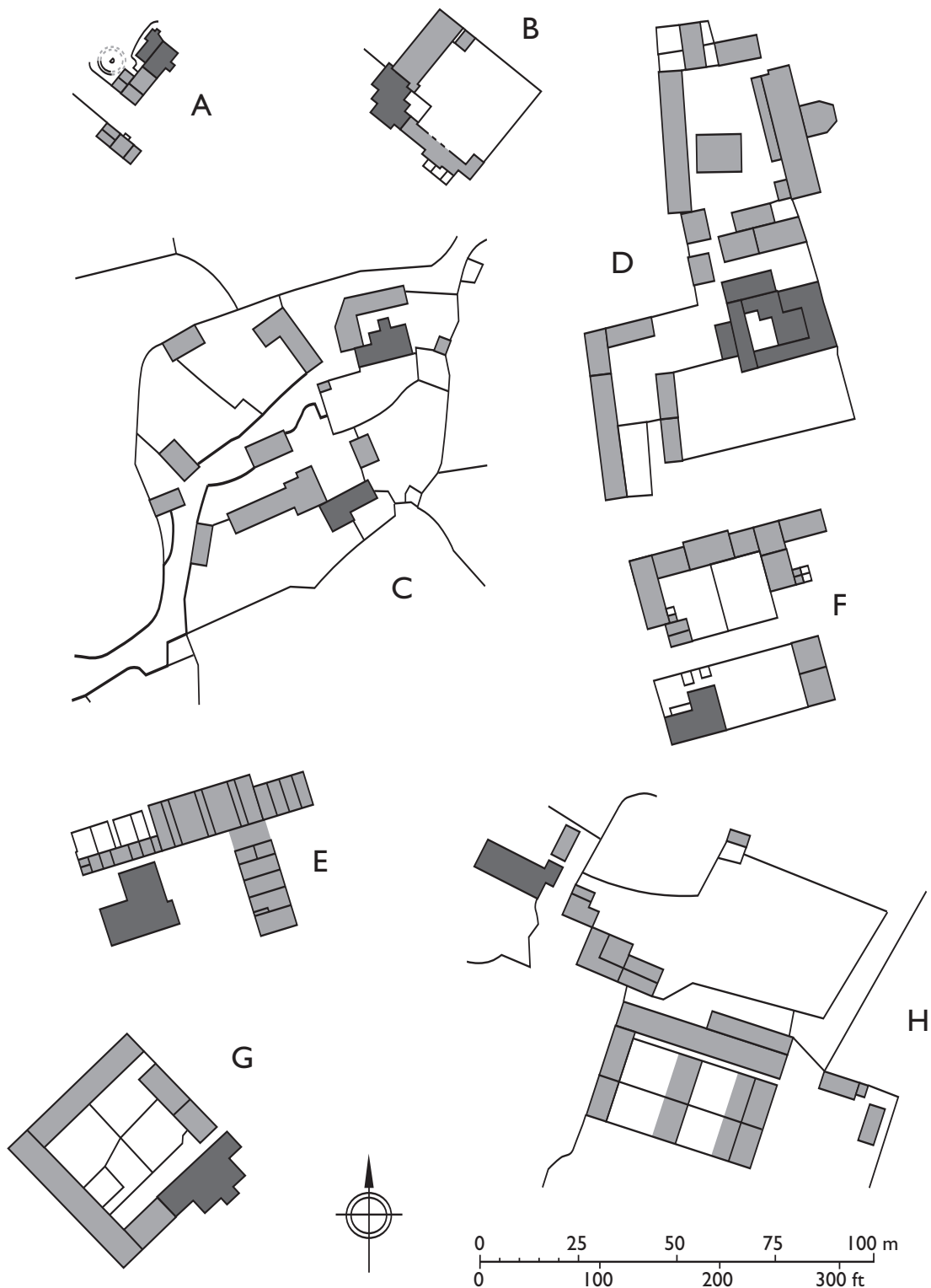


16 Farmstead plan types (farmhouses are shaded darker)

- A Linear plan. House and farm building attached and in line. This is the plan form of the medieval longhouse but in upland areas of the country in particular it was used on small farmsteads up to the 19th century.
- B L-plan including the farmhouse. Such plans can be a development of a linear plan or can represent a small regular courtyard plan (see E-G, below).
- C Dispersed plan. Within this small hamlet the farm buildings of the two farmsteads are intermixed, with no evidence of planning in their layout or relationship to the farmhouses. Dispersed plans are also found on single farmsteads where the farm buildings are haphazardly arranged around the farmhouse.
- D Loose courtyard. Detached buildings arranged around a yard. In this example the yard is enclosed by agricultural buildings on all four sides with the farmhouse set to one side. On smaller farms the farmhouse may form one side of the yard, with agricultural buildings to only one or two of the remaining sides.
- E Regular courtyard L-plan. Two attached ranges form a regular L-shape. The farmhouse is detached from the agricultural buildings.
- F Regular courtyard U-plan. The yard, in this example divided into two parts, is framed by three connected ranges. Again, the farmhouse is detached.
- G Full regular courtyard. The yard is enclosed on all sides by buildings including, in this example, the farmhouse. Other examples are formed by agricultural buildings on all sides with the farmhouse built to one side.
- H Regular courtyard E-plan. This plan form (and variations of it with additional ranges) may be found on some of the larger planned farmsteads where livestock were a major part of the agricultural system. Cattle were housed in the arms of E, the 'back' of which provided space for fodder storage and processing.

Drawn by Stephen Dent © English Heritage



The predominant farmstead plan types, which are closely related to farm size, terrain and land use, are listed below. There are many variations on these themes, particularly in the manner in which fully evolved plan groups can, as a result of successive rebuilding, contain elements of more than one plan type.

5.1.1 LINEAR PLANS

This group comprises farmsteads with farm buildings attached to, and in line with, the house. It includes some of the earliest intact farmsteads in the country.

The earliest examples of linear plans are *longhouses*, which served as dwellings for farmers' families and housing for cattle. Each longhouse had a common entrance for the farmer's family (accommodated at the up-slope end of the building) and livestock, the cow house being marked usually by a central drain and a manure outlet at the lower gable end. Longhouses were often found grouped together and associated with strip farming of the surrounding fields. Documents and archaeological excavation indicate that they had a widespread distribution in the north and west of the British Isles in the medieval period, but that in much of lowland England they were either absent or being replaced by yard layouts with detached houses, barns and cow houses from the 14th century (see, for example, Gardiner 2000 and Figure 17). Such re-buildings are commonly believed to be associated with the decline of smaller peasant farmers and the emergence of a wealthier peasant class. Longhouses, and their variant types with separate entrances for livestock and farmers, continued in use in parts of the South West, the Welsh borders and the northern uplands and vales into the 18th and 19th centuries. Those built in or before the 17th century were originally entered from a passage, which also served as the entrance to the house. However, during the 18th century social pressures led to the provision of a separate dividing wall and byre door; and to the demolition of some byres and the conversion or rebuilding of others to domestic or new agricultural use (barns, for example). The piecemeal rebuilding and conversion of both lower end and house-part that this permitted tended to discourage total reconstruction, inevitably limiting the ability to respond effectively to changing requirements. These later changes are clearly visible in the buildings, as is evidence about the size and layout of the original byres, and of the arrangement of the passage (against which the stack heating the main part of the house was positioned) that once formed the common entrance to these longhouses as a whole. The initial dominance of the longhouse in some areas is significant, since, as a house type capable of almost infinite adaptation, it exerted considerable influence on the subsequent evolution of farmsteads.

