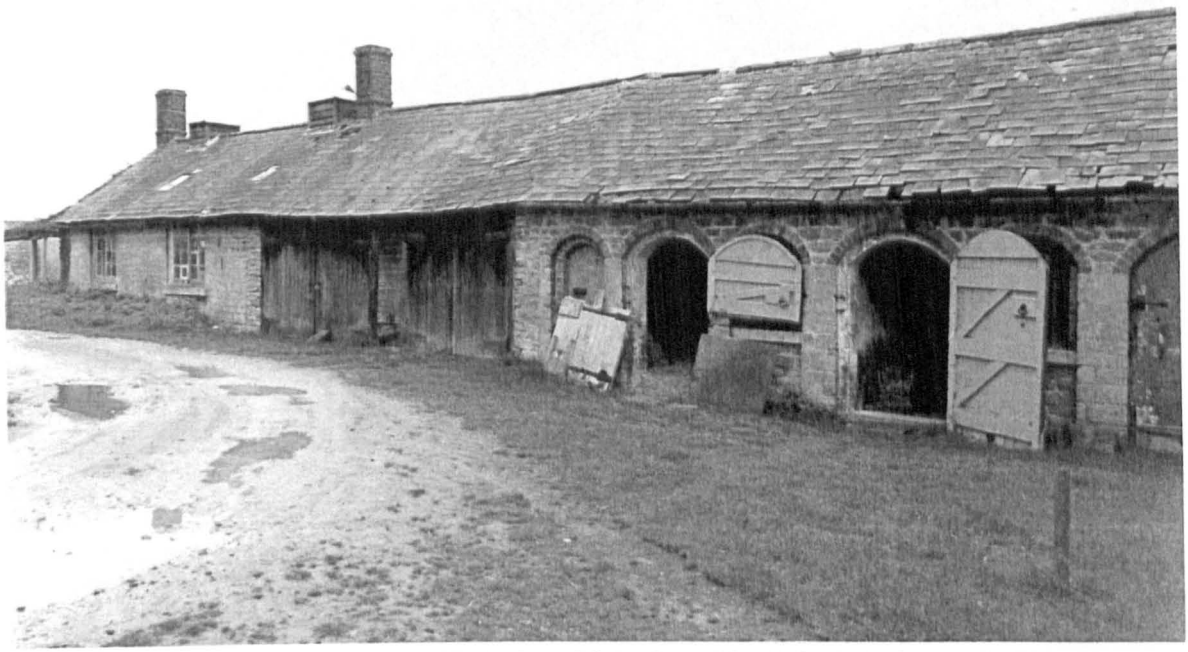


Plate 89 Cowhouses (*right*) and blacksmith's shop (*far left with chimney*), Hall Farm, South Rauceby

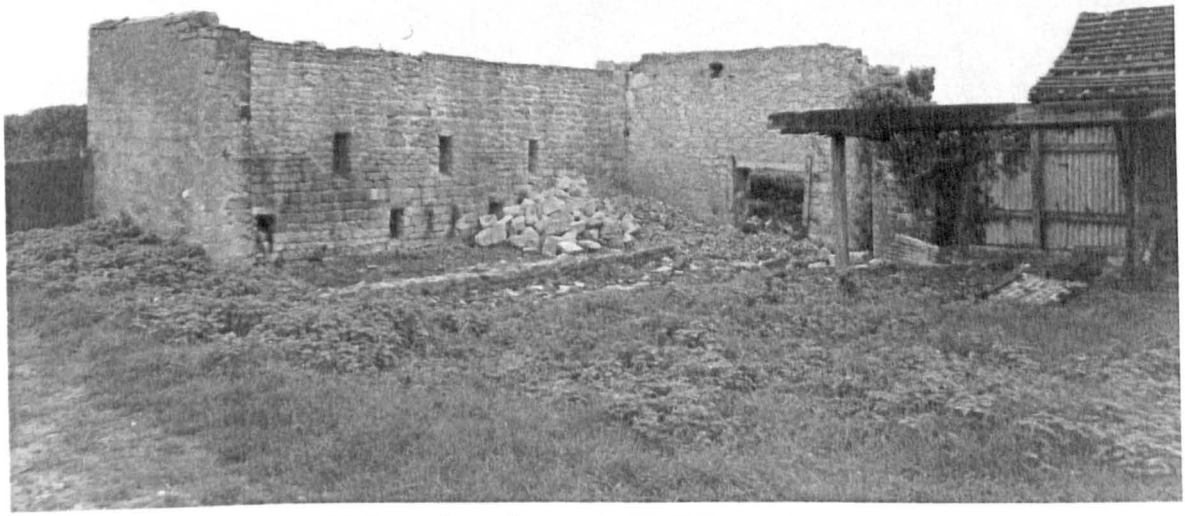


Plate 90 Remains of saw pit, Hall Farm, South Rauceby

Plate 91 General view of the steading in a hollow among trees, Home Farm, Stoke Rochford

Plate 92 Wyville Brook dammed at Home Farm, Stoke Rochford

Plate 93 Still pond, Home Farm, Stoke Rochford

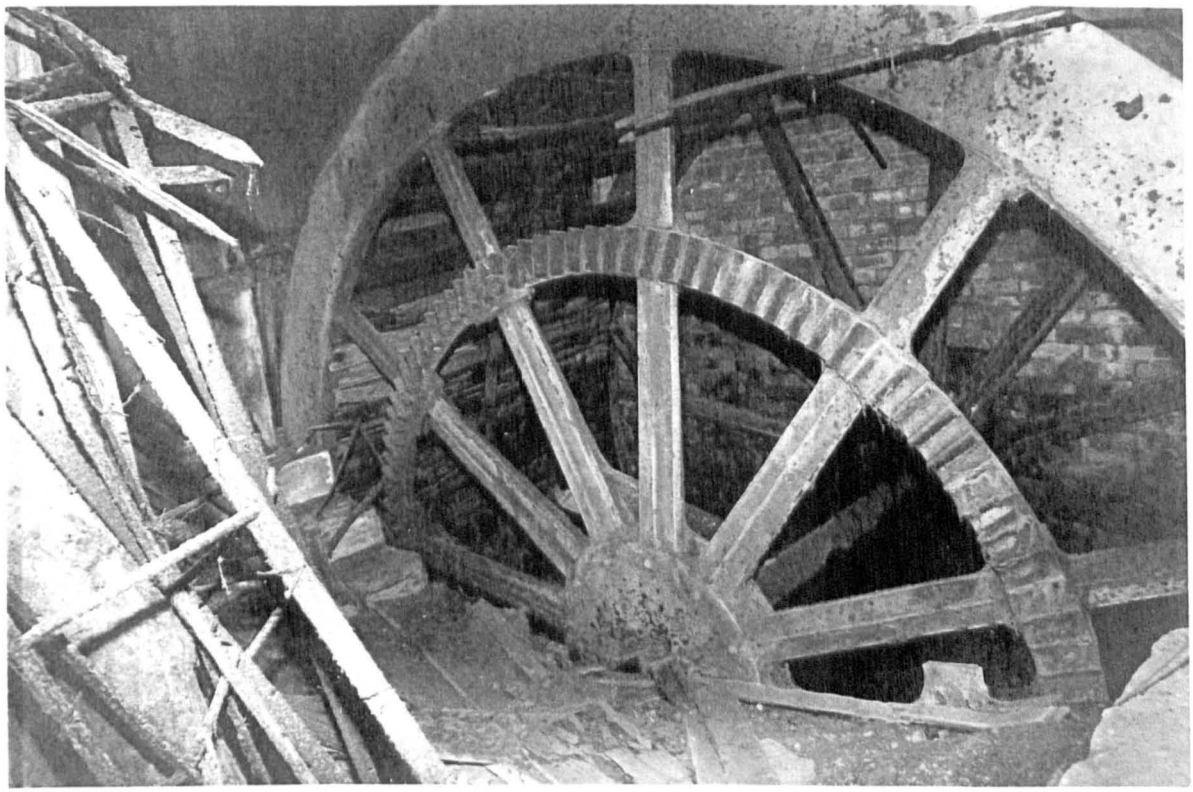


Plate 94 Water wheel, Home Farm, Stoke Rochford

Plate 95 Front elevation of saw mill *(doors open)* and wheelhouse *(circular aperture)*, Home Farm, Stoke Rochford

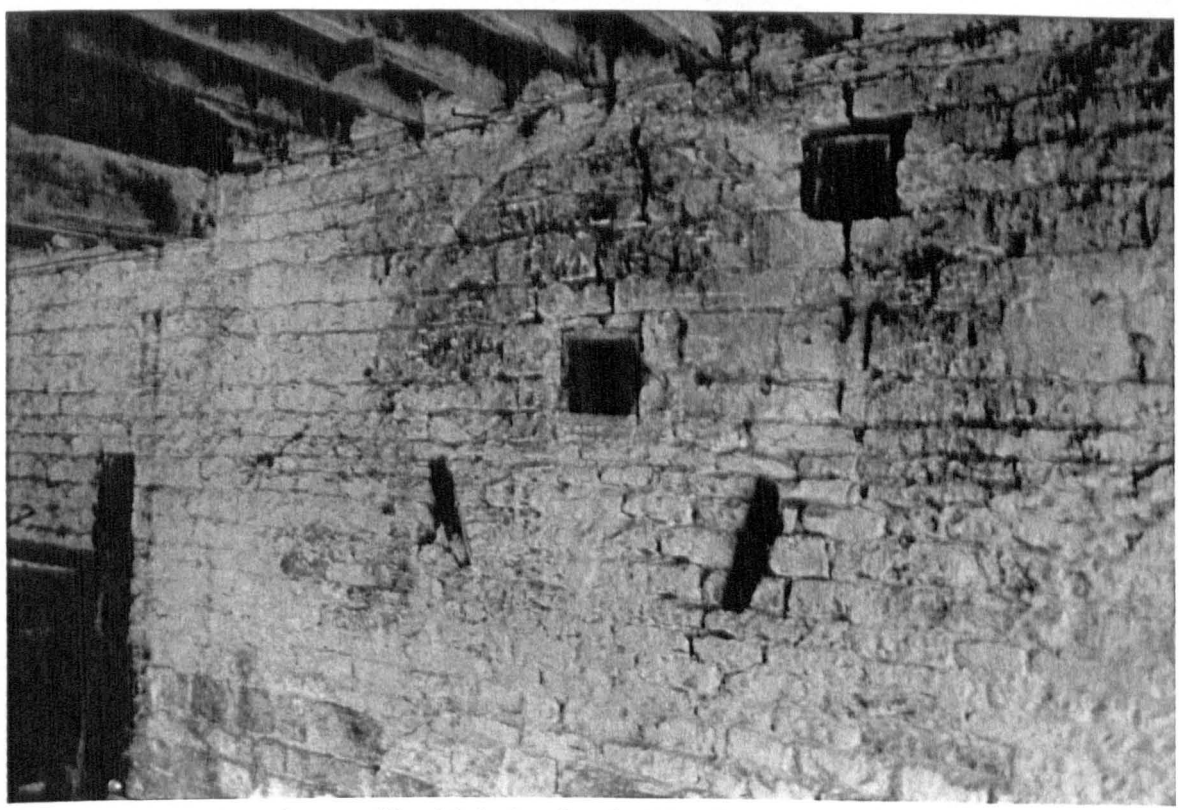


Plate 96 Interior of saw mill with holes for shafting from water wheel, Home Farm, Stoke Rochford

Plate 97 Side elevation of saw mill and wheelhouse, with granary over and barn to rear, Home Farm, Stoke Rochford

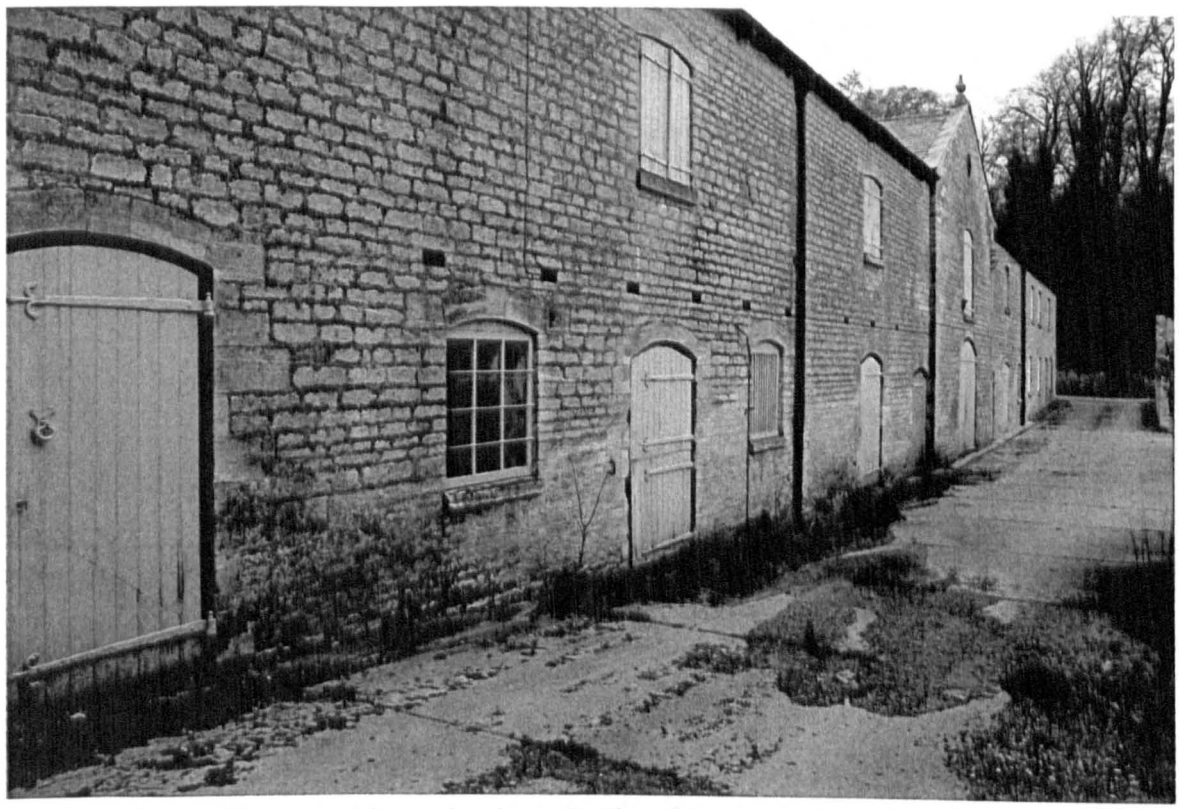


Plate 98 Bailiff's house *(far right)*, barn *(with gable and ball finial)* and stables with decorative hinge straps, in range at right-angles to wheel house, Home Farm, Stoke Rochford

