

- 27A The interior of a granary over a cart shed showing the grain bins, which allowed different grains, and even the crop from different years, to be kept separate. (North West Norfolk)
- B Ventilation was important to keep the stored grain dry. Air circulation could be achieved through small windows with shutters, hit-and-miss ventilation grilles, windows with fixed louvers or, in this example, adjustable louvers. (Hampshire Downs)
- A © English Heritage / Michael Williams; B © Bob Edwards



form became more widely used and extended down the social scale, smaller examples are typical. By the mid-19th century Dickenson could report that bank barns were the most frequently found type of barn (Dickenson 1852, p.277) although the lack of ventilation in 'the old underhoused cow house' where the headroom was generally too low, the floor roughly paved, uneven and undrained, was recognised as a problem by the mid-19th century when the conversion of the ground floor into a 'barn room' and the building of new cow houses was recommended (Webster 1868, p.27). Their design became increasingly standardised as they became an accepted part of the 'improved' 19th-century farmyard. Not all bank barns are built into a slope; some have a ramp to the upper floor.

Some south Lakeland bank barns have a characteristic first-floor covered gallery projecting along the face of the barn, usually on the side away from the main doors. Although they were often called 'spinning galleries' it is unlikely that they were ever used for spinning but they did provide shelter for the doors to the livestock below and gave some additional drying and storage space. Other regional variations include the use of stone cheeks and, in the south, brackets to support the pentice over the double doors to the threshing floor. The threshing floor was usually located above a central cart shed, although this element is absent from Langdale examples. A small number were not built into the slope, the upper floor being accessed from steps.

#### 6.1.2.6 Mechanisation

The threshing machine was also introduced in the first half of the 19th century, so that by 1851 it was, according to Dickenson, 'very general over all the grain-growing parts of the county (Cumberland)'. This involved the provision of some sort of power source. Dickenson found it surprising that in contrast to other counties such as Devon and Somerset with their fast-flowing streams, little advantage was taken of waterpower in Cumberland. Horses were far more usual, and horse engines were usually housed in round houses built on the sides of barns. In 1849, in west Cumberland, there were 306 threshing machines, of which 71 were driven by water, seven by steam, one by wind and all the rest by horses. In east Cumberland, however, water was being used more frequently (Dickenson 1852, p.241).

Horse engines were installed on the larger lowland farms from the early 19th century to work threshing

and feed-preparation machinery. Wind power was much more unusual, and a windmill at Curwen's model farm at Schoose near Workington (West Cumbria Coastal Plain) is a unique survival. By the mid-19th century steam engines were being installed on the largest of farms, but in contrast to the North East are rarely found in this Region.

There is in contrast very little evidence for mechanisation in the pastoral landscapes of Cheshire, where fodder processing did not require as much energy in conversion into food as arable until the introduction of oil engines in the early 20th century (Barnwell 2000, p.175).