Linear layouts (including the *laithe house* of the Pennines) are now most strongly associated with the hill farms of northern England (North East, North West and Yorkshire and the Humber). A major reason for the persistence of the layout in northern England was that it was suited to smaller farms (of 50 acres or less) needing fewer buildings – other than for the storage of subsistence levels of corn for the household and livestock, and the housing of some milk cattle, poultry and pigs. The close proximity of farmer and livestock during the winter months was another factor, cattle being stalled indoors from October to May. It was also a layout ideally suited to building along the contours of a hillside and so this farmstead plan remained in use in upland areas of England into the 19th century.

Linear plans have often evolved as a result of gradual development, for example in the rebuilding of a lower end for the cattle as service area for the house, and the addition of new cow houses, stabling and barns in line. Linear layouts will often be associated with loose scatters or even yard arrangements of other farm buildings.

5.1.2 PARALLEL PLANS AND L-SHAPED PLANS

These invariably enclose two sides of a yard, and often represent developments from earlier linear plans, if they have not been constructed in a single phase. L-shapes often evolve from the addition of a barn or byre to an original linear farm, or can represent the partial re-organisation of a dispersed plan. They are typically found on farms in the 50- to 150-acre bracket, and can be formal or highly irregular in appearance, with or without scatters of other farm buildings.

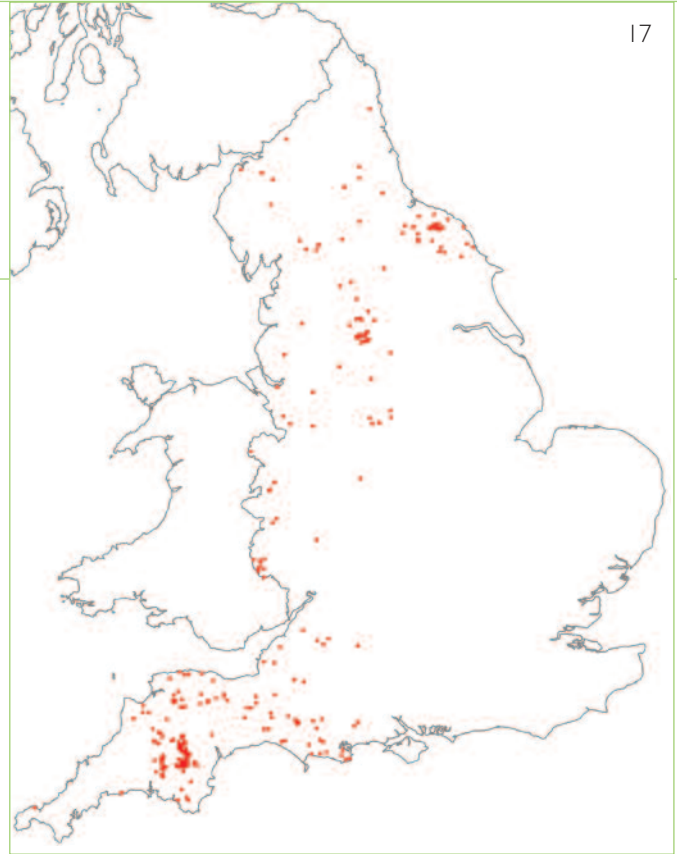
5.1.3 DISPERSED PLANS

The buildings of this group appear to be arranged haphazardly around the farmstead. Dispersed plans are typically found on smaller farms in stock-rearing or dairying areas, where a large straw yard for cattle was not required. They can range in size from the very small – for example a farmhouse and combination barn – to large groups of two or more blocks or individual structures, some or all of which may combine a variety of functions.

5.1.4 LOOSE COURTYARD PLANS

This group is characterised by single or double yards flanked by buildings on three or four sides, with or without scatters of other farm buildings close by. There are excavated and documented examples of this layout dating from the 13th century (in Hallam 1988, pp.860, 889) associated with: the base courts of large baronial and episcopal establishments; with moated manorial sites (where the farm buildings were arranged either within or outside the moat); and with the farms of an emerging wealthier class of peasant, the latter often replacing two or more previous steadings with

17 Distribution of listed longhouses in England. Surviving longhouses – a proportion of which have been recognised as such in listing descriptions – represent only a small proportion of a building type that was once prevalent across large parts of western and northern England. The concentration of a fine group of surviving longhouses on the eastern fringes of Dartmoor is particularly prominent. Recent research has shown that in some areas such as north Yorkshire many village-based farmhouses have longhouse origins that have previously not been recognised.
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longhouses (Le Patourel in Miller 1991, pp.843–65). This plan became most strongly associated with large arable farms: for example, many farmsteads on the downlands of southern England have one or more barns providing shelter to a south-facing yard (as recommended but not always followed), typically bordered by a stable, granary and later shelter sheds.

5.1.5 REGULAR COURTYARD PLANS

Formal courtyard layouts, where the barns, stables, feed stores and cattle shelters were ranged around a yard and carefully placed in relation to one another in order to minimise the waste of labour, and where the manure could be conserved, were recommended from the mid-18th century and many are documented from this period, although no surviving groups can be dated before the 1790s. The earlier examples are courtyard or U-plan with the barn forming the central block, and shelter sheds, stables and enclosed cow houses the two side wings. The fourth side could be no more than a wall with a gateway, or contain further sheds or smaller buildings such as pigsties, or be distinguished by a house (usually looking away from the yard). From the 1820s and 1830s, extra yards made E or even double-E plans.

The ultimate examples of courtyard farmsteads are the planned and model farms of the late 18th- and 19th-century estates (Figure 18), the ideas for which were widely disseminated in textbooks and journals (Wade Martins 2002). They are generally associated with holdings over 150 acres, and are far less likely than the other plan types to be associated with other loose scatters of buildings.

5.2 FACTORS INFLUENCING FARMSTEAD CHARACTER

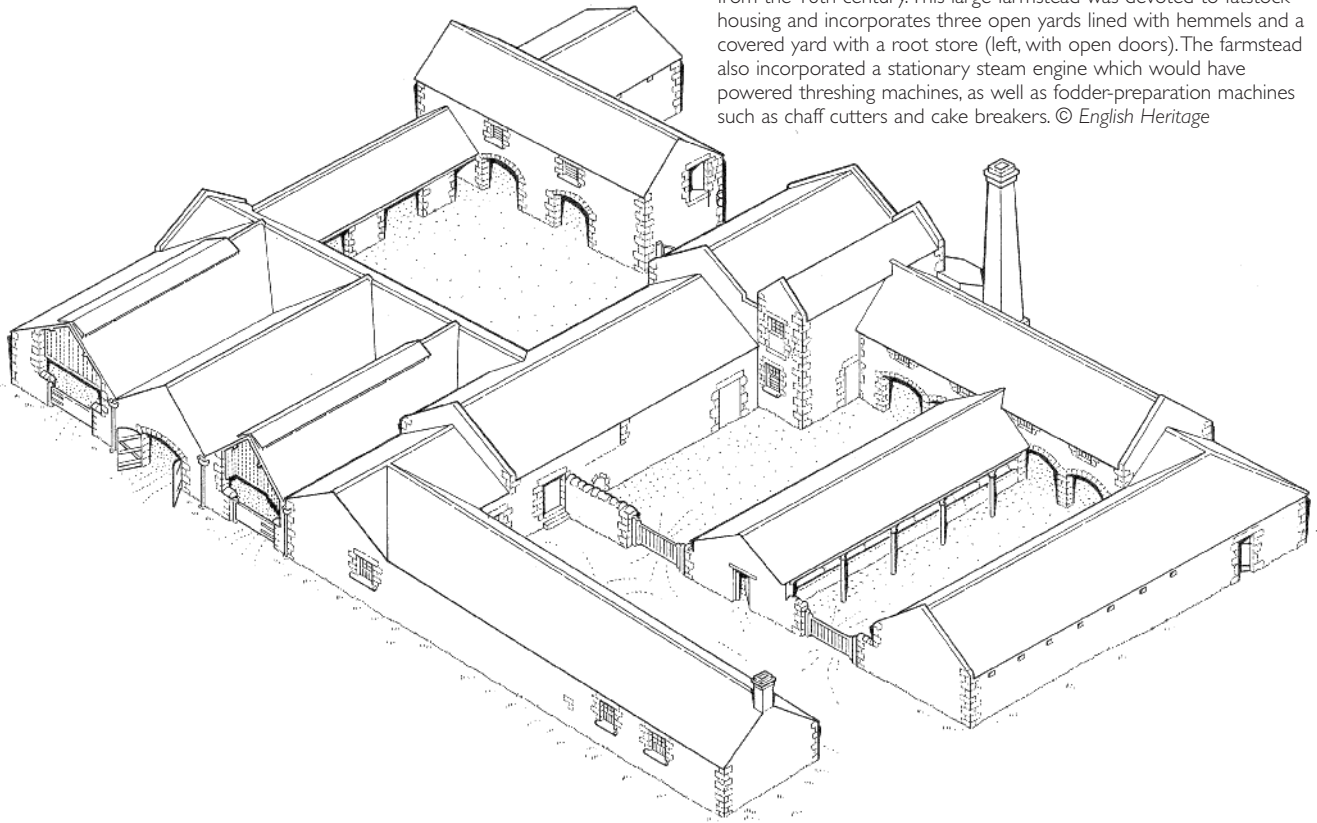
The occasional merging of plan types can make the variations on these principal themes seem almost infinite. The identification and analysis of the broad patterns of plan types can reveal much about the impact of the factors that influence farmstead character.