Plate 99 Water tank and north-western crewyard, Home Farm, Stoke Rochford

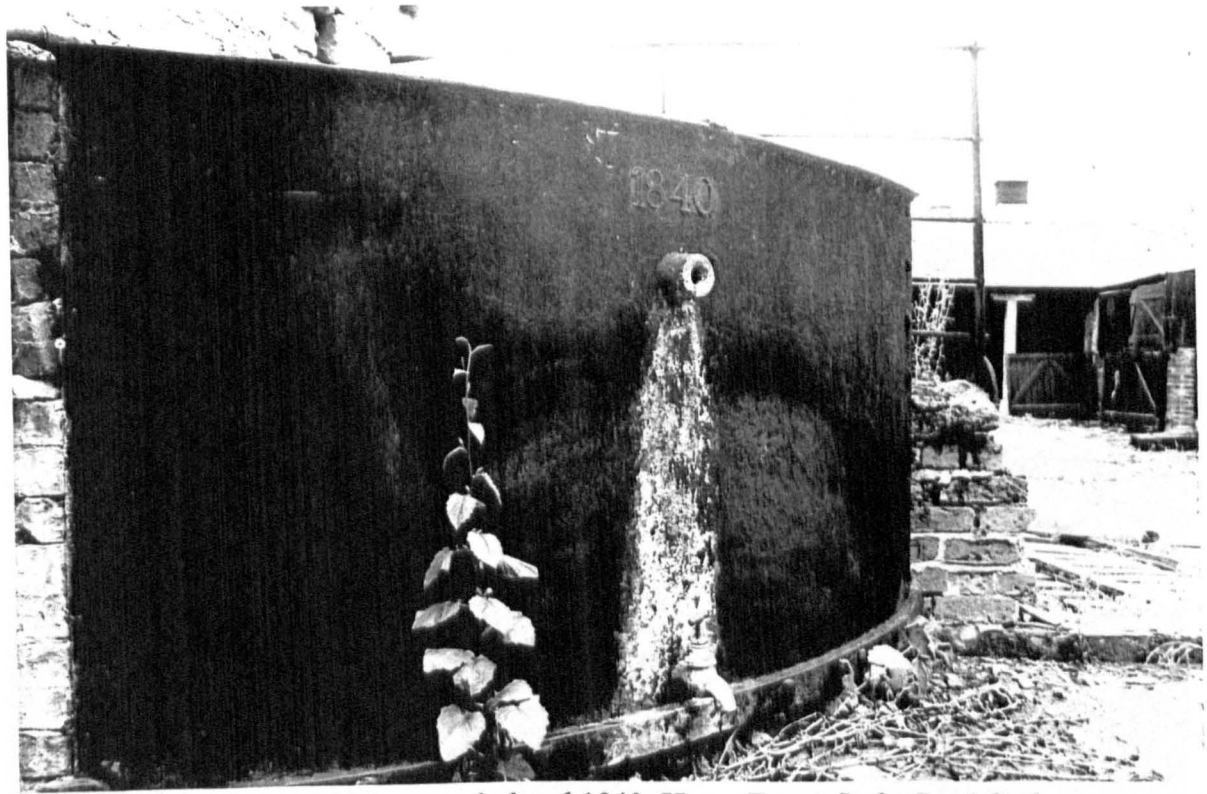


Plate 100 Water tank dated 1840, Home Farm, Stoke Rochford

Plate 101 North elevation of the two sets of crewyards at Home Farm, Stoke Rochford, viewed from the corner of the bailiff's house

Plate 102 Eastern range with crewyard, cow house (*front right)* and Columbarium (*hidden in trees in centre)*, Home Farm, Stoke Rochford

Plate 103 Carpenters' workshops, woodstore and Head Carpenter's house, Home Farm, Stoke Rochford

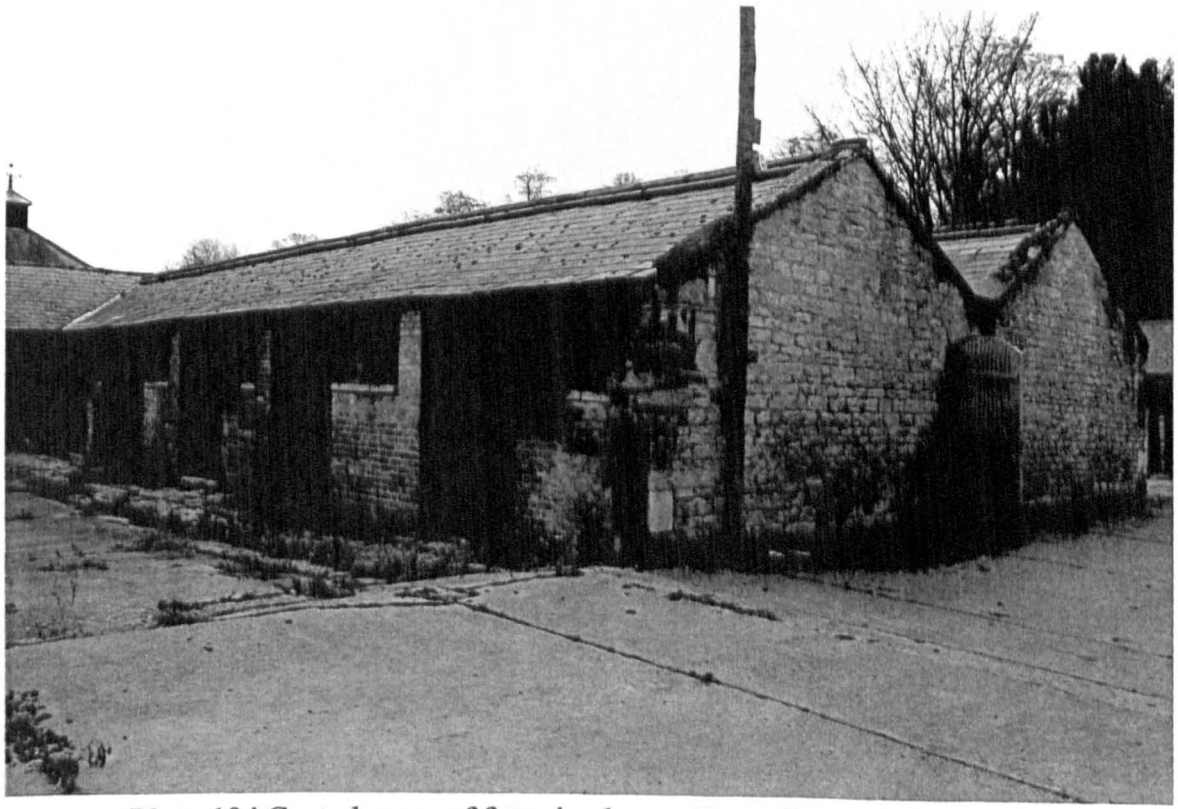


Plate 104 Central range of fattening boxes, Home Farm, Stoke Rochford

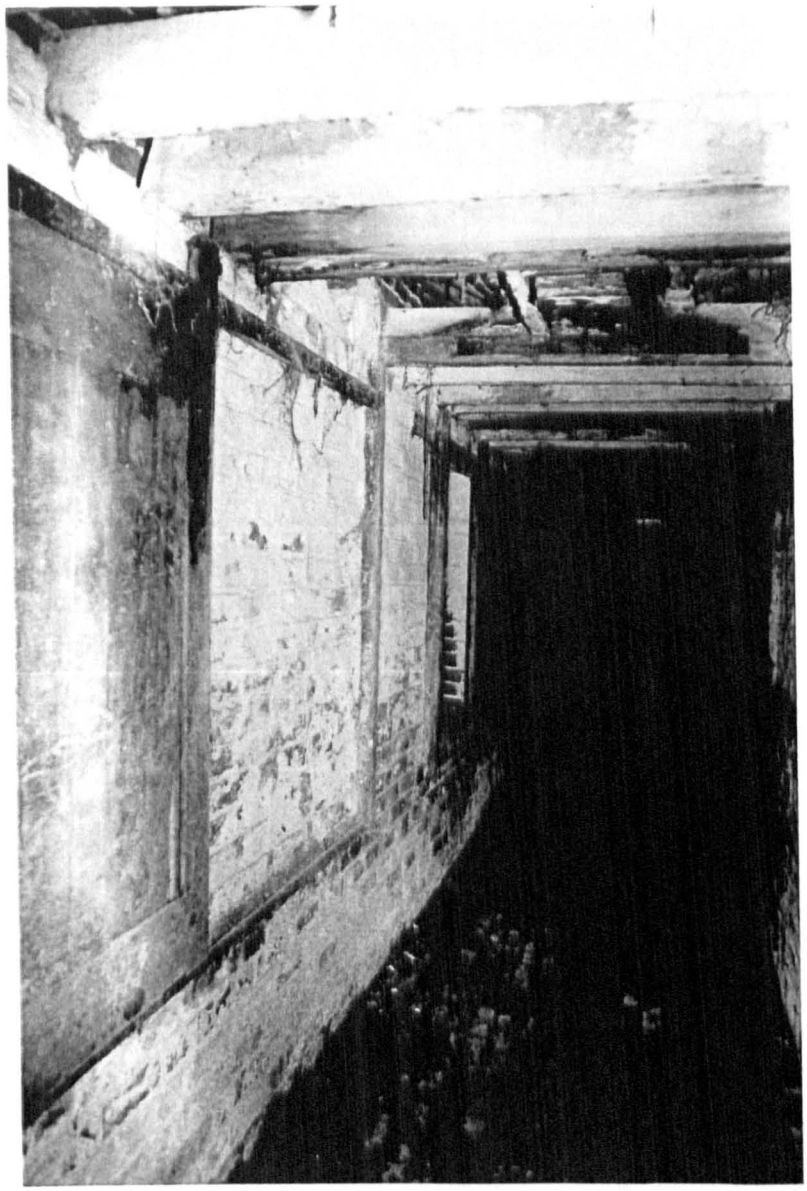


Plate 105 Sliding doors in central feed passage, Home Farm, Stoke Rochford

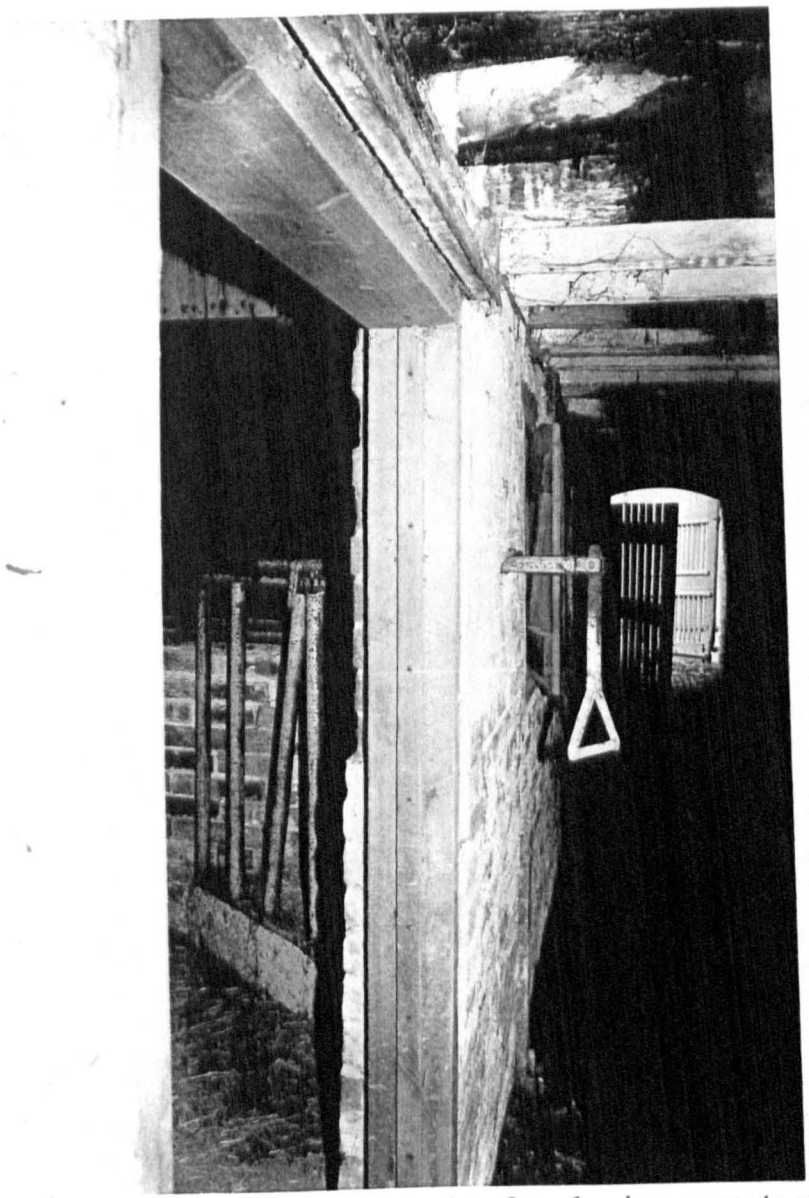


Plate 106 Central feed passage with mechanism for releasing access to manger in adjoining box (20thC), Home Farm, Stoke Rochford

Plate 107 Portrait of Christopher Turnor in the former Stables Restaurant, Stoke Rochford