## 6.2 GRANARIES

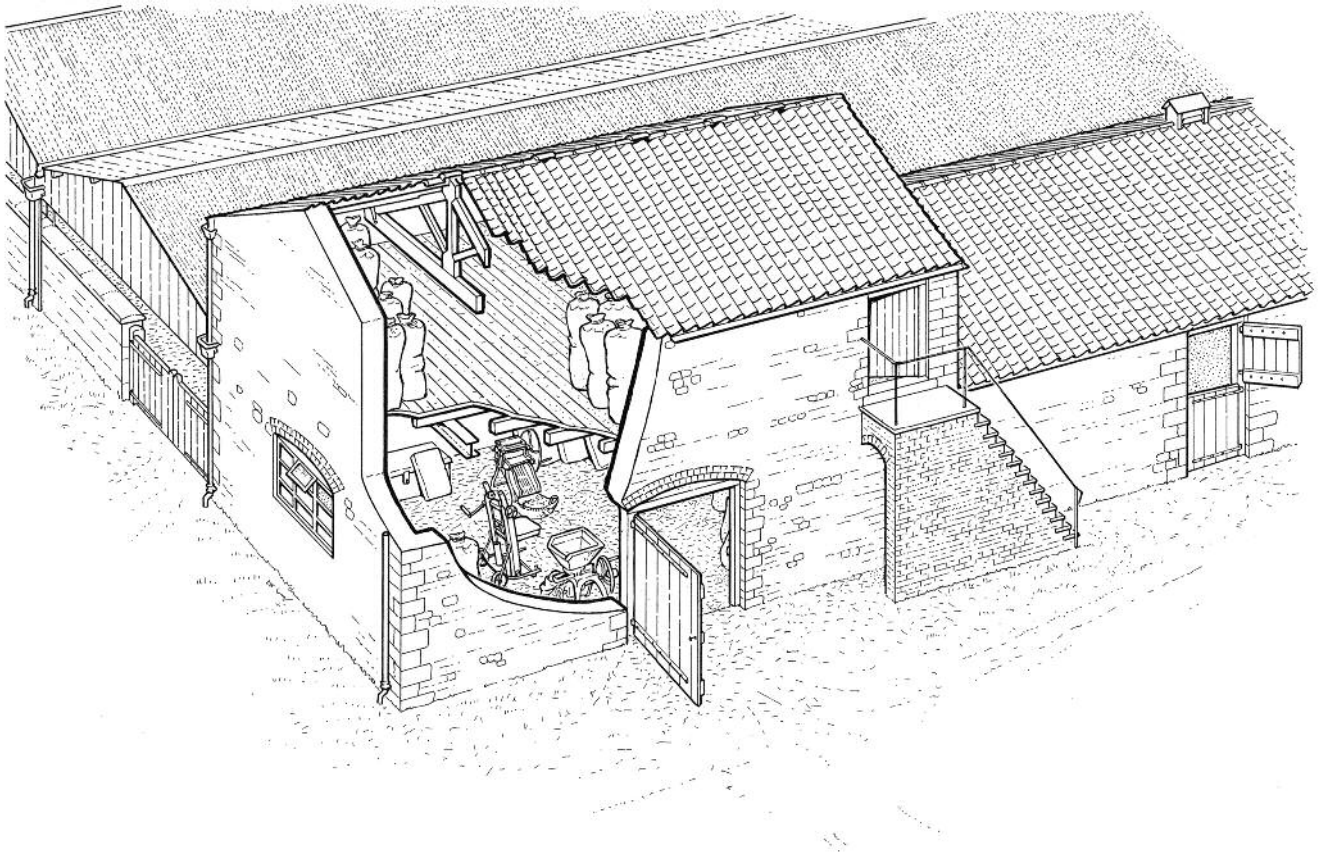
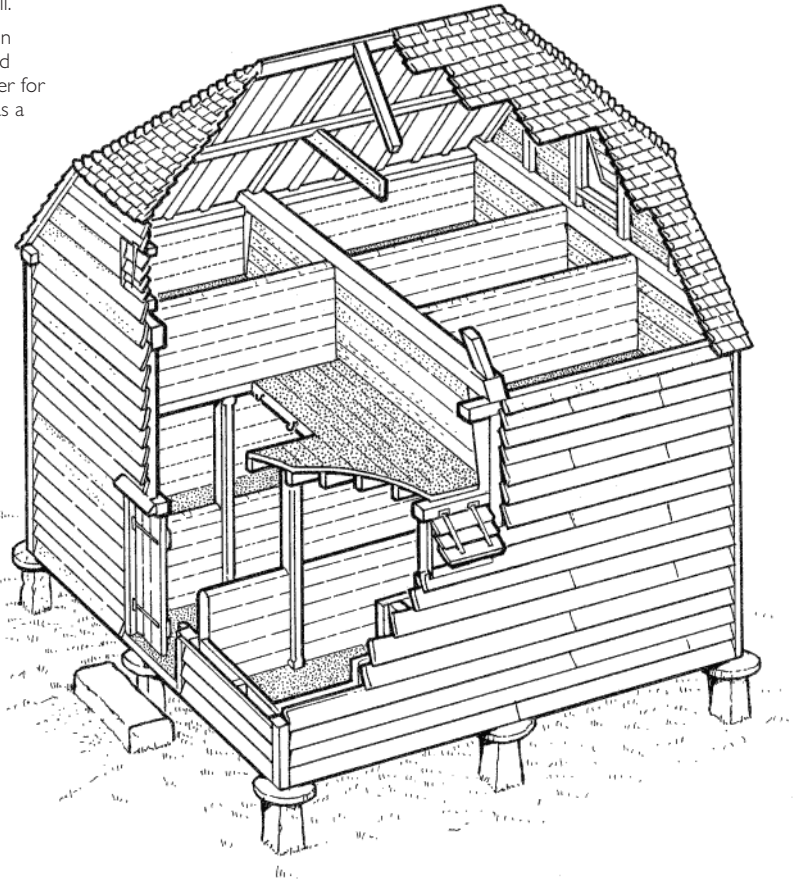
**6.2.1 NATIONAL OVERVIEW** (Figures 27 & 28) Once threshed, grain needed to be stored away from damp and vermin. It would be sold off the farm or retained for animal feed. A small number of specialist granaries built by large landowners, in particular the monastic institutions, survive from the 14th century. Most granaries are of late 18th- and 19th-century date, the

## 28 Granaries

Top: A free-standing timber-framed granary on staddle stones. This example has two floors and is fitted with grain bins on both levels. Staddle stone granaries are concentrated in a band from Wiltshire to Essex and in South East England with occasional examples being found as far west as Cornwall.