5.2.1 FARM SIZE

Generally, larger holdings were more likely to be provided with larger and/or more buildings. In the 18th and 19th centuries, the 'contemporary rule of thumb was that a man was needed for every 25 or

30 acres of arable and every 50 or 60 of pasture' (Mingay 1989, p.953). Statistics on the numbers of farms by size can be misleading: although 71% of holdings were under 50 acres as late as 1880 (Howkins 1994, p.53), the proportion of land area taken up by small farms was much smaller and regionally very varied. By the 1850s, medium-size farms – typically mixed arable holdings – were between 100 and 299 acres, and occupied nearly half of England's acreage; as much as one third was taken up by large farms of over 300 acres, these being best placed to invest in 'High Farming' (Mingay 1989, p.950). Farms of 500 acres and above were found on the chalk downlands of southern England, and in the Lincolnshire and Yorkshire Wolds: 1000 acres was not uncommon in these areas (Prince in Mingay 1989, p.82). These farms had greater access to capital and were usually associated with corn production, which typically demanded more labour for carting, harvesting and threshing and increasingly for yard and stock management: strawing-down yards, lifting the heavy manure-laden straw into middens and carts and spreading it on the fields. Smaller farms, typically found in dairying and stock-rearing and fattening areas, required fewer large buildings and were less likely to have the capital to expend on rebuilding farmsteads to fit with developing agricultural practice. The very smallest (of under 50 acres) thrived in fruit-growing and market-gardening areas (often clustered around urban sites), and in locations such as west Cornwall and the Pennines where there was gainful by-employment in industry – for example the weaver-farmers of the West Riding linear-plan farms, noted by

18 A large regular courtyard plan (North Northumberland Coastal Plain Character Area), dating from the early to mid-19th century and placed within a landscape affected by large-scale reorganisation and enclosure from the 18th century. This large farmstead was devoted to fatstock housing and incorporates three open yards lined with hemmels and a covered yard with a root store (left, with open doors). The farmstead also incorporated a stationary steam engine which would have powered threshing machines, as well as fodder-preparation machines such as chaff cutters and cake breakers. © English Heritage



Caird (1852), who kept dairy cattle on holdings of around 20 acres, supplying nearby towns with milk (Mingay 1989, p.940).

5.2.2 ESTATE POLICY

Estates, and thus landlords and their agents, have been massively important in English rural history, with tenants occupying some 85% of the farm area until the land transfers of the early 20th century mentioned in 4.1.4 above (Mingay 1989, pp.943–4). The character of an area thus can be strongly influenced by the estate of which it was part. Family insignia, estate-made bricks and the styling of cast-iron windows or ventilation grills can all give a unity to buildings over several parishes and this is as true of farm buildings as of cottages and village schools. Typically, and observable from 1350 onwards (Le Patourel in Miller 1991, p.846), improvements by landlords were aimed at attracting good tenants in either times of plenty (when capital expenditure could secure an increase in rent) or depression (when it could forestall a decrease). By the mid-17th century, home farms were being developed as examples of best practice for tenants. Between 1650 and 1750 landlords assumed increasing responsibility – in comprehensive lease agreements – for fixed capital works (particularly barns and houses) and after 1750 the influence of estates can be seen in the planning and design of buildings and entire complexes for home farms and tenant farms (Thirsk 1985, pp.72, 235; Thirsk

1967, pp.680–81; Wade Martins 2001). Estates often erected new buildings in order to attract tenants with the working capital to invest in their land and thus, through increased productivity, maintain rents at a high level. The policies of larger estates often discriminated against smaller holdings and the maintenance of their buildings. County studies (for example, Wade Martins 1991) have demonstrated how varied estate policy in similar areas could be, despite the rise of the land agent as a professional class, increasing access to farming literature and the ironing out of many glaring inconsistencies in estate practice by around 1850. The small estate is less well understood (e.g., Collins et al 1989).

5.2.3 LOCAL VARIATION OF FARMING SYSTEMS

The type and form of built fabric display regional variations that are more firmly linked to the broad pattern of land use and its landscape context (whether wood pasture, enclosed or open landscapes). In East Anglia the older timber-framed, evolved farmstead groups with ample barn provision and multi-functional buildings are associated with the small, well-hedged fields typical of the wood-pasture regions, while the large planned farms of brick or brick and flint are found on the later enclosed areas of heath (Wade Martins 1991; Wade Martins & Williamson 1999). The differences within Wiltshire are also clearly demonstrated by the farm buildings: the chalkland typically has loose courtyard

19 Farmstead plans in the North West Region

Linear plans are predominant in the upland areas of the Region with sometimes long ranges of buildings of different dates (A Ribble Valley, Lancashire Valleys). The laithe house, a house and combination farm building of one date is typical of smallholdings where farming and industrial activities such as textiles were combined. There is no interconnection between the house and the farm building (B Southern Pennines). Courtyard plans are generally associated with the lowland parts of the Region. In the Cheshire Plain, for example, reorganisation of farmsteads in the 18th and early 19th centuries usually resulted in the construction of L-plan farmsteads. (C Shropshire, Staffordshire and Cheshire Plain) © Jen Deadman

19A



19B



19C



plan steadings with their large-scale barns serving specialist corn and sheep husbandry; the smaller farms associated with dairying and cheese production in the northern wood-pasture area are of a more dispersed plan (Slocombe 1989). The yard management of stock also displayed a strong variation dependent on regional or estate practice. Thus the long-established practice of buying store cattle in spring and selling them on in the autumn survived longest in areas with rich grasslands, such as the Somerset Levels and the east Midlands, in contrast to Norfolk and the eastern lowlands where yards were filled over winter, even during the lean years for the beef industry in the 1930s (Whetham 1978, pp.290–91).