Plate 108 Aerial view of Stoke Rochford Hall

Source: postcard purchased at Stoke Rochford Hall

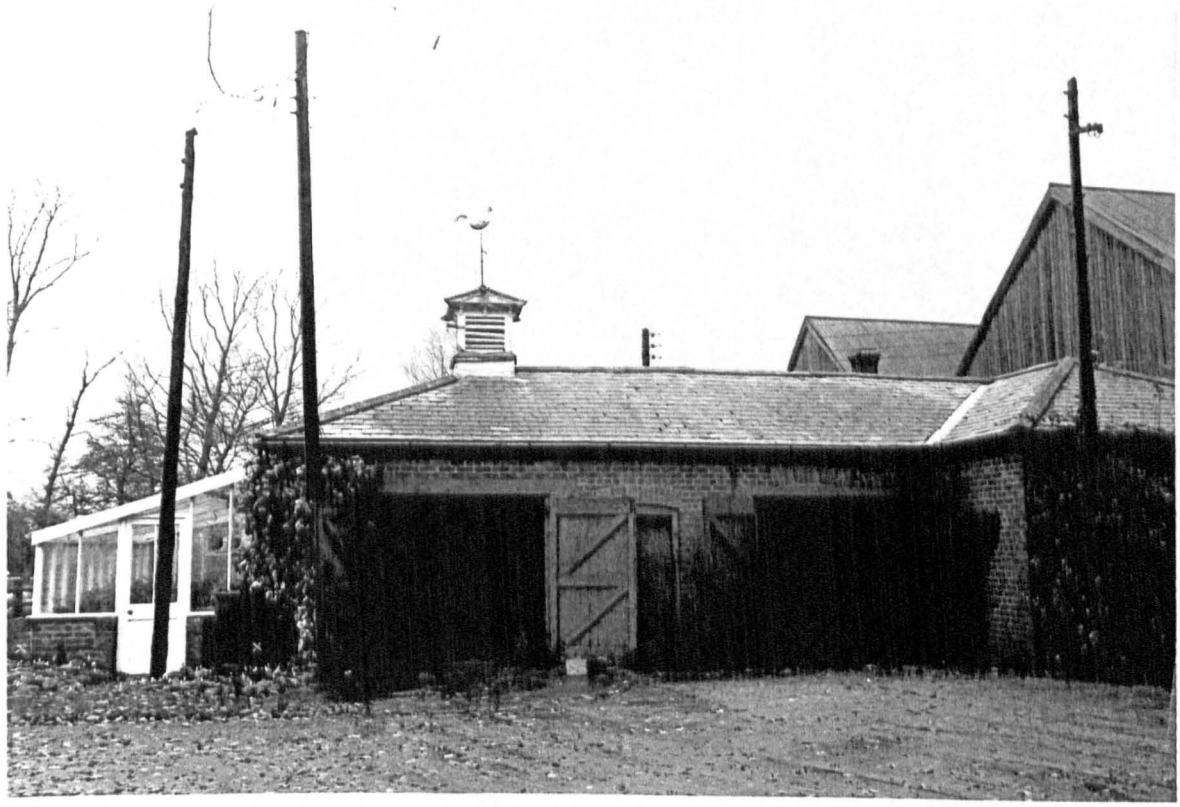
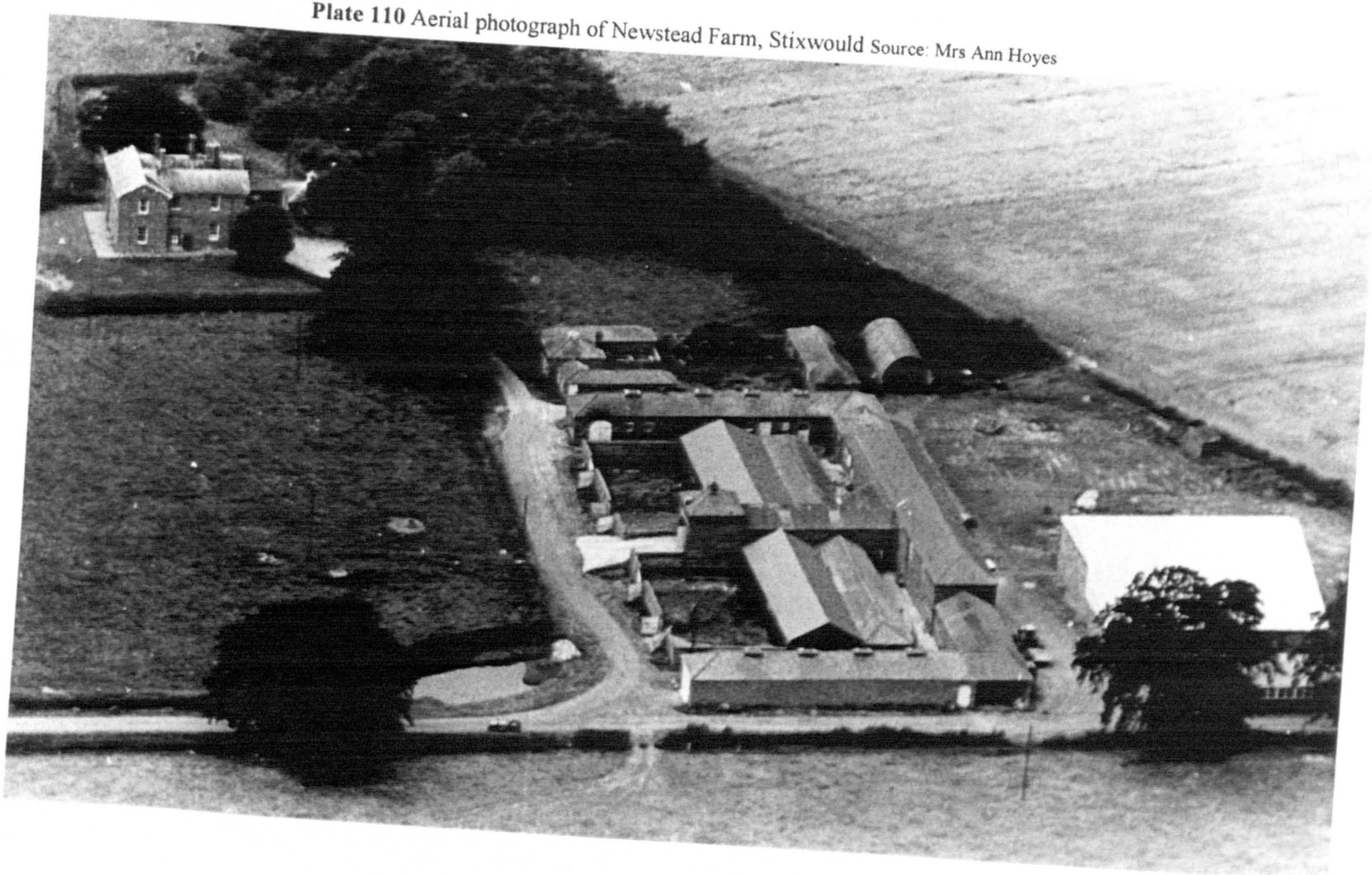


Plate 109 Relocated cupola, Abbey Farm, Stixwould

Plate 110 Aerial photograph of Newstead Farm, Stixwould Source: Mrs Ann Hoyes



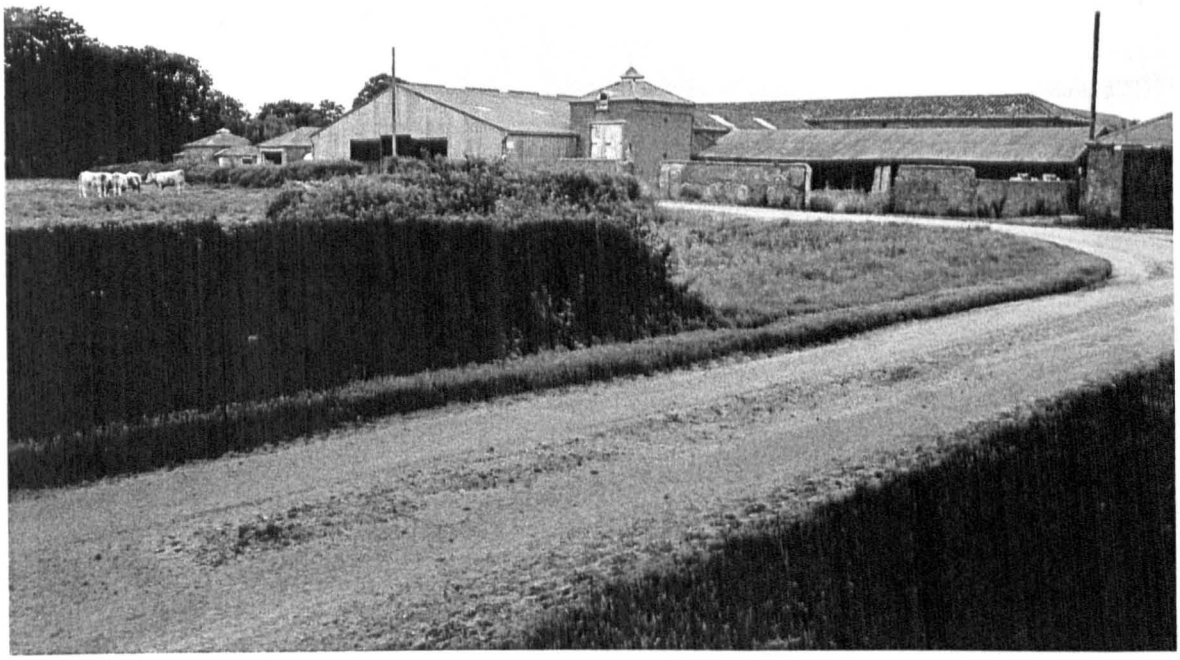


Plate 111 South elevation of farmstead, Newstead Farm, Stixwould

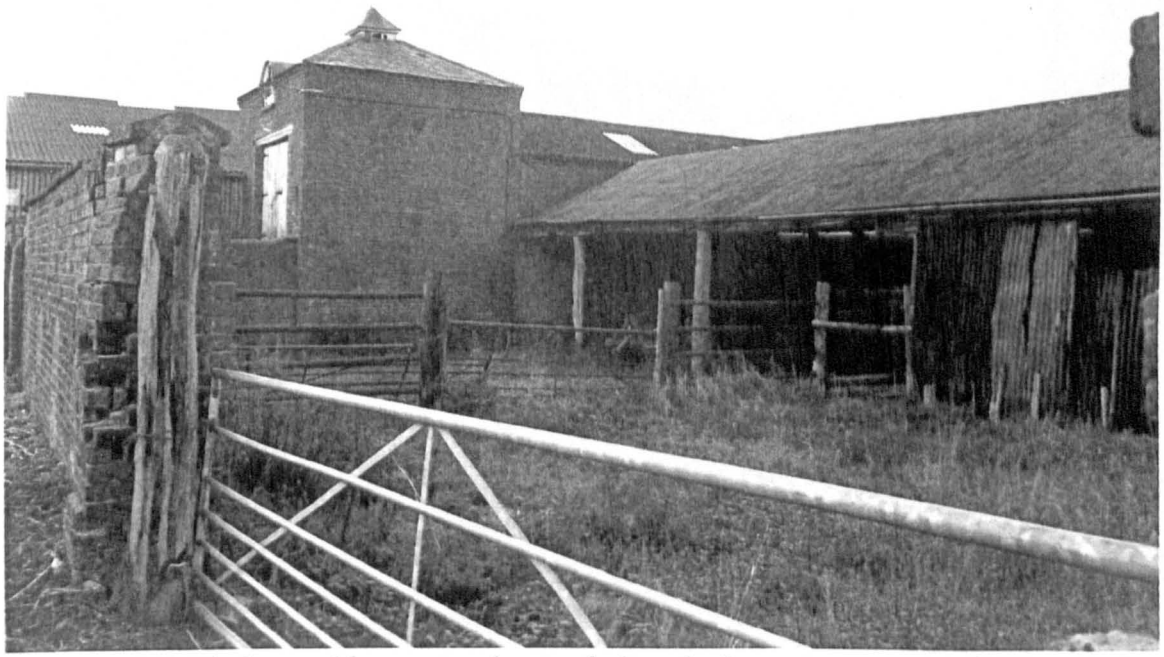


Plate 112 Timber and iron extension to shelter sheds, eastern crewyard, Newstead Farm, Stixwould