Bottom: Granary occupying the first floor of a mixing barn in Lincolnshire. In this mid-19th-century building the ground floor is devoted to the preparation and storage of fodder for cattle whilst the first floor, reached by external steps, was a granary. In similar buildings in this area only part of the building may have a loft for grain storage.

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29A



29 Granaries and cart sheds in the North West Region

Granaries are almost always combined with other functions, either as a loft in a linear farmstead range (A Cumbria High Fells) or within a combination barn (Eden Valley). Similarly, cart sheds are usually found within a larger range (C Shropshire Staffordshire and Cheshire Plain)  
A and C © Jen Deadman; B © English Heritage / Michael Williams

29B



29C



need for more storage for grain often coinciding with the necessity for more cart and implement space at a time when commercial farming and markets were expanding and more implements introduced on farms. The construction of detached granaries raised off the ground, along with the heightening of plinth walls to timber-framed barns, was also a reaction to the threat posed by the rapid spread of the brown rat from the early 18th century (McCann 1996).

Internally granary walls were usually close-boarded or plastered and limewashed, and the floor made of tight-fitting lapped boards to prevent loss of grain. Grain bins, or the slots in vertical timbers for horizontal planking used to make them, are another characteristic feature: close-boarded partitions allowed different crops to be kept separate (Figure 28). Window openings were typically small, and, with ventilation being the main objective, the openings were generally either louvers, sliding vents or grilles.

Grain was typically accommodated in:

- The lofts of farmhouses, a practice common before 1750.
- Small, square or rectangular structures raised above ground level on mushroom-shaped staddle stones or brick arches and accessed by moveable wooden steps. Internally, they may have been fitted with wooden partitions to create grain bins. They were clearly

related to the helm, which, according to documents from the 15th to 17th centuries, comprised timber platforms on staddle stones and were concentrated in the Midland counties (Dyer 1984; Needham 1984; Airs 1987; Barley 1990, pp.165–7): none have survived or been excavated. Most are of late 18th- or 19th-century date. Examples abound in Cambridgeshire, Berkshire, Sussex, Hampshire and Wiltshire, but extend into Dorset, Devon and Cornwall. Free-standing granaries are commonly timber-framed, clad in weatherboard or infilled with brick, but brick or stone examples have been found, particularly at the western edge of their distribution. The larger free-standing granaries were of two or even three floors (Figure 27).

- The upper floors of farm buildings, most commonly barns – observable from the 14th century (Le Patourel in Miller 1991, p.872) – and from the 17th century in the South East and East Anglia, much later further north and west, above cart sheds (see 6.3.1). Exteriors are usually marked by shuttered windows for ventilation. The side walls are sometimes weatherboarded, even in regions where weatherboarding is unusual, again to help ventilation. Examples date from the 17th century in arable areas. A separate external stair often gave access to the granary door (Figures 28 & 29). There was often a trap door into the cart shed below with a hoist beside it to allow for the loading of sacks. The granary

floor had to withstand heavy weights so was stoutly built. In a few instances the granary was situated over cowsheds or stables, but generally this was frowned upon because the damp and smells from the animals below could taint the grain. Because of the value of the crop, granaries were often the only farm building to be locked, sometimes with a dog kennel or goose house under the steps to deter thieves.

A very small number of pre-18th-century detached granaries have survived, and timber-framed granaries – detached or located over cart sheds or stables – are clearly far less likely to have survived to the present day than examples in stone or brick. Interior fittings such as grain bins and features such as louvered windows are particularly vulnerable when a change of use is contemplated.

### 6.2.2 GRANARIES IN THE NORTH WEST (Figure 29)

There are no known examples of granaries on staddle stones in the Region. In lowland areas granaries were typically located above stables or cart sheds, but do not form prominent elements in the group. On many upland farms the production of grain was of minor importance and the small quantities stored would often be kept in the farmhouse, or (more rarely) in a room accessed by steps and forming part of the house or a combination building. Where purpose-built structures existed they invariably formed part of another building, being either above a cart shed – for example as carts were introduced in the Hawkshead area of the South Cumbria Low Fells (Denyer 1991, 122) – or located on the first floor of a combination barn.

The wet climate of Cumbria, which could make grain growing and harvest a hazardous affair, led to efforts being made both to protect the cut crop and to dry the grain. Pringle, writing of Westmorland in 1797, thought that the barns were large enough to house all the cut crop before threshing (Pringle 1797, p.300) but 60 years later, Dickenson described open-sided Dutch-style barns (see Glossary, 10.0) on cast-iron pillars with timber roofs that were being erected to shelter corn stacks in Cumberland. These rather impermanent structures are unlikely to survive, but some more solid examples of masonry and brick have survived. Traditionally corn stacks were round and placed on stone pillars to protect them from damp and rats (Dickenson 1852, pp.233–4) but surviving examples are very rare.