5.2.4 INTERNAL WORKINGS OF THE FARMYARD

The layout of the farmyard should firstly be seen in relationship to its immediate setting: of crop storage and processing buildings to the fields; of yards, platforms for corn, haystacks and cart sheds to trackways. Secondly, an important characteristic is the degree to which the layout of the farmstead was related to function. The planning of farmsteads to maximise efficiency engaged an increasing number of writers from the 1740s, who generally rated traditional layouts poorly against the perceived benefits of ordered and ideally planned layouts that minimised, for example, the time it took to process a stack of corn, transport the straw to the cattle yard and grain to the granary or mixing room. Many such writers, however, did not display sufficient understanding

of the other factors – land use, terrain, weather, farm size, location in village or open countryside – that dictated layout. The most comprehensive analyses of local farming systems in relationship to farmstead layout are contained in Barnwell & Giles (1997).

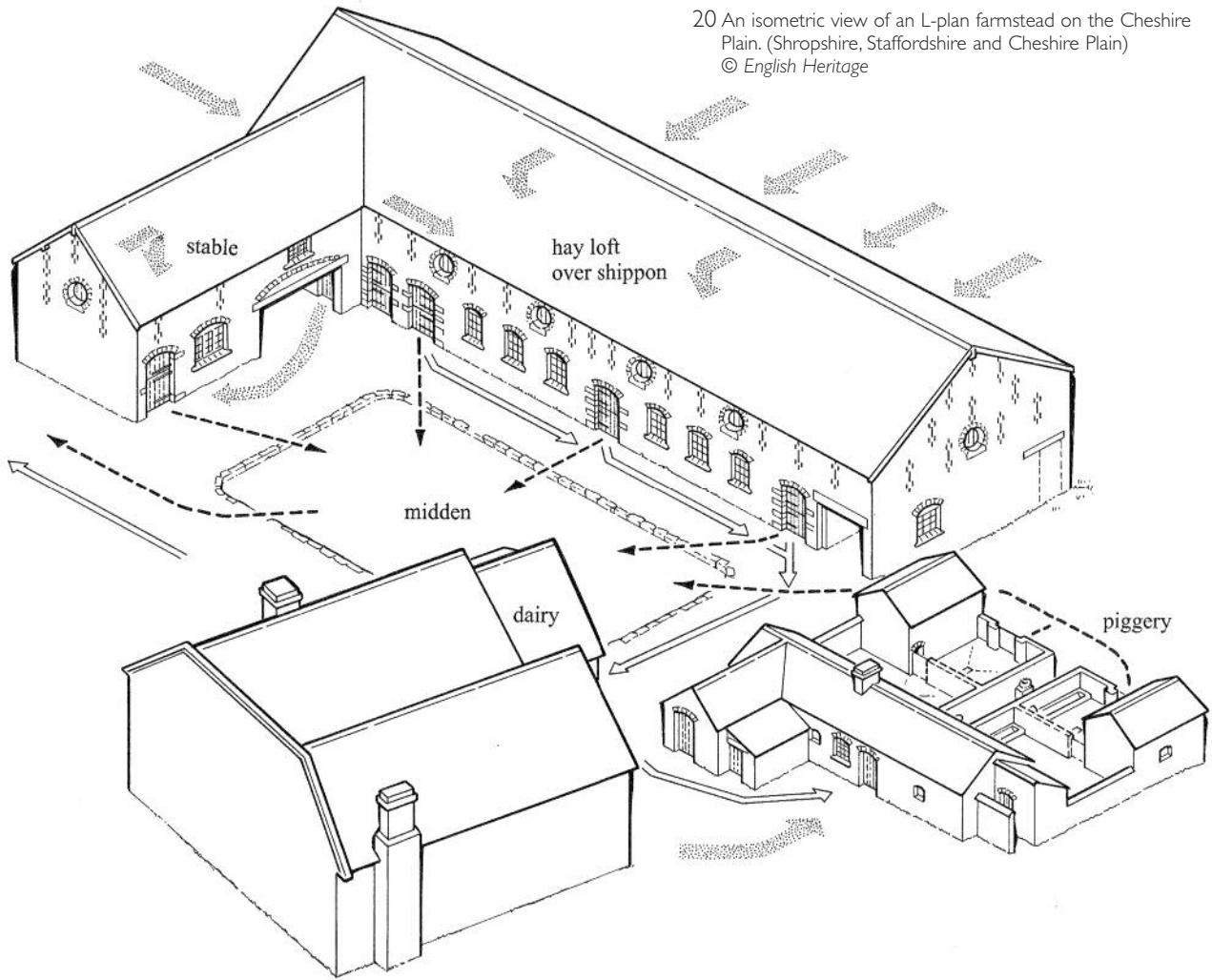
5.2.5 DEVELOPMENT OF FARMING SYSTEMS

Archaeological evidence from deserted medieval settlements has shown how linear plans, including longhouses, were replaced by loose courtyard arrangements as owners prospered and their holdings grew larger (Lake 1989, pp.81–2; Gardiner 2000). Evidence from the tithe maps and first-edition 25-inch maps for sample Norfolk parishes showed that nearly half the farms were of an irregular layout in 1840 with very few regular E- or U-shaped courtyard plans. By 1880 dispersed layouts had reduced to an eighth, with E- and U-plans accounting for about a quarter of farms (Wade Martins 1991, p.199).

5.3 FARMSTEAD PLANS IN THE NORTH WEST

The plan forms of farmsteads in the Region display massive differences in terms of scale. Dispersed plans are common throughout the Region, the principal differences being between the defensible bastle houses and linear farmsteads, mostly now concentrated in upland landscapes, and the courtyard steadings of the coastal lowlands and inland vales. The small-to-medium sized

20 An isometric view of an L-plan farmstead on the Cheshire Plain. (Shropshire, Staffordshire and Cheshire Plain)
© English Heritage



farms of upland areas were less likely to undertake complete reorganisations of the farmstead and so traditional buildings were added to, typically as more cattle were kept, resulting in parallel and dispersed plans. In the textile-producing areas of Lancashire and Yorkshire the 'fold' pattern was common and involved several cottages sharing a common yard. Blake Tyson's work on reconstructing Cumbrian farmsteads from documentary sources is outstanding in a national context (see Bibliography, 10.2).

5.3.1 FARMHOUSES

In all cases the farmhouse plays a key role in the layout of the farmstead. The plan forms of houses, particularly for the period up to the 1750s, are subject to considerable regional variation. Single-depth linear layouts, with services (including the dairy) at one end or in an outshut were common by the mid-17th century. Milk houses and dairies were typically incorporated into house plans (Pearson 1985, pp.88–95). In some examples, the services would be provided in a rear wing. In contrast to upland areas, where a plan with the chimneystack backing onto an entrance passage was certainly dominant by the 17th century, lobby-entrance houses (so-called because they had the main entrance into a lobby built against the chimneystack) became increasingly popular in lowland areas and in isolated

pockets (such as Borrowdale in the Lake District). In all parts of the Region, symmetrically designed double-depth houses with central entries and services contained in the rear rooms were being built after the 1750s. They are commonly associated with the later rebuilding of earlier steadings or the construction of new enclosure and regular plan farmsteads.

5.3.1 BASTLE HOUSES

The bastle house is a building type particular to the Border area of northern England (Figures 21 and 22). Over 200 examples are known in Northumberland with the distribution extending into Cumberland, the North Pennines and south of the Tyne Gap as far as Allendale, Weardale and the South Tyne Valley (Ryder 2004, p.265). Nineteen defensive bastle houses dating from the 16th and 17th centuries have been identified in Cumbria, all within 20 miles of the Scottish border (Ram, McDowell & Mercer 1970, pp.74–79; Brunskill 1978). The cattle were housed on the ground floor, usually with the doorway in a gable end, and the domestic space was in a room above, accessed by a ladder or later an external staircase. With stone walls up to 1.2m thick, the bastle house and its walled enclosure (the barmkin) offered farmers a defensive retreat where the family and stock could be secure from cattle rustlers in an area that remained lawless into the 17th century. Bastle houses

21 Distribution of listed bastle houses in England. Bastle houses are only found along the Borders area of northern England and reflect the turbulent history of the area.
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generally date from the 16th to the 17th centuries although some are earlier (see North East for further details on bastle houses).