Plate 113 North elevation of north range, Newstead Farm, Stixwould

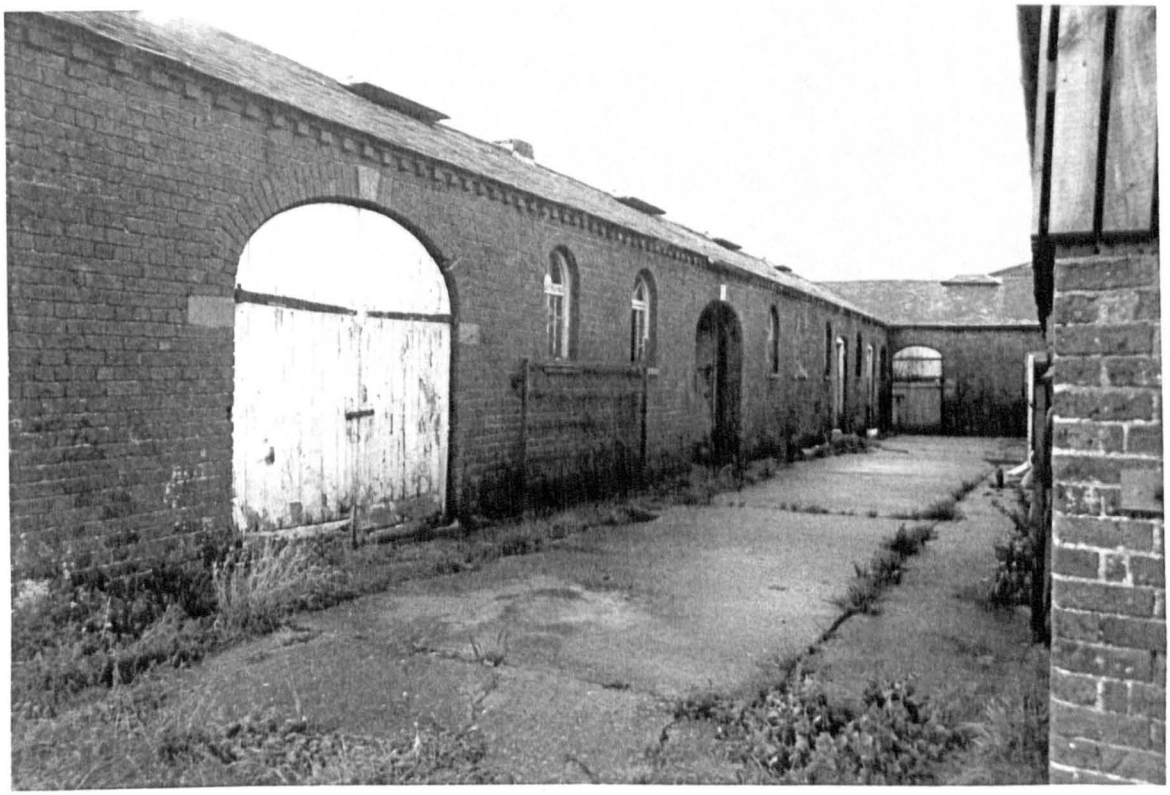


Plate 114 Brick arched windows and doors, stable range, Newstead Farm, Stixwould

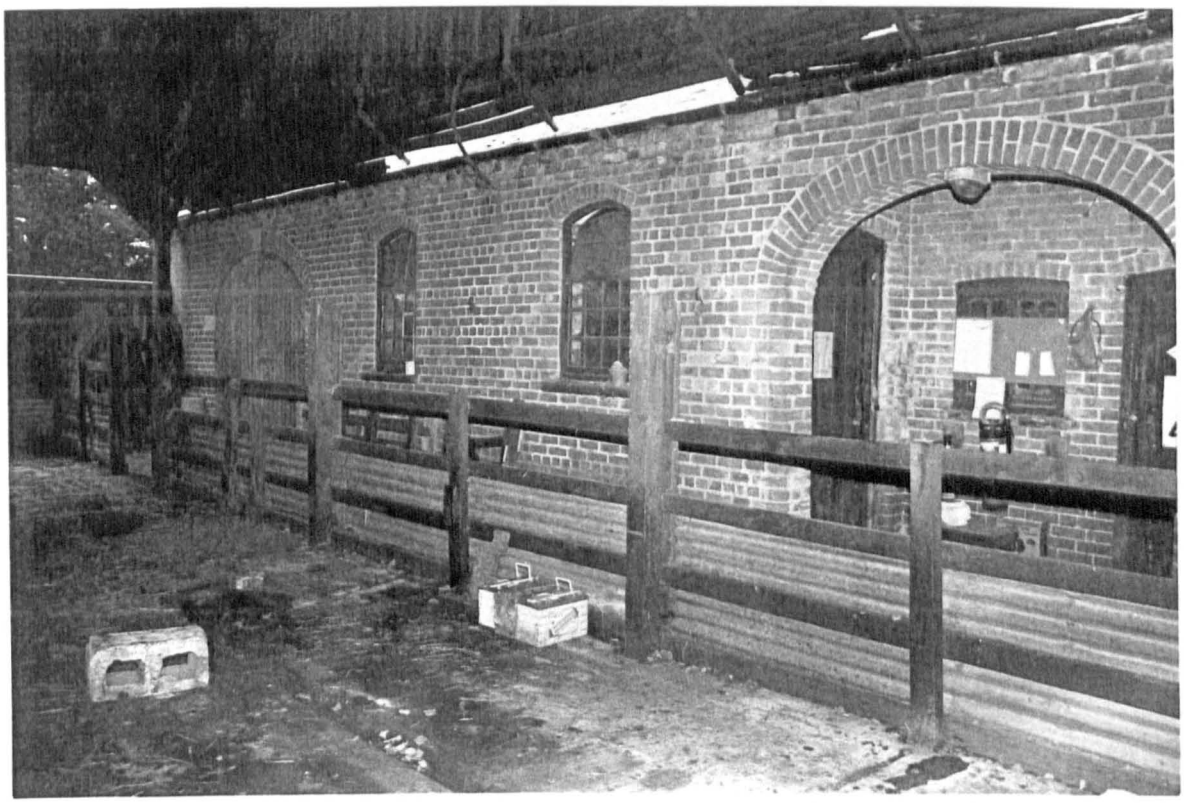


Plate 115 Brick arched windows and doors, stable range, Abbey Farm, Stixwould

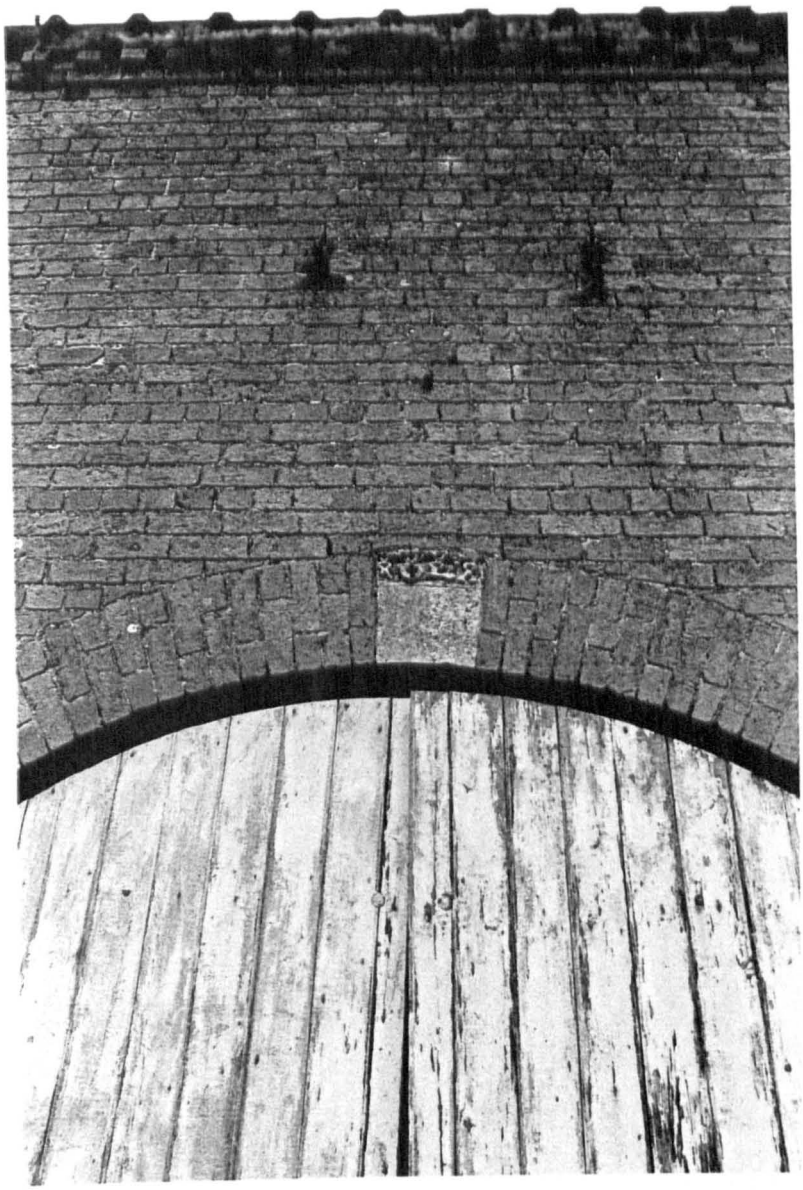


Plate 116 Heavily-ornamented 1847 date stone over barn doors at Newstead Farm, Stixwould

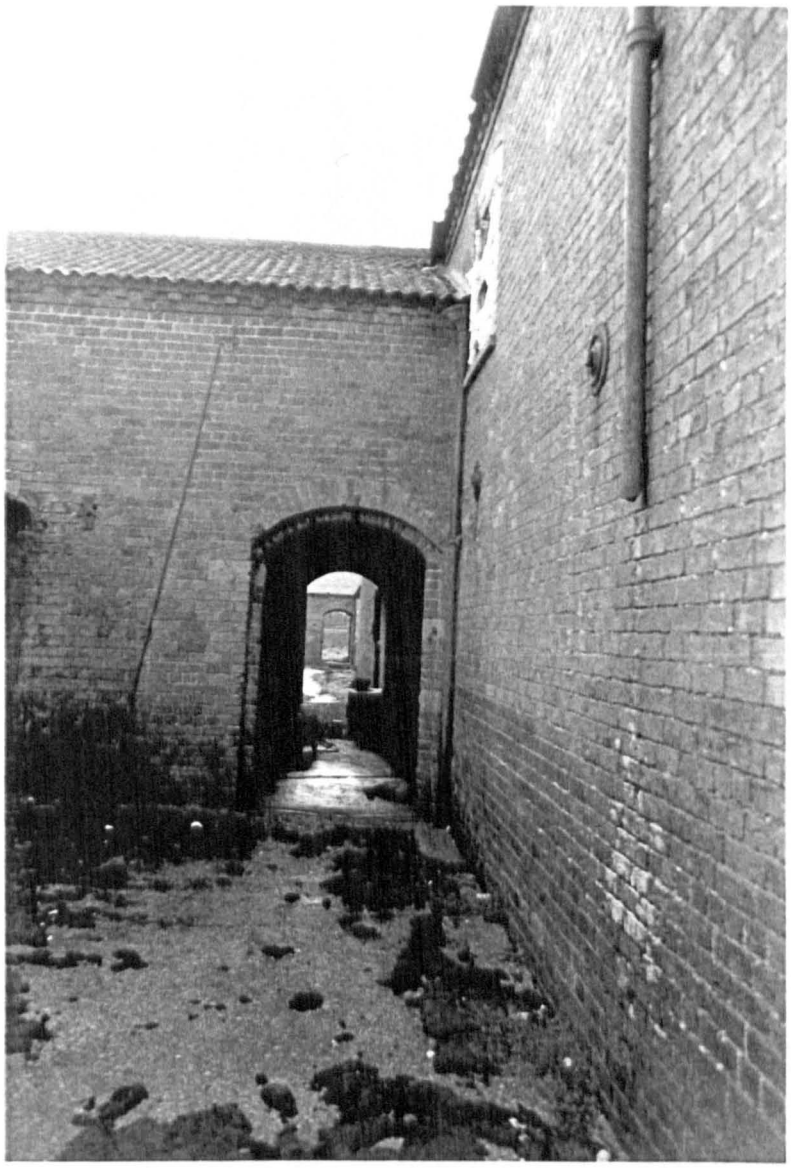


Plate 117 Passageway passing through the central straw barn, Newstead Farm, Stixwould

Plate 118 Slaughter house, pigsties and hen houses, Newstead Farm, Stixwould

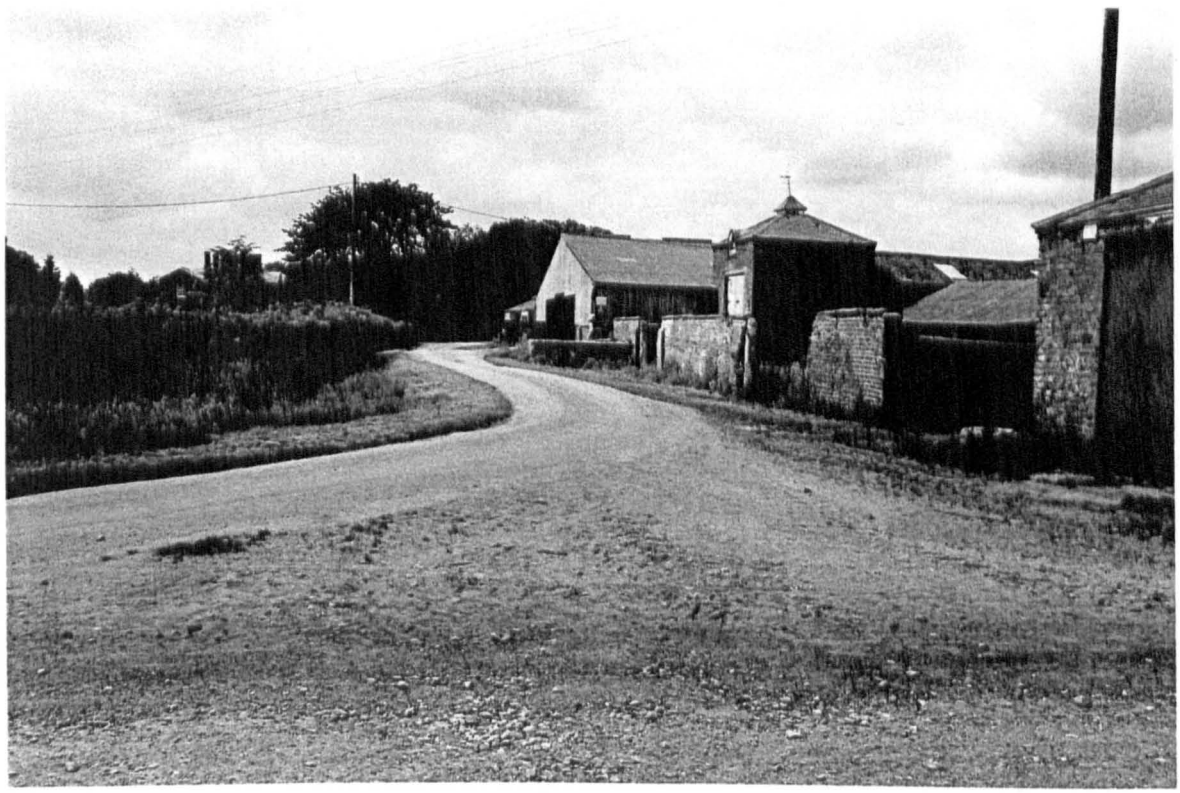


Plate 119 Relationship of house to steading, Newstead Farm, Stixwould. (*The chimneys of the house are visible among the trees on the left)*