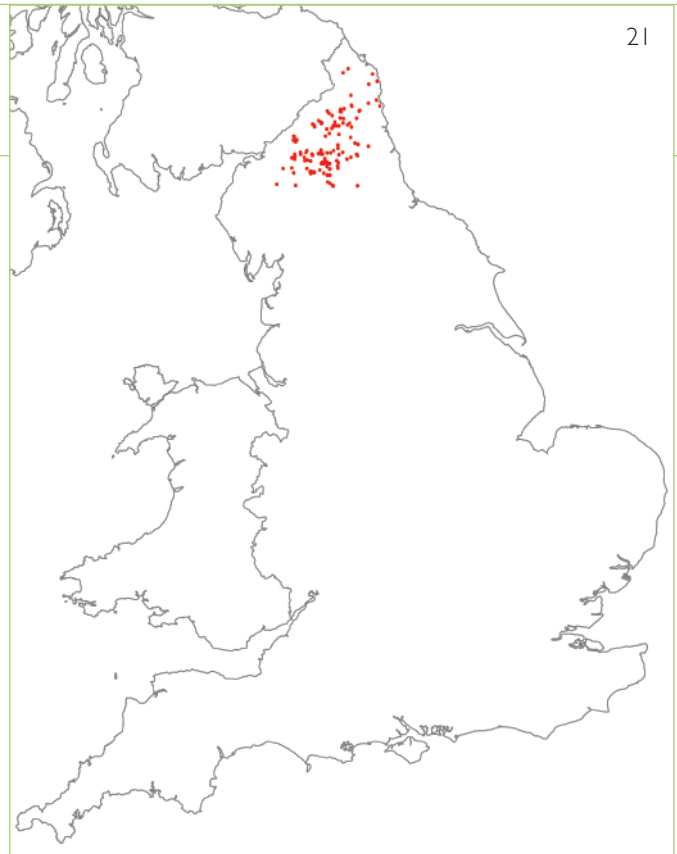
5.3.3 LINEAR PLANS

Linear plans are found throughout the Region, being uncommon in the Lancashire and Cheshire lowlands and predominant in many upland areas. They are associated with houses of hearth-passage plan and symmetrical houses of post-1750 date, with farm buildings of different dates attached and in line with the farmhouse. They vary greatly in scale, from substantial examples found from the South Pennines through to the Solway Plain to the laithe houses (see below) of the southern Pennines. In upland areas there was an increase in cattle numbers during the 18th century and in linear groups specialised in dairying and the rearing of stock, with little provision for corn. Linear farmsteads were described by Bailey and Culley in their report on Cumberland: 'Where farms are so very small, no great extent of offices is wanted; a barn, a byre for housing their cattle in winter, and a small stable, are in general all that is necessary... they are mostly at each end of the farmhouse' (Bailey & Culley 1794, p.208). As farm size increased, so did the number of buildings required, particularly for housing cattle, which were normally in-wintered for up to six months in upland areas of northern England (Grundy 1970, pp.3–5). A second range of buildings could be built along the valley side, parallel to the farmhouse, their design constrained by the dictates of the landscape. Very few linear plans are without a scatter of subsidiary buildings, and some developed into plans of two or three blocks of attached buildings.

Linear farmsteads can also be found absorbed into courtyard and L-plan steadings. Such later rebuilding of elements of these ranges, or conversion from agricultural to domestic use, can make the identification of early linear layouts difficult (Messenger 1973, p.49).

5.3.3.1 Longhouses

Longhouses are recorded and documented throughout the Region, for example in the Solway Plain (Jennings 2003, pp.33–51), but intensive fieldwork in some areas – for example the Lancashire Pennines (Pearson 1985, p.15) – has not revealed the same densities of numbers as in neighbouring Yorkshire. Before the 17th century single-storey longhouses were typical in the Fylde (part of the Lancashire Plain area), but from the early 17th century these buildings were largely superseded. From the early 18th century cross-wings and outshots became common features of farmhouses of the area.



By the later 18th century double-pile farmhouses were typical (Watson & McClintock 1979, pp.21–8).

5.3.3.2 Laithe Houses

A regionally distinct linear plan-type shared with adjoining parts of Yorkshire and the Humber is the laithe house, the word 'laithe' or 'lathe' being a northern English dialect word for a combined barn and cow house (RCHME 1986, p.178). The house and farm buildings are usually of one build, and there is no cross passage or inter-connection between the domestic and agricultural parts; both the roofline and the width of the various components may differ. Typically the farm buildings housed corn, cattle and occasionally other functions (such as stabling). Examples date from the mid-17th century but are not common until after 1750, with a concentration in the 1780–1840 period. They typically served farms of about 30 acres or less. They are found in Cumbria and Bowland, and are most densely concentrated in the Pennine part of West Yorkshire and Lancashire, where dual income from farming and industry – primarily textiles, but also lead working – enabled smallholdings to be economically viable (RCHME 1986, pp.178–83; Brunskill 1987, pp.106–10). The weaver-farmers of the West Riding as noted by Caird in 1851, for example, kept dairy cattle on holdings of around 20 acres, supplying the nearby towns with milk (Mingay 1989, p.940).

5.3.4 DISPERSED PLANS

Dispersed plans occur throughout the Region, particularly in lowland areas and including high-status groups. Sixteenth-century records of farmsteads in

22 Bastle houses

Bastle houses were fortified farmhouses, usually of high status, in which the family lived at first-floor level. This was accessed by a ladder that could be withdrawn in times of trouble, with their cattle housed on the ground floor. Thick stone walls, small window openings and added steps

up to the first floor are characteristic features. Bastle houses reflect the turbulent history of the borders area of the north of England, especially between the mid-16th and early 17th centuries. (A and B Cheviot Fringe)

© Jen Deadman



Cumbria mention houses, barns and cow houses, implying that they were separate buildings (Denyer 1991, p.133; Tyson 1994), evidence for barn and livestock under one roof being more unusual (Tyson 2000, p.184). Some 19th-century estate maps show that in some areas dispersed plans – and possibly the separation of functions into individual structures – were commonplace prior to rebuilding into more unified plans (Messenger 1975, pp.330–33).

5.3.5 COURTYARD PLANS, INCLUDING L-PLANS

From the 18th century farms of over 150 acres in many of the lowland areas would typically be served by a farmstead ranged around a courtyard. Courtyard arrangements were still rare in Cumberland in the 1790s (Bailey & Culley 1794, p.208). However, almost 60 years later, 'The open square form of ground plan, with the dwelling forming one side and the out-offices the other three and the dung heap in the centre of the enclosed space [was said to be] the most common arrangement of the modern farm yard' (Dickenson 1852, p.277). Many of these 'improved' farmsteads in the lowlands of Cumbria incorporated bank barns into their layouts (Wade Martins, 2001; Lund 2002, p.42), including those of Lord Lonsdale on his estates around Lowther. These were far more practical, and are the finest examples in a national context of planned groups incorporating bank barns in courtyards of buildings with the house on one side (Messenger 1975, pp.26–351). These farmsteads, and the

landscapes around them, formed 'islands of planned countryside' amongst the predominant landscapes formed by customary tenants, marked by more irregular patterns of enclosure that often preserve patterns of medieval cultivation (Winchester 2005, pp.43–7). Courtyard plans can occur in upland areas, all being associated with improving estates from the late 18th century.

L-plan groups are found throughout the Region, and as has been noted above can be developments from linear ranges. There are large examples of L-plan and courtyard groups in the Eden Valley and the Lancashire and Amounderness Plain, in the former area associated with stock fattening and in the latter with dairying as well as fattening. On the Lancashire and Cheshire Plains, where dairying was predominant, the most common farmstead layout was the L-plan, although on some larger farms a U-plan was adopted (Morgan & Miller, 1990; Barnwell & Giles 1997, p.126). Dairy farms typically had a combined barn and fodder house built at right angles to the cow-house range, often separated by a cart entry for loading hay and corn into the first-floor lofted areas. Pigsties would usually be placed close to the house, either attached to the L-shaped range or as an individual element of the farmstead. This type of broad L-shaped plan can be found throughout the Cheshire Plain, and remained a predominant feature from the early 19th century to the inter-war period (Barnwell & Giles 1997, p.144). T-shaped plans similarly occur.

6.0 Key Building Types: Crop Storage and Processing

The analysis of key building types presented here could be presented by function rather than building type, as many functions relate to parts of buildings or parts of entire ranges or farmstead types. As the relationship between farmstead form and function has been outlined in Section 5, Section 6 will comprise a conventional overview of the key functional types. It will be noted in some regions that so many of these functions are combined in one combination barn or farmstead type that they cannot be easily teased out as a separate theme. Nevertheless, the national framework sections do present an overview of on-farm functions, and where relevant their rarity and survival, that are applicable nationally.

6.1 BARNs

6.1.1 NATIONAL OVERVIEW

In the British Isles and other parts of northern Europe, the harvested corn was often stored and processed inside a barn. After threshing – typically a process that occurred gradually over the winter months – the straw usually remained in the barn awaiting its use as bedding for livestock, while the grain destined for market or next year's seed would be stored either in the farmhouse or in a purpose-built granary.

Barns are often the oldest and most impressive buildings on the farm and are characterised by:

- Internal space for the storage of the unthreshed crop and an area (the threshing floor) for beating by flail the grain from the crop and for winnowing the grain from the chaff in a cross draught. This was also an area for the storage of straw after threshing.
- Externally, typically large opposing doors on the side walls to the threshing floor; although the size of openings is subject to much regional variation. Barns on large arable farms commonly had large threshing doors, sometimes with porches, into which a laden wagon would draw up and unload the crop. In some parts of the country the crop would be forked into the barn through pitching holes, and the threshing doors would be much smaller. Small winnowing doors sufficed in many pastoral-farming areas.
- Blank external walls, in mass-walled buildings often strengthened by buttresses or pilasters. Mass-walled barns usually had ventilation slits or patterned ventilation openings, and the wattle or lath infill to timber-framed barns was often left exposed. In some

areas, the crop would be unloaded from a cart or wagon into the barn through pitching holes.

The distinctive form and plan of barns remained comparatively little altered between the 13th and 19th centuries. Surviving pre-1750 barns represent only a small proportion of the original population, their date, scale and landscape context being major factors in determining their survival. There is only one complete survivor of the 2–2,900 tithe barns that existed on Cistercian estates in the pre-1550 period (Brunskill 1982, p.35). Local studies have indicated that small and pre-18th-century barns are most likely to survive on farm holdings of less than 150 acres that have not experienced major growth in subsequent centuries (Wade Martins 1991, p.160). These are concentrated in landscapes of ancient enclosure, improving estates and the process of enclosure in the post-1750 being linked to often wholesale rebuilding.

Major variations were in the five following areas.

6.1.1.1 Plan form

In the most common form of plan the threshing floor was in the centre, although it could be sited off-centre or at one end. A greater span was enabled by aisled barn construction, either in single or double aisles. This was common in East Anglia and the South East (Rigold 1971 and 1973), and for high-status buildings outside that area, including a group mostly dating from between 1570 and 1650 in the Pennines (Clarke 1972 and 1974).

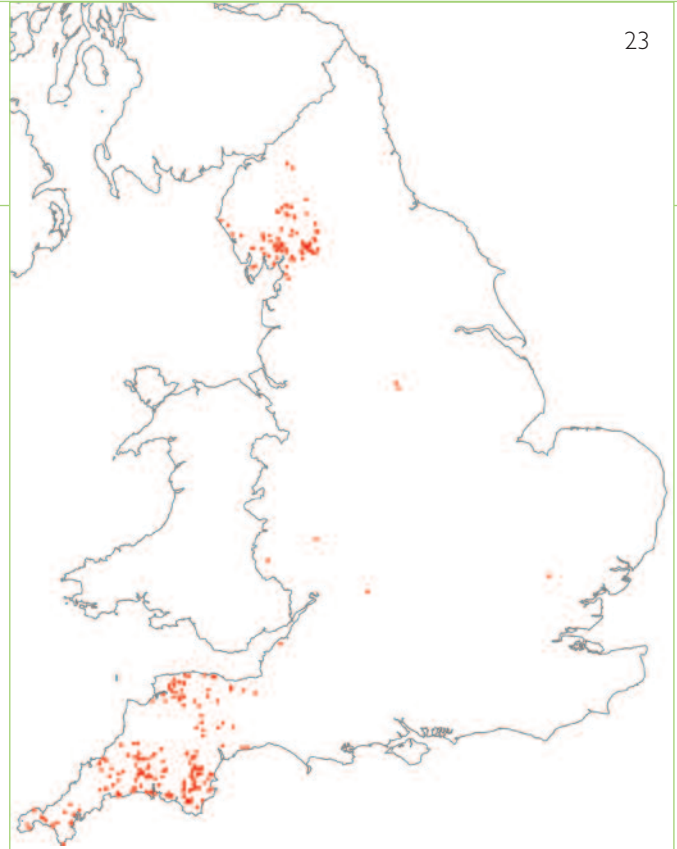
Outshots or projecting lean-tos were commonly added to barns, for housing carts, livestock and other functions. The number of additional external openings indicates accommodation for other functions, ranging from minor doors enabling the barn to house functions such as clipping sheep when empty, to lofts and stabling,

23 Distribution of listed bank barns in England

The concentration of bank barns in Cumbria and in Devon, Cornwall and south-west Somerset in the South West Region, is clear from this map. However, this map does not reflect the true density of bank barns as the majority dating from the mid-19th century are not listed.

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6.1.1.2 Size

Barn size can be strongly indicative of the former extent of arable and holding size, ranging from very small in dairying or stock-rearing areas, to very large on the much larger holdings of arable areas. The practice of mowing rather than cutting by sickle the corn crop, widespread by the 19th century, also had an impact on barn size, as large quantities of straw – ready for feeding cattle in the yard – would need to be accommodated.

In the medieval period it was common practice to house all the crop in the barn, but in later centuries the unthreshed crop could be raised off the ground by a platform or by staddle stones (see 6.2 and Figure 28), and stored in an open yard (rickyard) or a staddle barn. Examples of the latter, typically of late 18th- to early 19th-century date, survive on the downland farms of Hampshire, south Wiltshire and east Dorset. Ricking was not a common practice in southern England until the 19th century, but was noted by observers as being common in northern England and Staffordshire in the 17th century (Colvin & Newman 1981, p.97; Peters 1969, p.65).