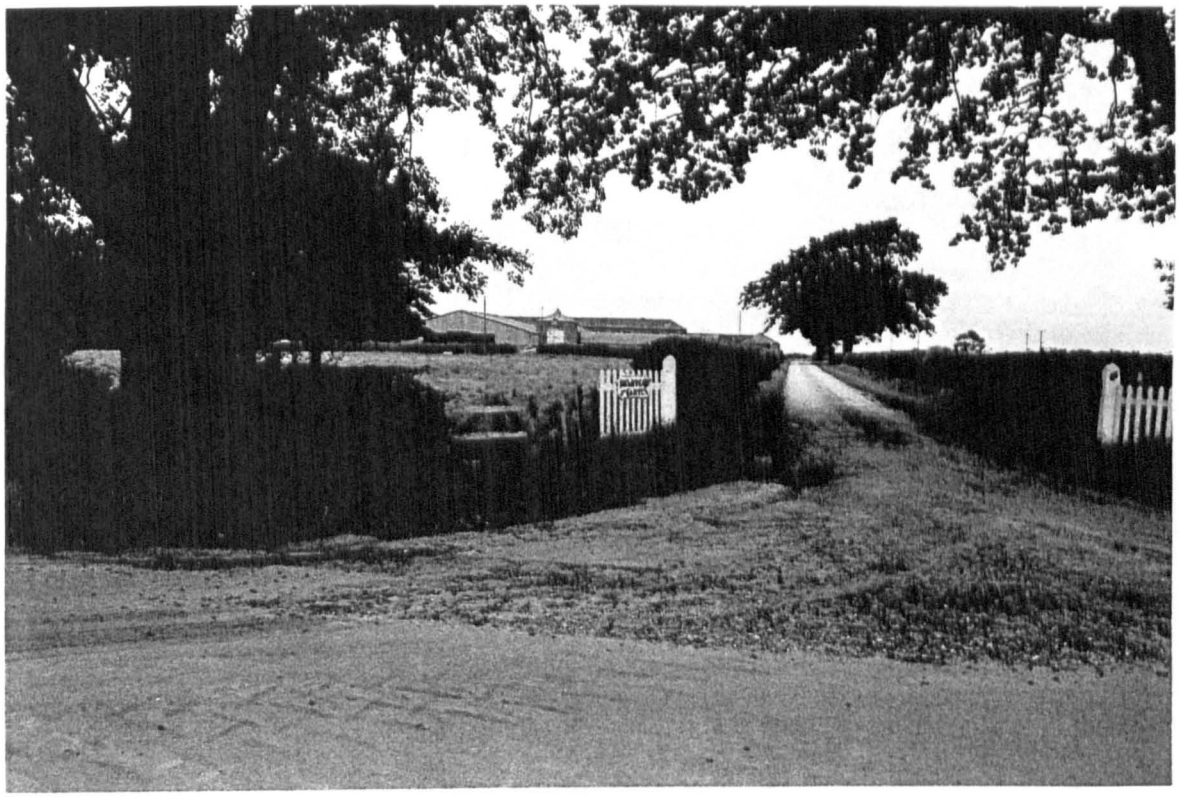


Plate 120 Farm entrance, Newstead Farm, Stixwould

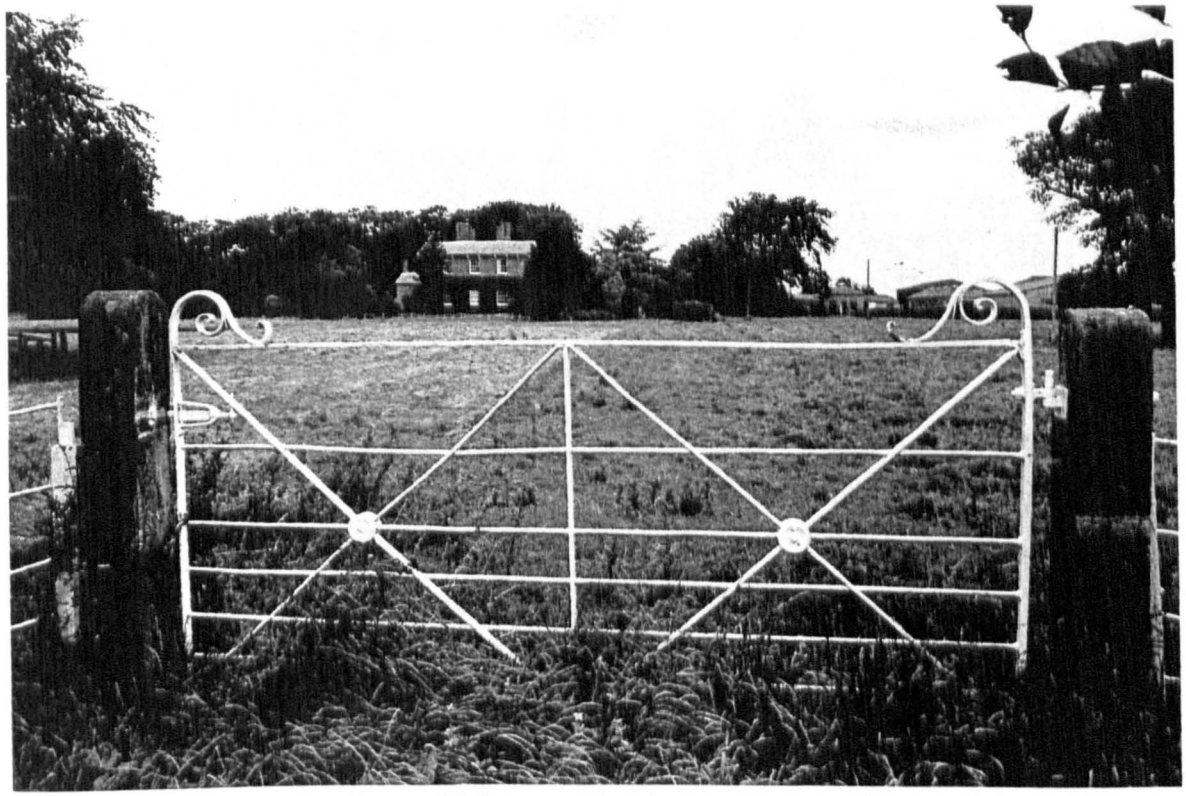


Plate 121 Gate leading to high status farmhouse, Newstead Farm, Stixwould

Plate 122 Surviving north range, Binbrook Top, Binbrook

Plate 123 Farmhouse, Binbrook Villa, Binbrook

Plate 124 Passageway between crewyards and outer range, Binbrook Villa, Binbrook

Plate 125 South elevation, Binbrook Villa, Binbrook

Plate 126 North elevation, Binbrook Villa, Binbrook

Plate 127 General view of Manor Farm, Kirmond le Mire, from the south

Plate 128 House and farm buildings, Manor Farm, Kirmond le Mire

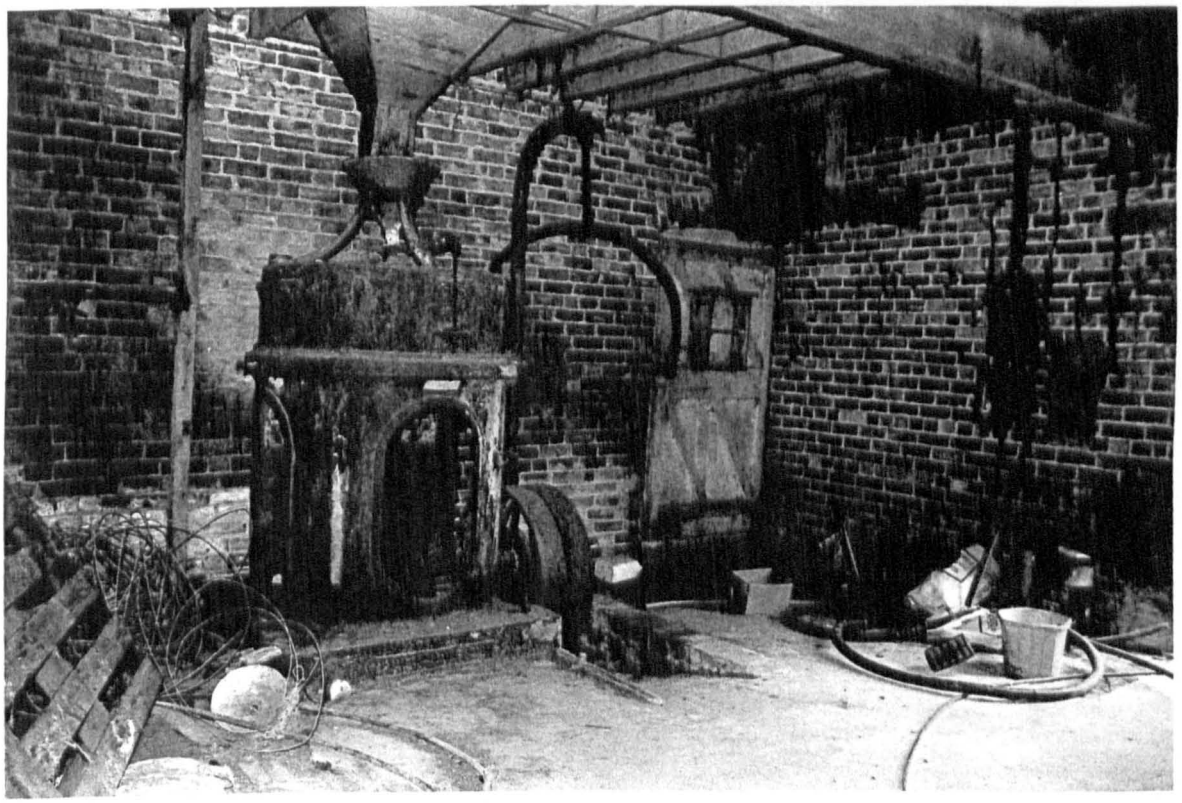


Plate 129 Clayton and Shuttleworth corn mill, Manor Farm, Kirmond le Mire

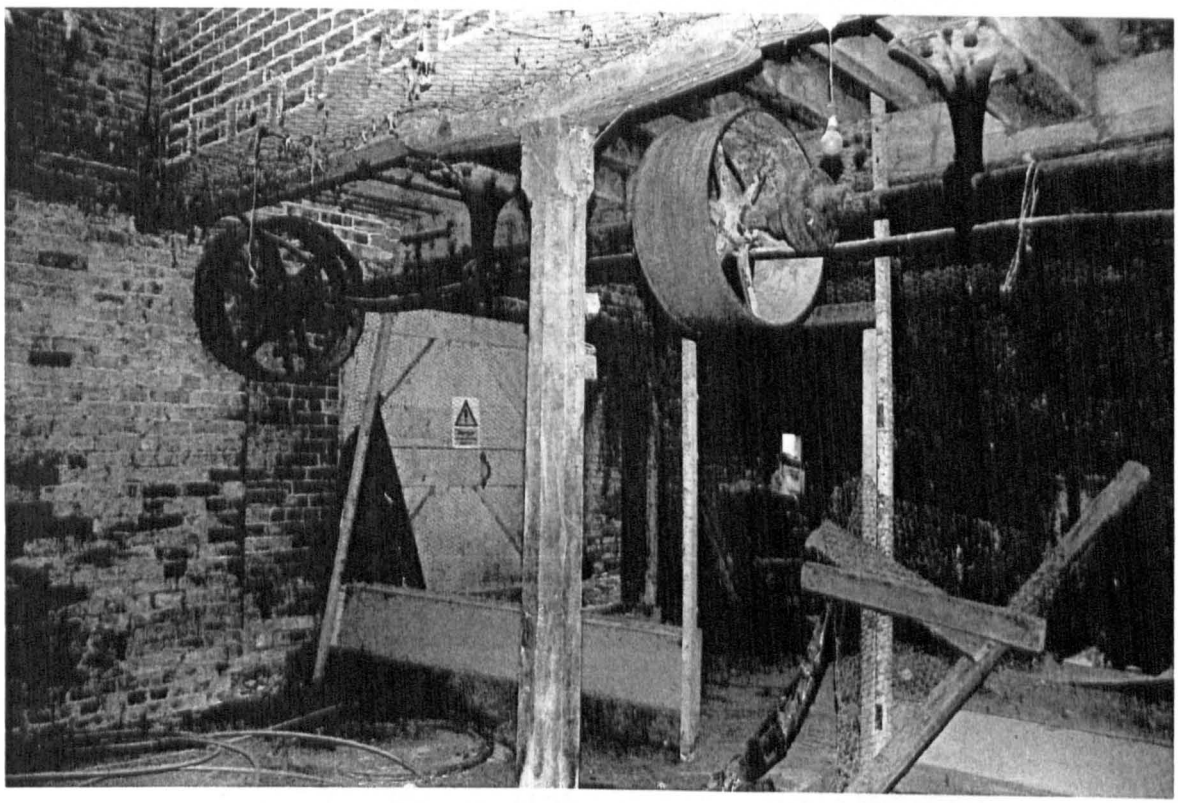


Plate 130 Line shafting with pulley wheels, Manor Farm, Kirmond le Mire

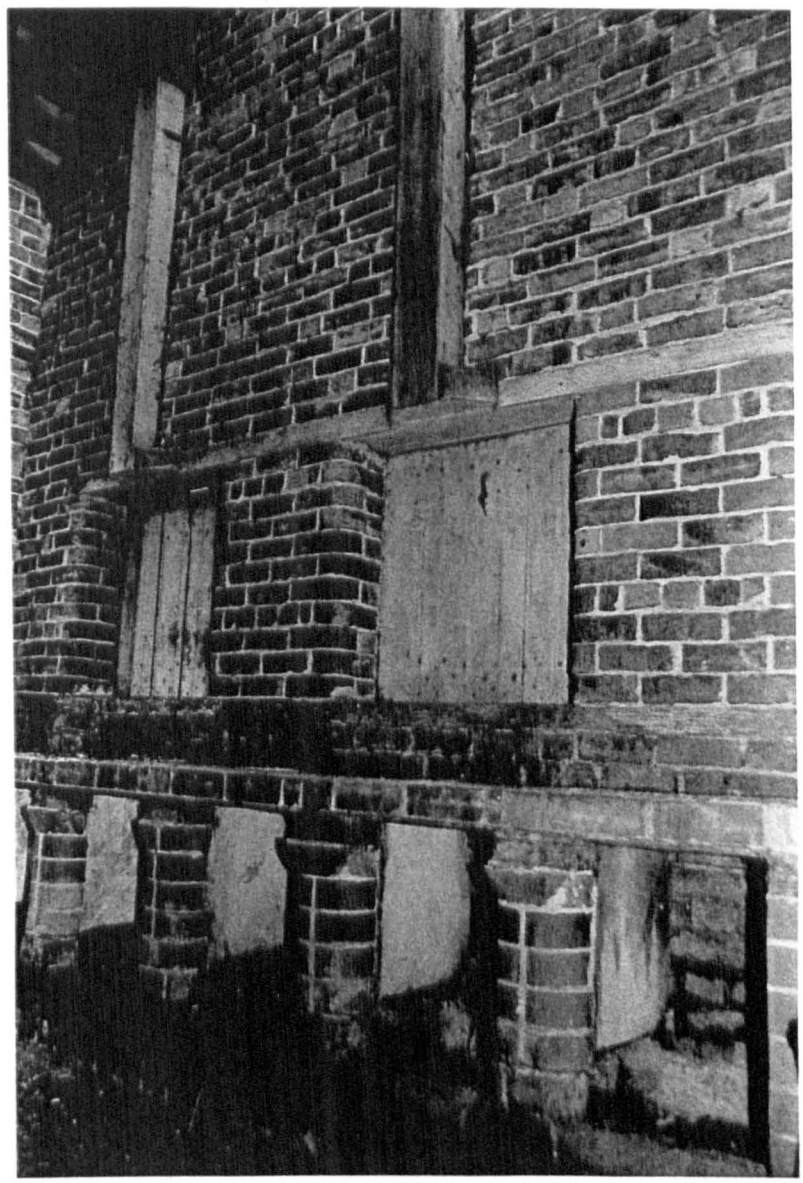


Plate 131 Hatches from feed passage beside piggeries, Manor Farm, Kirmond le Mire

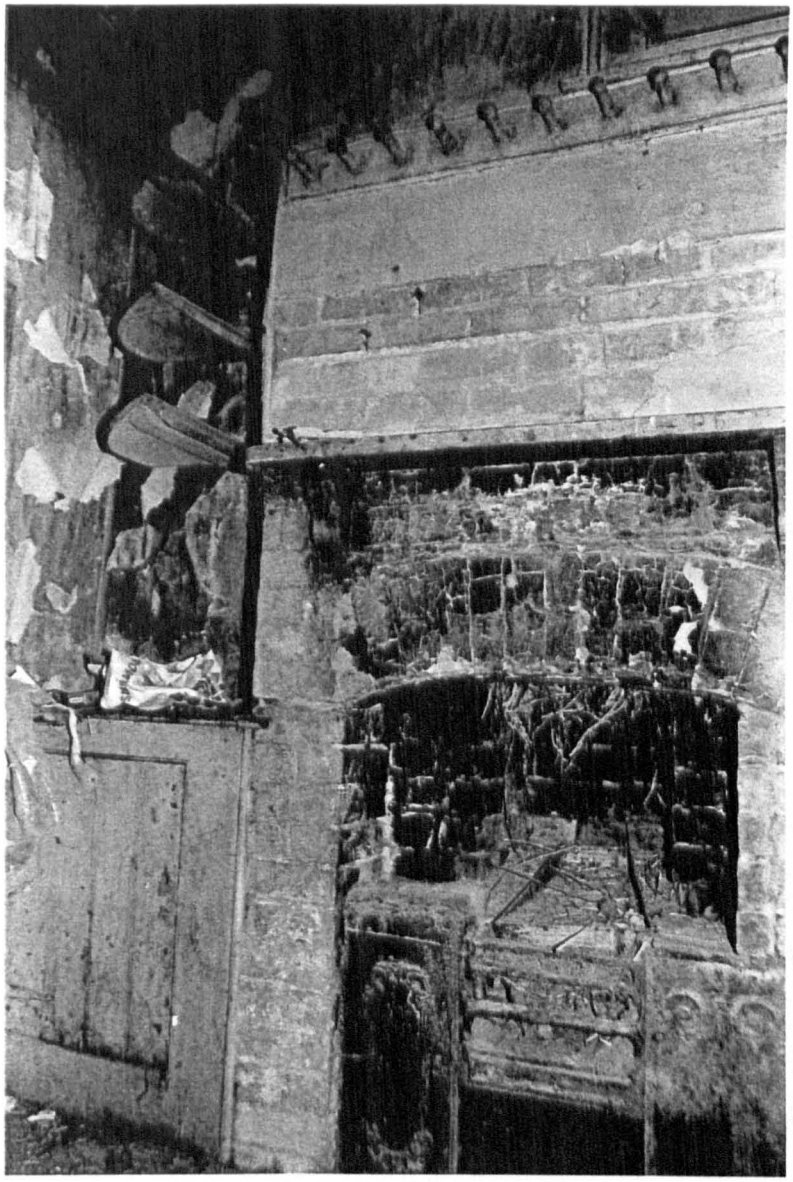


Plate 132 Cast-iron grate, saddle racks and harness pegs, tack room, Manor Farm, Kirmond le Mire

Plate 133 General view of Grange Farm, Little Ponton

Plate 134 Cottages dated 1867, Grange Farm, Little Ponton

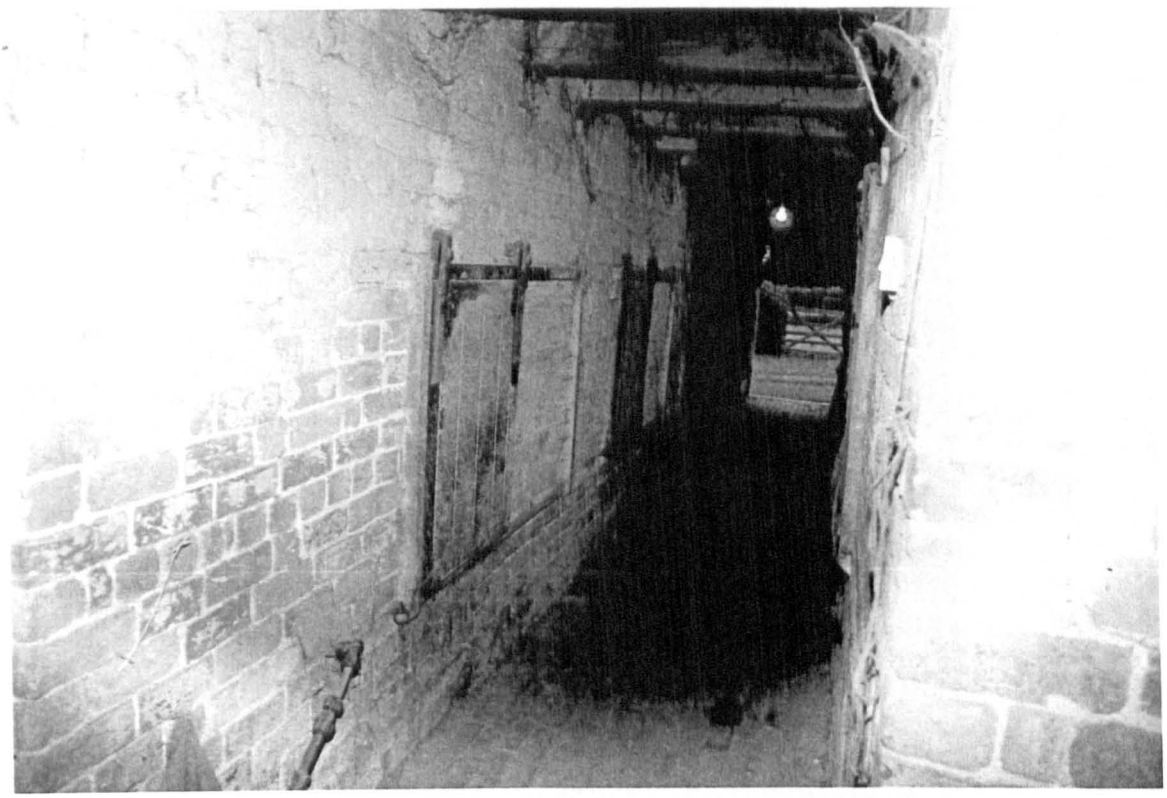


Plate 135 Central feed passage with sliding doors, Grange Farm, Little Ponton

Plate 136 Sliding door to manger in feeding box, central range, Grange Farm, Little Ponton

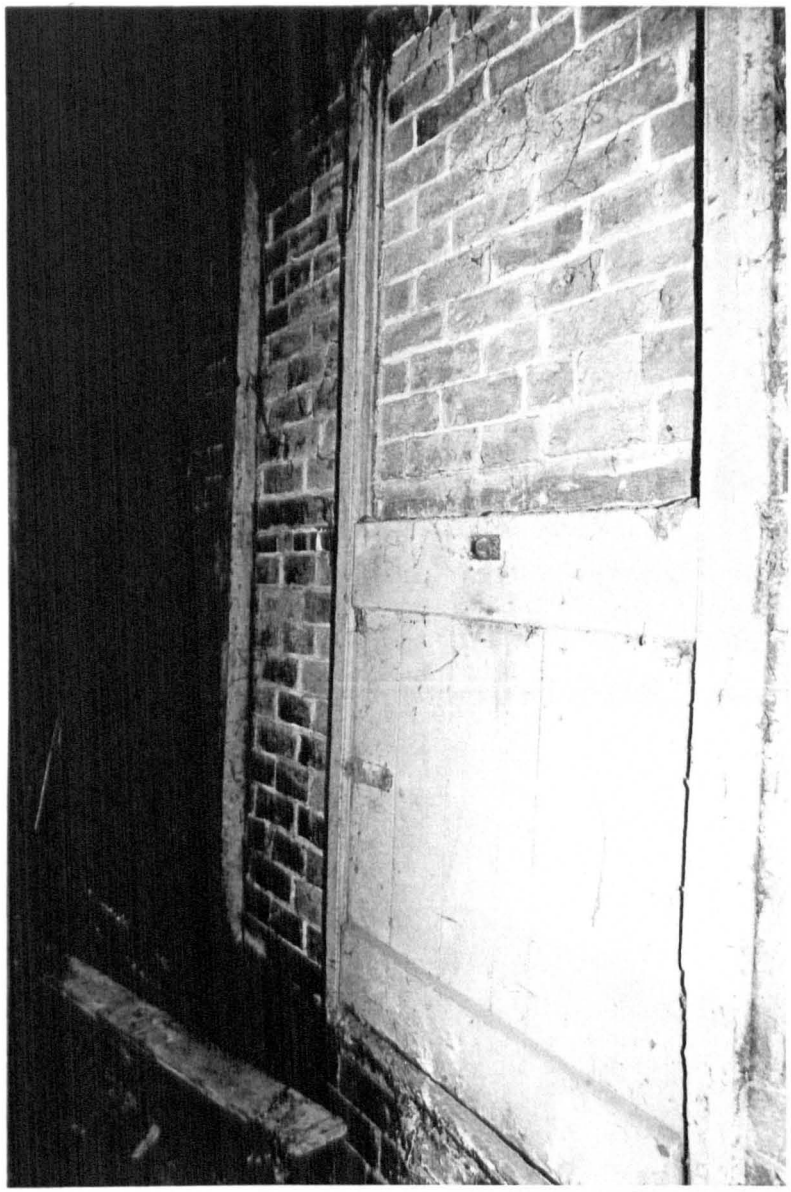


Plate 137 Hatches in feed passage, Grange Farm, Little Ponton

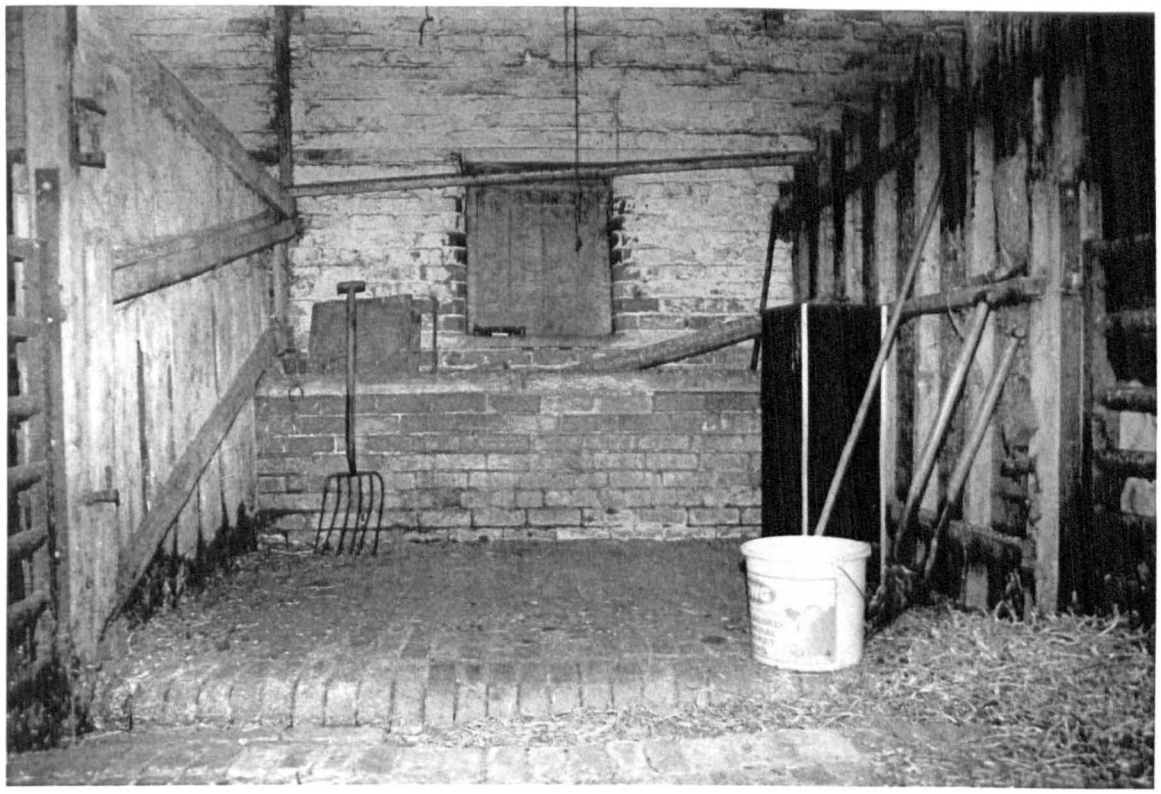


Plate 138 Hatch and feed trough in feeding box, Grange Farm, Little Ponton

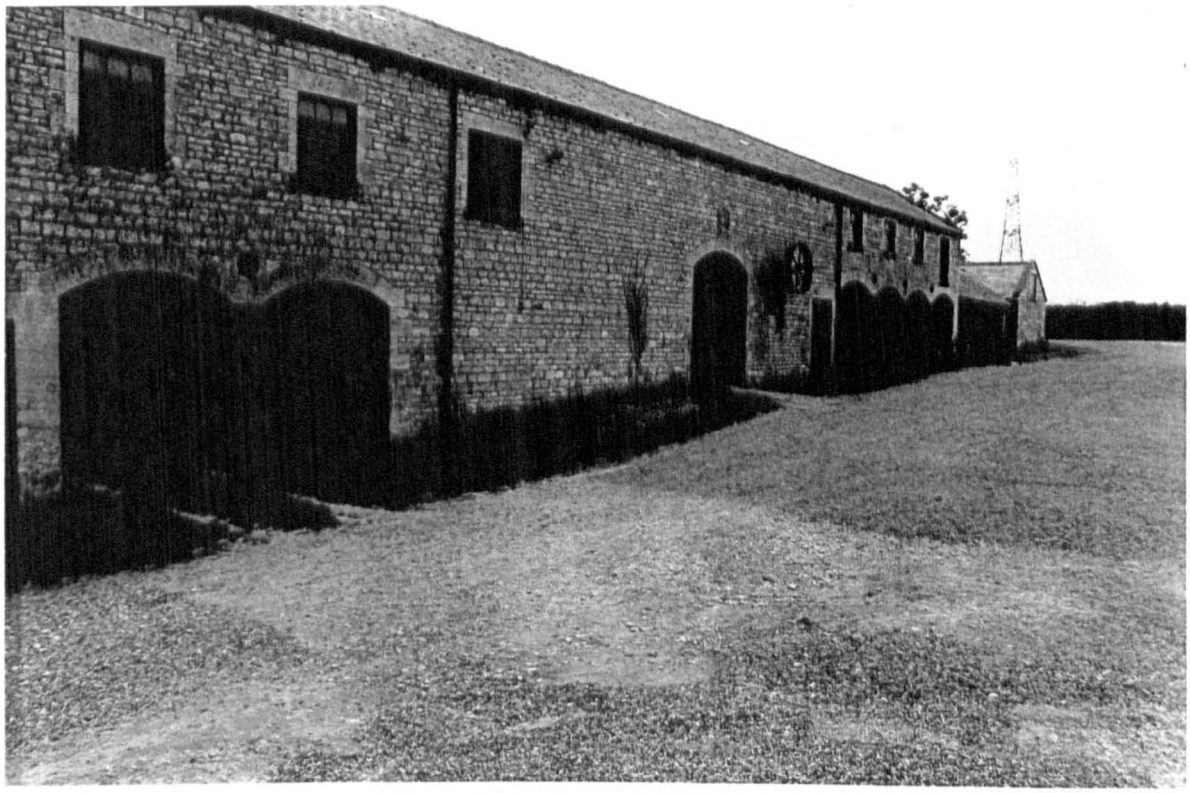


Plate 139 North elevation, north range, Grange Farm, Little Ponton

Plate 140 Stone façade and brick side walls of the crewyard at Grange Farm, Little Ponton

Plate 141 Cottages initialled C. T. and dated 1872, Woodnook, Little Ponton

Plate 142 South elevation of Woodnook Farm, Little Ponton, showing the different walling materials

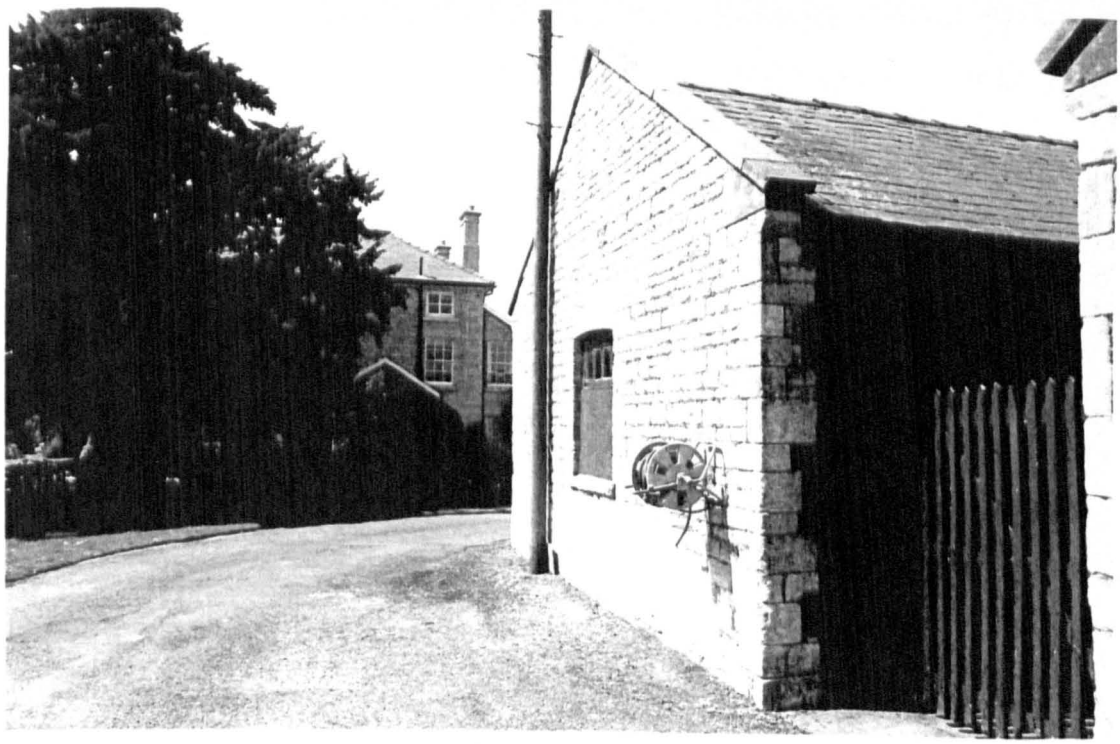


Plate 143 Detail of the different walling materials, Woodnook Farm, Little Ponton