6.1.1.3 Combination barns

There is increasing evidence in many parts of the country for threshing barns to have originated from at least the 17th century as combination barns, which incorporated other functions in the main body of the barn such as the housing of livestock. These ranged from the end bays of the barn to the aisles of Pennine barns or the ground floors of split-level buildings. Multi-functional two-level barns, including bank barns and their variants (Figure 23), were increasingly adopted from the late 18th century (and noted by the writers of the county reports for the Board of Agriculture) – often along with the introduction of mechanisation – in many areas of England (Barnwell & Giles 1997, p.156).

6.1.1.4 Evidence for mechanisation

The introduction of machine threshing after its invention in 1786 led to the erection in existing barns of additions to house machinery, for chopping and crushing fodder as well as threshing grain. Early machines were powered by horse engines in special-purpose semi-circular buildings, which projected from the barn and were commonly known as 'gin gangs' in the north of England. Steam, water and wind power were also used (Figure 25). The uptake of machinery varied across the country. In areas where labour was expensive mechanisation found favour; horse engine houses and evidence for water

power being most common in the lowlands of Yorkshire and the Humber and the North East, in parts of the West Midlands and in the South West peninsula (especially Cornwall). In the southern counties, where labour was cheap and abundant until the 1850s or later, few barns bear evidence for the introduction of machinery (Hutton 1976).

From the early 19th century the traditional barn began to be replaced by large multi-functional buildings with threshing and fodder-processing areas linked to granaries, straw storage and cattle housing. These could project from the north of courtyard plans (as was common in Northumberland) or be integrated into other types of plan. In some areas, such as the eastern lowlands from Nottinghamshire northwards, the barn was from the 1850s reduced to a small feed-processing room (Figure 28, bottom).

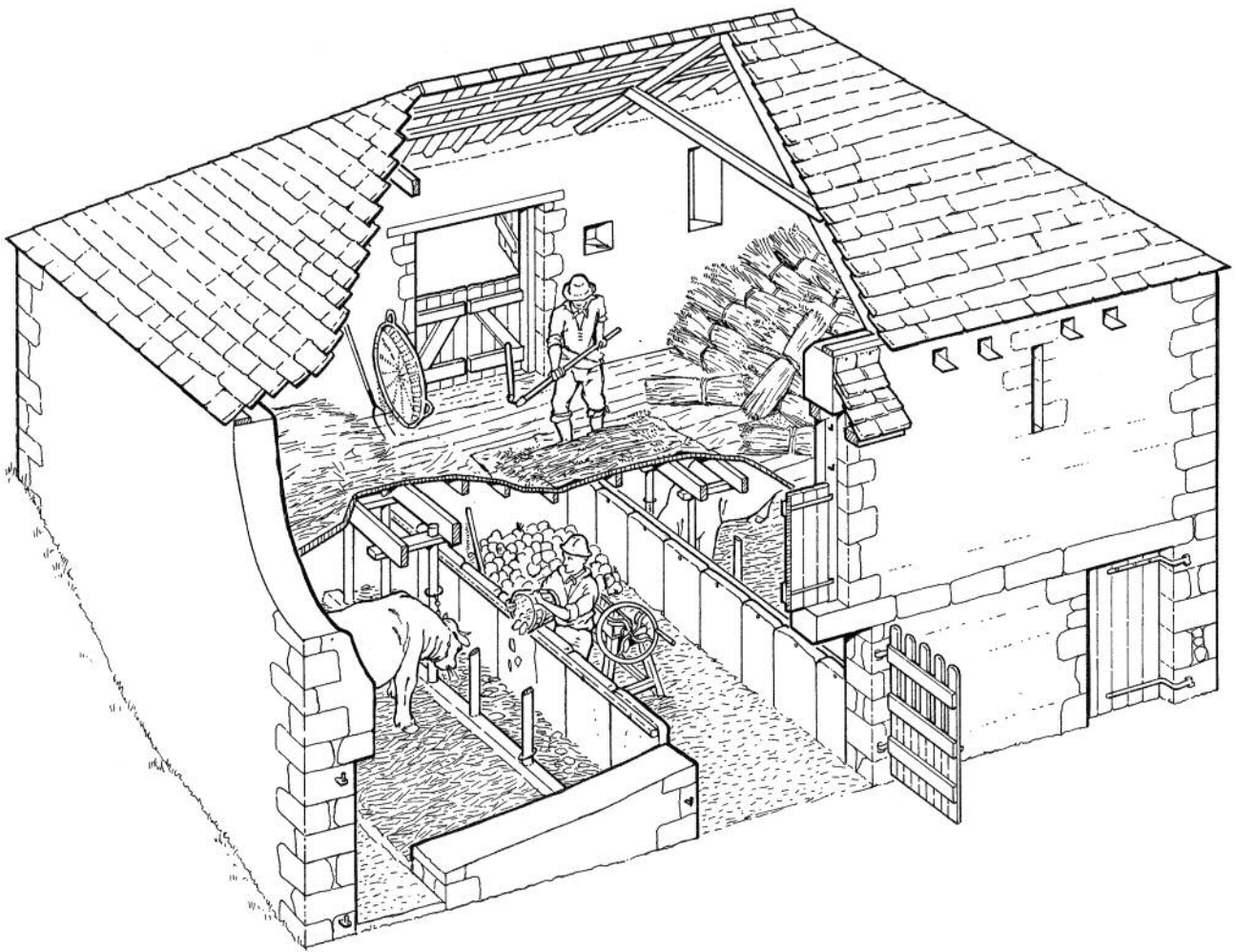
The introduction of the portable steam engine and threshing machine meant that tackle could be taken to the stack. This was widespread by the 1850s, and heralded the end of the traditional barn as a processing building.

Features relating to the use of power are highly vulnerable and rare, particularly horse wheels.

6.1.1.5 Evidence for reuse and adaptation

Careful inspection of barn interiors may reveal evidence for reused timbers (a common practice), in addition to former floors, partitions, doors and windows. This may well indicate that a present open space was divided off

24 A bank barn showing the first-floor barn over ground-floor shippons and a fodder-preparation area. This example is a true bank barn in that it is built into a bank giving ground-level access to the entrance of the first-floor barn. Some bank barns called 'variant bank barns' have the upper level access at the end. The North West Region contains the earliest bank barns in the country. © English Heritage



at one end or even provided with an additional floor. The high point of barn building occurred during the 18th and early 19th centuries, as grain yields rose and new land came into cultivation. Additions were commonly made to existing barns or additional barns built. It is also likely that where a barn was originally multi-purpose, the animal housing was removed and a separate barn or cow house built.

Mechanical threshing had removed the need for a threshing floor and the uses to which the barn was put changed. As cattle gained in importance at the end of the 19th century barns were converted into mixing houses for fodder. The introduction of steam-powered machinery (whether fixed or mobile) usually involved the cutting of a hatch in the barn wall in order to allow belting to enter. Alterations might well involve the dividing of the building with partition walls and floors.

6.1.2 BARNs IN THE NORTH WEST (Figure 26)

Barns that functioned only as a building for crop processing, characterised by a central or off-centre pair of opposing doors, are encountered from the Solway Plain to the Lancashire Valleys, the South Pennines and

the Cheshire Plain. High-status examples in these areas can be cruck-framed and exceed five bays in length, and relate to large farmsteads of the home farms of gentry estates; they are all of pre-1750 date. However, buildings that incorporated several functions – including the threshing of the corn crop, animal housing, fodder storage and sometimes a cart shed – are typical of the Region and were being constructed in the North West in a variety of forms from the medieval period. These range from large high-status examples, concentrated in the southern Lancashire lowlands and uplands. It is the way the combination of uses are incorporated into the building (using horizontal and/or vertical divisions) that lead to the distinctive forms of barns seen in the North West.