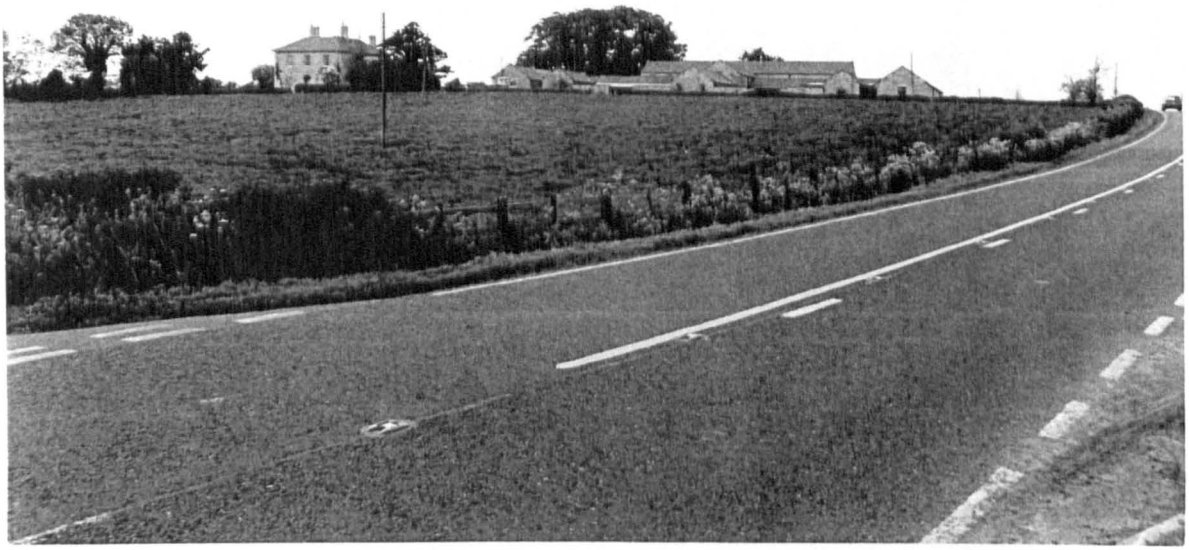


Plate 144 General view of Woodnook Farm, Little Ponton, from the High Dyke

Plate 145 High status farmhouse, Woodnook Farm, Little Ponton

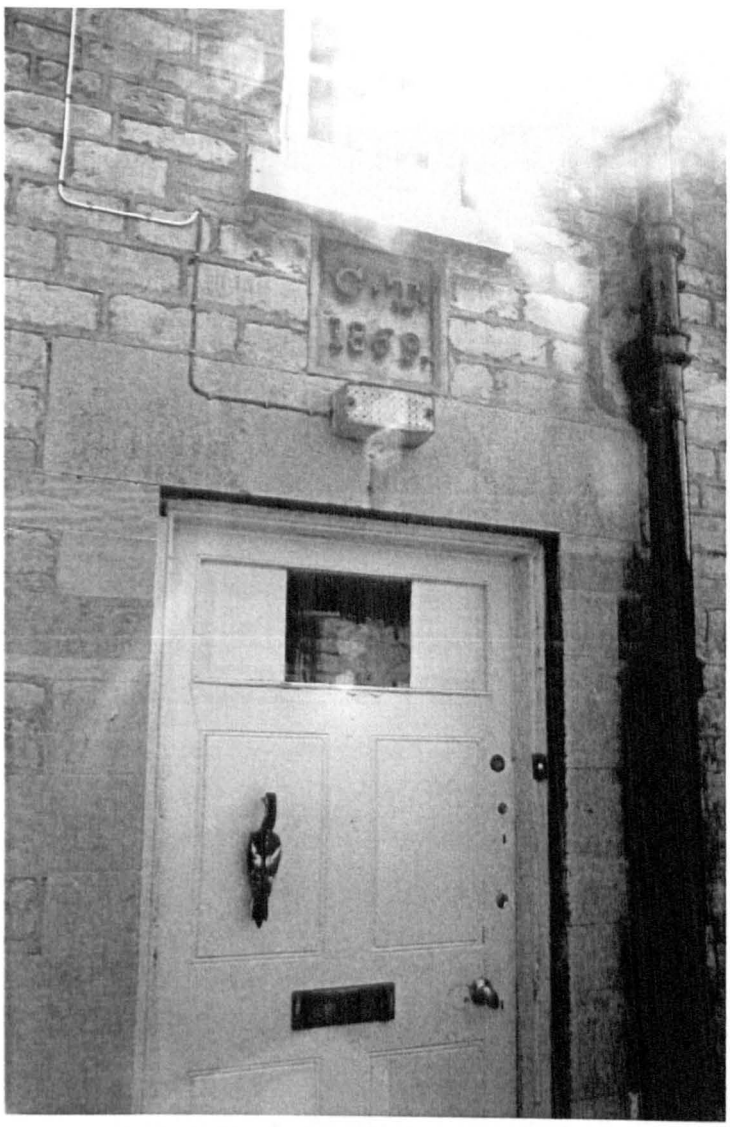


Plate 146 Date and Turnor initials over kitchen door, Woodnook Farm, Little Ponton

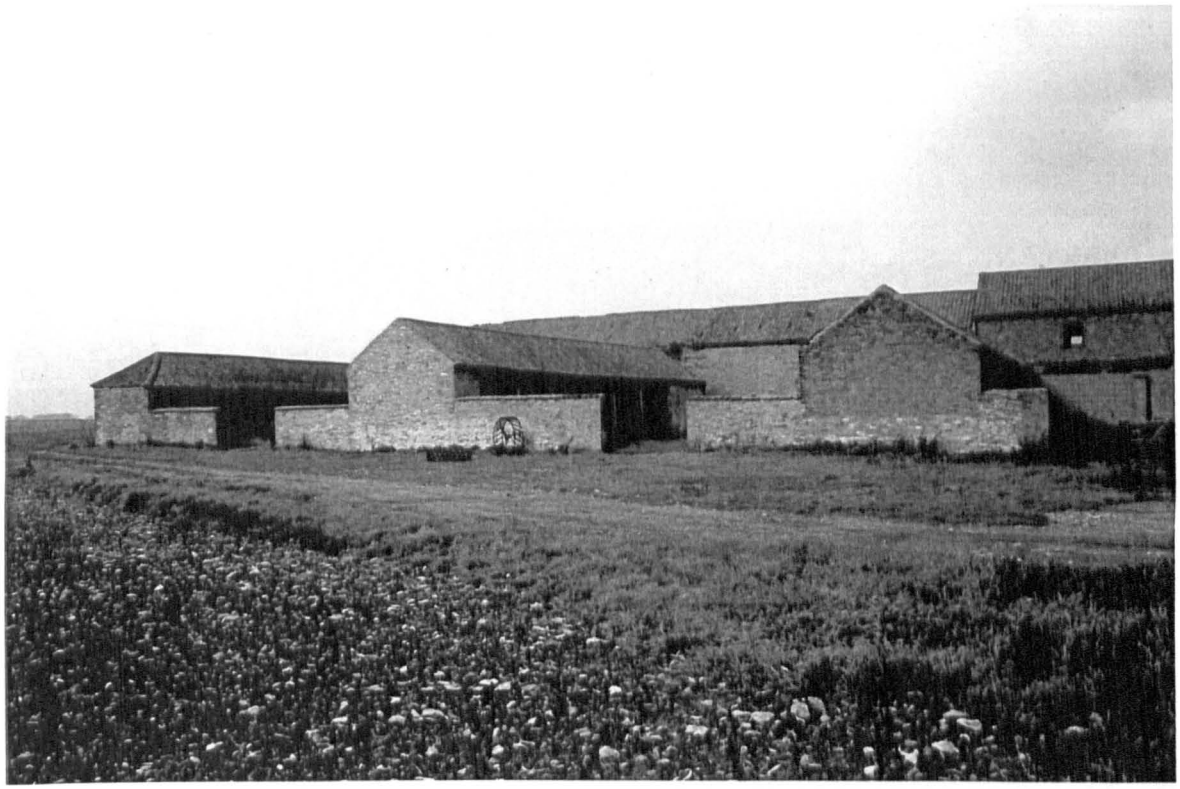


Plate 147 Crewyards at Saxby Cliff (*note the variety of building materials and the mixture of hipped and gabled roofs*)

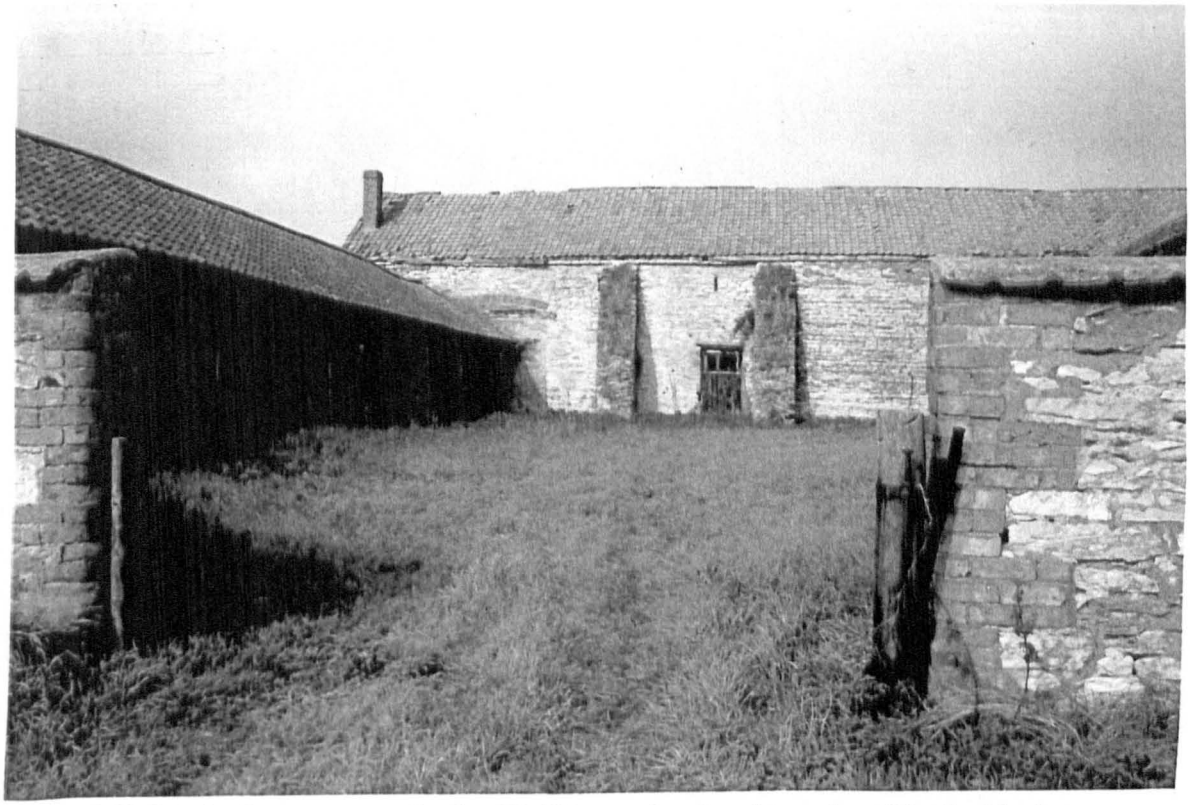


Plate 148 Original stone barn, Saxby Cliff (*note the threshing door blocked by later shelter sheds*)

Plate 149 Heslin's Barn Farm, Stoke Rochford

Plate 150 North elevation, Valley Farm, Little Ponton

Plate 151 Looking into the western crewyard from the south, Valley Farm, Little Ponton

Plate 152 Hand-driven barn machinery *(front right)*, Valley Farm, Little Ponton

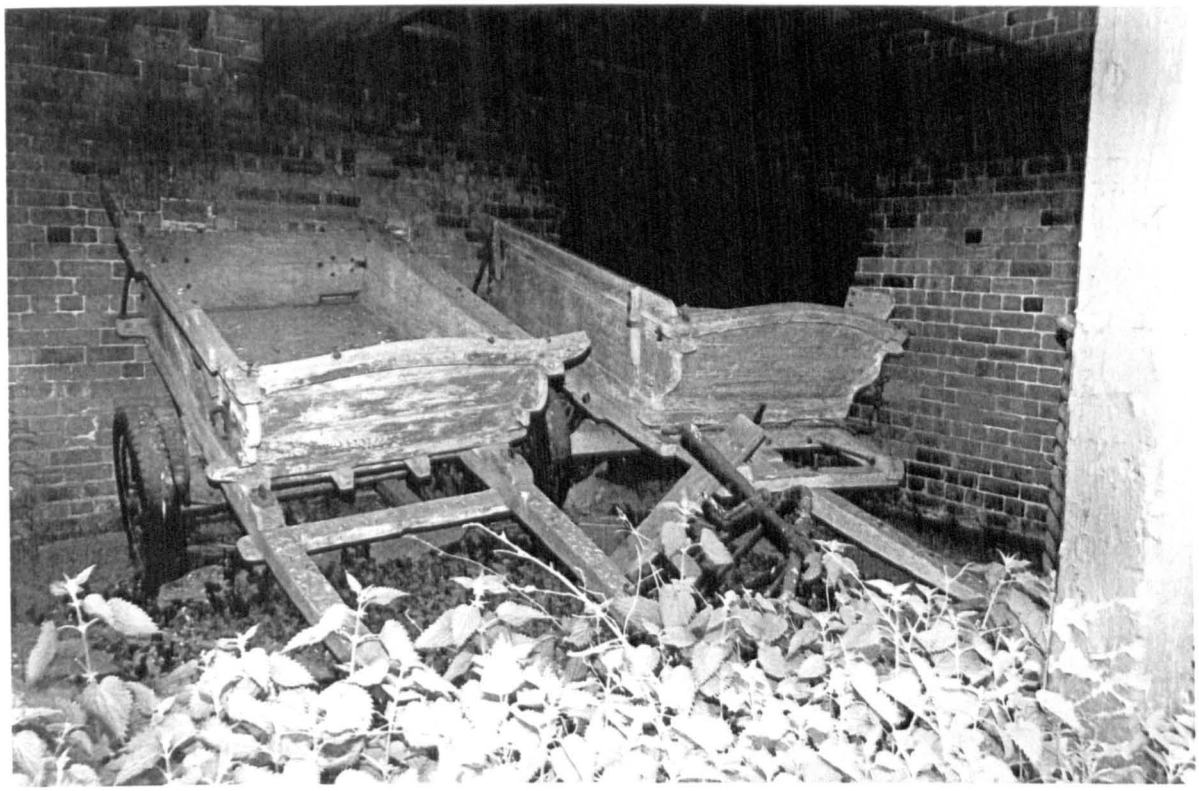


Plate 153 Small carts, Valley Farm, Little Ponton

Plate 154 Gable end of oldest range of buildings (*on left of picture)*, Grange Farm, Mareham on the Hill

Plate 155 Barn in east range *(right foreground)* with decorative brickwork on gable and on gable of centre range, Grange Farm, Mareham on the Hill

Plate 156 Decorative brickwork on gable at Lynwode House, Linwood

Plate 157 Barn in east range, Grange Farm, East Barkwith

Plate 158 Imposing farmhouse, Grange Farm, East Barkwith

Plate 159 Barn, Ivy House (also known as Manor Farm), East Torrington

Plate 160 Original Grange Farm farmhouse, Little Ponton *(left)*, converted into a row of cottages

Plate 161 Three pairs of cottages erected in the stackyard of the original Grange Farm, Little Ponton

Plate 162 Cracroft initials and date 1898 on the stable range, South Farm, Hackthorn

Plate 163 Ecclesiastical Commissioners' Farm, 1881, Asgarby

Plate 164 Crest and date on Ecclesiastical Commissioners' Farm, Asgarby

Plate 165 Yarborough estate buildings, 1887, Keelby Grange, Keelby

Plate 166 Sheep sheds, Ivy House (also known as Manor Farm), East Torrington

Appendix 2
Lincolnshire Visitors to Tiptree Hall Farm, 1846-1878

Source: 'List of Visitors to Tiptree Hall Farm', BL ADD 30015

?	Edward	?	1857
Abraham	William	Barnetby le Wold	1856
Alan	Fredrick John	Worlaby, Louth	1874
Alington	George M.	Swinhope House	1854
Attenborough	Mr	Fillingham	1846
Barratt	George	Broxholme near Lincoln	1866
Belline	Charles	Lincoln	1856
Benyon	Joseph Burtt	Holbeach	1850
Bland	Thomas	Caenby, Market Rasen	1852
Broome	Edward	South Kelsey	1872
Brown	William	Horncastle	1853
Brown	Francis	Leadenham	1861
Bullen	E. J.	Claypole	1871
Chapman	H.	Edenham	1860
Clark	C. W.	Careby	1856
Clarke	George	Sheepwash, Canwick, Lincoln	1857
Codd	Francis A.	South Carlton, Lincoln	1869
Corbett	Joseph	Horncastle	1846
Dawson	Richard	Epworth	1847
Dickon	Thos	Lincs	1846
Donington	John	Whaplode Drove	1856
Dring	Thomas Boyer	Claxby, Spilsby	1854
Faulkner	Samuel	Walcott	1854
Frudd	John	Bloxholme, Sleaford	1862
Frudd	George	North Hills, Ruskington	1862
Ford, FGS	John	Market Rasen	1862
Foster	John	Owmby, Brigg	1863
Gillyatt	Charles G.	Wickenby, Wragby	1860
Goastman	Charles	Crowle	1851
Goulton	Benjamin	Gedney Marsh, Long Sutton	1856
Grant	Hannah	Farlesthorpe House	1871
Hall	John Eden	Barton upon Humber	1860
Hall	Jonas	Melwood Priory near Ferry	1860
Hardy	Henry	Postland (Crowland)	1856
Hewson	John	Tower House, Tetney near Grimsby	1853
Hillier	James	Purdies Farm, Nocton	1857
Holland	W.	Market Deeping	1868
Holmes	Lionel West	Howsham, Brigg	1847
Horberry	Thomas	Gunthorpe near Gainsborough	1860
Hornsby	R.	Spittlegate (Grantham)	1853
Ingram	William	Postland (Crowland)	1856
Jackson	Howard	The Hall, North Reston, Louth	1860
Johnson	H. A.	Louth	1847
Kempe	Jesse	Thurlby Grange (Bilsby, Alford))	1856
Laws	Henry	Kirton Sluice	1855
Lawson	William	Whaplode Drove	1857

Appendix 2 contd.
Lincolnshire Visitors to Tiptree Hall Farm, 1846-1878

Source: 'List of Visitors to Tiptree Hall Farm', BL ADD 30015

Lievesley	Thomas	Doddington	1857
Livesey	Joseph	Stourton Hall, Horncastle	1852
Loft	William	Trusthorpe, Alford	1848
Lyale	Thomas	Gayton Manor	1856
Lyale	Thomas	Grantham	1860
Marshall	John	Riseholme, Lincoln	1856
Marshall	J. C.	Riseholme, Lincoln	1856
Martin	William	Scamblesby	1847
Maw	Cornelius	Crowle	1846
Merrifield	Augustus	Wainfleet	1862
Moore	Henry	Kirton	1855
Mutter	William	Aswarby Park	1855
Ostler	W. J. Lely	Grantham	1857
Pilley, Junior	Samuel	Sudbrooke near lincoln	1872
Porter	J. T. B.	Lincoln	1855
Price	F. Rockcliffe	The Manor House, West Ashby	1860
Raithby	W.R.	Grainthorpe, Louth	1847
Rawlings	Isaac	Normanton Farm (near Grantham)	1868
Richardson	William	Ashby Puerorum near Horncastle	1856
Robinson	J. W.	Frampton	1846
Robinson	George W.	Sedgebrook Manor House, Grantham	1872
Seagrave	William	Lissington, Wragby	1860
Sharp	John	Holywell	1856
Sharpley	Croft	Acthorpe (Louth)	1847
Sheir	Peter	Mile House, Heckington	1863
Shuttleworth	J.	Lincoln	1853
Simonds	Thomas	Frampton	1846
Skelton	William	Sutton Bridge	1846
Skipworth	H. S.	Rothwell House	1874
Smart	Major	Tumby	1847
Southwell	H. G.	Nettleton Lodge, Caistor	1872
Spademan	A. R.	Stamford	1874
Spencer	Thomas	Sturton-cum-Bransby, Gainsborough	1856
Thomas	William	Holbeach	1850
Tomline	George	Riby	1846
Tomline	Capt.	Riby	1846
Tooke	J. T. Hales	Scawby	1855
Turnor	Edmund	Panton Hall	1873
Ward	Thomas	Baumber	1858
Watson	John Firth	Crowle	1851
Westmoreland	Robert	Billingborough	1849
Wingate	William Brown	Hareby	1847
Wood	M.	Holbeach	1855
Wright	George	Knaith near Gainsborough	1863
Wright, Senior	Richard	Knaith, near Gainsborough	1863
			Total 91

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Brown, J. H., 'The ups and downs of High Farming: Lincolnshire and the Great Depression 1870-1914', Local History Conference, University of Lincoln, 26th July 2003

Daniels, Stephen, chairing 'Perceptions of Landscape', W. G. Hoskins and the Making of the British Landscape, University of Leicester, 7th-10th July 2005

Fairclough, Graham, 'Historic Landscape Characterisation and managing change', W. G. Hoskins and the Making of the British Landscape, University of Leicester, 7th-10th July 2005

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Lake, Jeremy, 'Historic Farmsteads and Landscape Character in Hampshire', pilot project update and summary conclusions, English Heritage, 22nd October 2004

Leach, Terence R., 'Stoke Rochford and Easton', notes for a Society for Lincolnshire History and Archaeology outing, 24th June 1978

McDonagh, Briony, 'Powerhouses of the Wolds landscape: manors and churches in late medieval and early modern England', W. G. Hoskins and the Making of the British Landscape, University of Leicester, 7th-10th July 2005

Mills, Dennis R., 'Population and Settlement in Kesteven (Lincs). c. 1775-c.1885', M. A. thesis, University of Nottingham, (1957)

Neave, David, 'Buildings in a planned landscape: post-enclosure village and farmstead', W. G. Hoskins and the Making of the British Landscape Conference, University of Leicester, 7th-10th July 2005

Phillips, A. D. M., 'The spatial adoption of farm buildings in England 1850-1900', SSRC Report HR7263, (1983)

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Popham, John, 'Sledmere Estate, 1775-1800', HFBG Conference, University of York, 6th-8th October 1989

Sprott, Gavin, National Museums of Scotland, 'From subsistence to industrialised agriculture: The Scottish Experience', HFBG Conference, Inverness, 6th-8th September 2002

Turner, Sam, Devon County Council, 'Historic Landscape Characterisation', HFBG Conference, University of Exeter, Devon, 19th-21st September 2003

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Television

Schama, Simon, 'Landscape and Memory', Programme 1 The Forest, BBC2, 1995

Field Visits

Arranged in alphabetical order by parish. The county is Lincolnshire unless otherwise stated.

Asgarby, Ecclesiastical Commissioners' Farm, (TF 334 668) September, 1998

Barton on Humber, Chapel Farm, (TA 019 190) April, 1990

Baumber, Hungram Yard, (TF 201 747) March, 2000

Binbrook, Binbrook Top, (TF 197 932) September, 1999

Binbrook, Binbrook Villa, (TF 216 943) September, 1999; August 2001; July, 2002

Bishop Burton, East Yorks, Cold Harbour Farm, (SE 973 387) June, 2004

Blennerhasset, Cumbria, Mechi Farm, (NY 135 412) April, 1998

Coleby, Hall Farm, (SK 978 613) September, 2005

Crowland, Postland Farm, (TF 267 107) January, 2000

Denwick, Northumberland, Park Farm, Hulne Park, (NU 169 146) HFBG Conference, Otterburn, Northumberland, October, 1993

Dolbenmaen, Lleyn Peninsula, Bryn-yr-efail uchaf, (SH 489 435) HFBG Conference, Plas Tan y Bwlch, Snowdonia, 18th-20th September, 1998

East Barkwith, Grange Farm, (TF 158 817) November, 2004

East Firsby, Manor Farm, (TF 007 854) Spring, 1990

East Linton, East Lothian, Sunnyside Farm, (NT 595 754) BAHS Spring Conference, Edinburgh, April, 2004

East Torrington, Ivy House (also known as Manor Farm), (TF 148 834) April, 2004

Frocester, Gloucestershire, Frocester Court, (SO 787 030) HFBG Conference, Cheltenham and Gloucester College of Higher Education, September, 1999

Great Sturton, Home Farm, (TF 210 756) January, 1998

Hackthorn, South Farm, (TF 002 815) October, 2003

Hallington, Hallington House Farm, (TF 304 855) March, 2002.

Hartpury, Gloucestershire, Court Farm, (SO 780 236) HFBG Conference, Cheltenham and Gloucester College of Higher Education, September, 1999

Keelby, Keelby Grange, (TA 149 103) April, 1990

Kirmond le Mire, Manor Farm, (TF 187 927) September, 1999; September, 2002

Lenham, Kent, Court Lodge, (TQ 061 505) HFBG Conference, Wye College, Kent, September, 1995

Lincoln, Jas. Martin and Co., 8, Bank Street, January, 2000

Linwood, Lynwode House, (TF 113 866) September, 1999

Linwood, Manor Farm, (TF 104 861) September 1999

Little Ponton, Grange Farm, (SK 918 322) June, 1999

Little Ponton, Valley Farm, (SK 925 314) May, 1999

Little Ponton, Woodnook Farm, (SK 944 326) July, 2004

Llanfair, Snowdonia, Argoed, (SH 580 284) HFBG Conference, Plas Tan y Bwlch, Snowdonia, 18th-20th September, 1998

Mareham on the Hill, Grange Farm, (TF 286 684) November, 1998; August, 2004

North Berwick, East Lothian, West Fenton, (NT 498 818) BAHS Spring Conference, Edinburgh, April, 2004

North Bovey, Devon, Sanders, Lettaford, (SX 702 841) HFBG Conference, University of Exeter, Devon, September, 2003

North Kyme, Sandpit Farm, (TF 148 531) January, 2000

Rogart, Sutherland, Achvrail, (NC 680 036) HFBG Conference, Inverness, 6th-8th September, 2002.

Rothbury, Northumberland, Cragside, May, 1993

Scopwick, Scopwick House Farm, (TF 506 358) February, 1994; Shirley Brook and Dennis Mills, BAHS Spring Conference, Caythorpe, Lincolnshire, March, 1999; August, 2005

South Rauceby, Hall Farm, (TF 033 456) October, 1998

South Rauceby, Lodge Farm, (SK 011 459) June, 1997

Stixwould, Abbey Farm, (TF 174 661) November, 1997

Stixwould, Newstead Farm, (TF 166 653) November, 1997; August, 2002

Stoke Rochford, Heslin's Barn Farm, (SK 899 275) September, 2005

Stoke Rochford, Home Farm, (SK 913 285) February, 1998; June, 1999; August, 2003; September, 2004

Toft Monks, Norfolk, turnip barn/feeding shed, (TF 418 953) Joint HFBG/Society for Landscape Studies Conference, University of East Anglia, April 1995

Thoresway, Water Wheel, (TF 166 967) September, 1999

Wispington, Hill Farm, (TF 212 706) November, 1997

Oral Testimony

Allum, Simon, Shouler and Son, agent for the Stoke Rochford Estate Trust, 21st August, 2003

Bell, Mr., Grange Farm, Mareham on the Hill, 27th August, 2004

Bellamy, David, former resident of the foreman's house, Hall Farm, South Rauceby, 2nd October, 1998

Clark, Angela, Baumber, 27th January, 1998

Craven, Mr., Hill Farm, Wispington, 18th November, 1997

Dring, Mr., Sandpit Farm, North Kyme, 11th January, 2000

Dunning, John, Cold Harbour Farm, Bishop Burton, East Yorks, 15th September, 1997

Hoyes, Mr. and Mrs., Newstead Farm, Stixwould, 15th November, 1997

Purchase, Warwick, agent for Turnor estate 1953-97, 30th July, 2003

Riddington, George, former owner of Postland Farm, Crowland, 18th November, 1997

Sams, Mr., Home Farm, Great Stourton, 27th January, 1998

Correspondence

Hoyes, Mrs. Anne, Newstead Farm, Stixwould, December 1997

Oliver, Dr. Richard, University of Exeter, 22nd October, 2004

Phillips, Dr. A. D. M., University of Keele, 3rd February, 1997; 22nd March 1999

Walker, Professor David, Edinburgh, 1st January, 2003

Wheeler, Dr. R., Charles Close Society for the Study of the Ordnance Survey, 13th November, 2004