6.1.2.1 Aisled barns

In the north of England there is a large group of aisled barns concentrated around the South and West Yorkshire Pennines, but also extending into the Lancashire Plain and Valleys and the South Pennines. The distribution of the northern aisled barns was first studied in the 1970s, when only twelve were known in the Lancashire Pennines. Some of these examples are late

25 Power in barns: national examples

- A A projecting horse engine house attached to a barn. (North Yorkshire Moors and Cleveland Hills)
 - B The interior of a horse engine house that contains a rare example of an in situ horse gin. (North West Norfolk)
 - C A water wheel, providing power to the feed-processing machinery in a home dairy farm, remodelled in the 1890s. (Breckland)
 - D A farmstead that incorporated a fixed steam engine to drive threshing and other crop- and fodder-processing equipment. (Cheviot Fringe)
 - E The use of portable steam engines often left no physical evidence within the barn structure but in some cases drive shafts and fly wheels survive in-situ. (Dorset Downs and Cranborne Chase)
- A & D © Jen Deadman; B & C © English Heritage / Michael Williams; E © Bob Edwards

25A



25B



25C



25D



25E



medieval, but most appear to have been built between 1570 and 1650 (Clarke 1973). Many are associated with larger landholdings. The northern aisled barns vary greatly in size, construction and appearance. They are between three and eleven bays long with either single aisles or, more commonly, aisles on both sides of the building. Whilst almost all now have stone walls, some

have been shown to have originally been timber framed with the wall framing later replaced in stone. In Lancashire the roof trusses are usually of king post construction.

The form of the aisled barn offered great versatility. It provided a large floor area that could serve a

26 Barns in the North West Region

Most barns in the Region are combination buildings incorporating housing for animals as well as crop-processing and storage areas. The division between these functions can be horizontal as in bank barns (A and B), or vertical as in on-the-level barns, such as aisled (C and D).

- A & B Bank barns. A is a 'true' bank barn in that the threshing floor is accessed in its long side whereas in the 'variant' bank barn the upper level access is at the gable with the building set end-on into the slope. (A Penrith, Eden Valley; B Cumbria High Fells)
- C A large group of aisled barns dating from the 15th to mid 17th centuries is concentrated around the South Pennines extending into Lancashire. This high-status barn built c.1605 is of nine bays with ox-stalls, added in c1610 in part of one of the aisles, and stables. (Lancashire Valleys)

D A typical on-the-level barn with a central threshing floor and shippens arranged across the width of the building to either side accessed by cross passages at each end. Although quite plain, the chamfers to window and door openings and inside, an aisled timber-frame, indicate a possible 17th-century date. (Lancashire Valleys)

E A rare survival of a timber-framed threshing barn of three bays with cow houses added later. The barn dates from the 16th century. (Shropshire Staffordshire and Cheshire Plain)

F A large early 17th-century cruck threshing barn of seven bays with brick walls. (Lancashire Valleys)

A, C, D and E © Jen Deadman; B © Jeremy Lake; F © 357557 Mr Roy Finch. Taken as part of the Images of England Project

26A



26B



26C



26D



26E



26F



multi-purpose function, incorporating both a storage area for hay and crops and stalls for cattle. Such barns typically have wide aisles, often nearly as wide as the nave, achieved by the use of relatively low-pitched roofs, and often separate doorways into the areas where cattle

were stalled. The survival of fittings such as stall divisions is rare.

6.1.2.2 Partitioned barns

These comprise on-the-level barns with horizontal

divisions separating the storage and processing area from stabling or cattle housing. They are found throughout the Region and date from the late medieval period. In upland areas, the earliest examples of barns – dating up to and including the 17th century – comprise single-storey, dry-stone wall structures, three or four bays long, the roofs often supported on crucks with a threshing floor and an adjacent walled-off cow byre. Sometimes the dividing wall has gone, but a separate entrance survives that would presumably have originally led into a cow house, which could also have internal access from the barn itself.

Laithe Houses (see 5.3.1) include combination barns with high, arched entrances to a barn (hay and corn) with stabling and a cow house (often for as little as six cattle) at one end.

6.1.2.3 'Lancashire Barns', and barns with a gable entries to lofted cow houses

Another distinctive arrangement, concentrated in an area from the South Cumbria Low Fells to the north of the Cheshire Plain, is the so-called 'Lancashire barn' (Brunskill 1982, p.109) where the downhill end of the barn is broadened to take normally two rows of stalls for cattle, with three doorways in the gable end giving access to the central feeding passage and manure passages. The extra width of the cow house end of the barn is achieved by an outshot usually on the front of the building. They are usually lofted and the byre may also be approached from the threshing floor. A small number of Lancashire barns survive from the 17th century associated with high-status sites but most date from the century after 1750 (Brunskill 1987, p.113).

Also common in this same area, with surviving examples dating from the 17th century, are barns with gable-end entries to cow houses: these typically have three doors (see Figure 33E).

6.1.2.4 Barns with lofted animal houses with side entries at both ends

Another distinctive form of combination barn can be found across the lowland parts of the Region: a building of three, four or five bays comprising a threshing bay and cow house, with a loft over one side of the threshing floor and either a further lofted cow house or a stable at the other. The entrances to the animal accommodation are set in the side walls. Examples date from the 17th century, and are concentrated in the Pennines from the Dark Peak northwards.

In Cheshire barns pre-dating 1800 are relatively rare meaning there is little evidence for 18th-century barns incorporating cattle housing at ground-floor level as is seen in the neighbouring dairying area of North Shropshire (West Midlands Region). By around 1800

there are examples of specialised buildings similar to those found in Lancashire, particularly in the Fylde area, with lofted cow houses either side of a threshing bay/fodder storage and processing area (Barnwell & Giles 1997, pp.128–30). These occur also in the Solway Plain.

6.1.2.5 Bank Barns

In Cumbria and the northern parts of Lancashire (from Morecambe Bay northwards) are found multi-functional bank barns, normally using a natural slope to provide level access to both floors. Bank barns are a distinctive and characteristic feature of the north of the Region. The only other parts of the country where they are found, although not in the same abundance as in Cumbria, is in adjoining parts of the North East and in the South West counties of Devon, Cornwall and Somerset.

Contemporaries commented that bank barns had several advantages in that by combining many of the functions and buildings of the farmstead under one roof, they reduced the cost of construction and maintenance (Whittaker 2001, p.14). They enabled animals to be fed and strawed down without movement from building to building and in hilly areas they made ideal use of sloping ground.

A distinction can be drawn between 'variant bank barns', built across the slope, and 'true bank barns' built along the slope.

Variant bank barns are generally earlier in date, with many examples being of pre-1750 date. Buildings of this form are found throughout the upland landscapes of northern Europe, and allow livestock to be accommodated on part of the ground floor. The gable was always built into the bank, with the barn projecting into the valley. It was thus able to use the cross drafts for winnowing grain and providing better ventilation across the livestock accommodation below (Denyer 1991, p.135). Access to the byres was usually at the gable end at the lower level with a central manure/feeding passage, and sometimes in the side wall. These 'variant bank barns' are said to be more common in eastern than western valleys, with a particular concentration in the Lune Valley, and were constructed throughout the 18th century (Brunskill 1987, p.116). There are also examples of these in the Dark Peak and elsewhere in the Pennines.

The earliest examples of the classic form of true bank barn built along the slope may be late medieval, the documentary and building evidence indicating that large-scale examples were built on gentry estates from the late 16th century and became widespread after 1750 (Tyson 1979, pp.88–9, 93; Tyson 1980, pp.113–126; Brunskill 1987, pp.115–17). Seventeenth-century examples tend to be high status and large, extending to as many as 13 bays (Whittaker 1989, pp.22–3) but as the