## 6.3 CART SHEDS AND IMPLEMENT SHEDS

### 6.3.1 NATIONAL OVERVIEW

The cart shed housed not only carts for transporting muck to fields, the harvest to the steading and grain to market, but also the implements needed (primarily for arable cultivation) on the farm. It could also

accommodate the coach or pony trap. Left outside, wooden implements could shrink and crack in the sun, while rain and snow caused iron to rust, jamming any moving parts. Cart sheds often faced away from the farmyard and were often close to the stables and roadways, giving direct access to the fields. They have been found as additions to barns, but are more commonly found as detached single- or double-storey buildings, in the case of the latter invariably with a first-floor granary (see 6.2.1). The size of cart-shed ranges serves as a rough indication of the former arable acreage of the farm. In some parts of the country, often in pastoral areas, the difficult terrain meant that wheeled vehicles were not widely used and so cart sheds tended to be few and smaller, perhaps of only one or two bays. One bay was sometimes enclosed with a wide door for the storage of small implements, or perhaps a pony trap. Cart sheds and implement sheds with lockable doors did not appear in any great numbers until the mid-19th century, when horse-drawn hoes, and later reapers and mowing machines, became more prevalent (Walton 1973; Mingay 1989, pp.532–44).

Examples of pre-19th-century date, concentrated on estate farms and in the arable lowlands, are extremely rare.

### 6.3.2 CART SHEDS IN THE NORTH WEST (Figure 29)

The implements required for a mainly pastoral system were limited. Few drills or hoes were to be found in Cumberland and Westmorland in the 1790s (Bailey & Culley 1797, p.213; Pringle 1797, p.308). Generally, in upland areas such as the Lake District and the Pennines, carts were a relatively late introduction, with sledges being the more usual method of transport until the 19th century. Single-bay cart sheds are the most common type. Many bank barns incorporate a cart bay beneath the winnowing door on the upper floor. In lowland Cumbria where there was more arable farming, separate open-sided cart sheds with a granary over are found, although few date from before the 19th century. In lowland Lancashire and Cheshire cart sheds nearly always form part of one of the main ranges of buildings – again usually over cart sheds or stables – and are rarely detached structures. Generally they are smaller than cart sheds found in predominantly arable areas in other parts of England.

## 6.4 HAY BARNs AND OTHER CROP-RELATED BUILDINGS

### 6.4.1 NATIONAL OVERVIEW

Hay would be kept in lofts over the cow house and stable, stored in stacks or in purpose-built barns. The latter differed from corn barns in that they were open-sided to allow a good flow of air through the hay. They comprised little more than a roof supported on brick,

30A



30 Hay barns in the North West Region

Hay barns are commonly found on the pastoral farms of the North West Region. Most date from the 19th century and may be found located in the fields or at the main farmstead. Those of large lowland farms can be impressive buildings with decorative ventilation patterns in the brickwork.

(A South Cumbria Low Fells; B Solway Basin; C Shropshire, Staffordshire and Cheshire Plain)

A © Jennifer Deadman; B © Jeremy Lake; C © 404733 Mr Michael Tuck  
Taken as part of the Images of England Project

30B



30C



stone or iron piers with solid gable walls. They mostly date from the second half of the 19th century, and are more typical of the wetter pastoral west than the arable east. A very small number of timber hay barns with adjustable roofs – as commonly survive in the Netherlands – survive intact, mostly in Yorkshire. The agricultural depression from the 1870s meant that dairy farming was one of the few branches of farming to remain profitable, leading to an increase in the production of hay. This period saw the introduction of some of the first mass-produced iron farm buildings, such as Dutch barns for hay storage, and also of airtight clamps for the preservation of silage. Silage towers were built in small numbers in the inter-war period, but were not generally adopted until the 1960s (Shaw 1990).

As the use of fodder crops, such as turnips, and overwintering of cattle became countrywide, there developed a need to store the fodder in earth clamps or small rooms. In some of the better-planned farmsteads the root and fodder stores would be incorporated into the cattle housing, usually located close to where the cattle were stalled with access between the two. On smaller farmsteads the root store was either a separate building or formed part of a combination building, perhaps being associated with a granary or workshop. At present, it is not possible to identify any particular features of these buildings, other than the building materials, that are regionally characteristic.

Some areas of the country developed a specialisation in the production of particular crops such as hops or fruit. In some cases these crops required the construction of particular buildings that are regionally characteristic: for example, the oast house/hop kiln of the South East and West Midlands and the cider house of Herefordshire and the South West.

Small kilns for drying corn and particularly malt for brewing have been recovered through excavation (Le Patourel in Miller 1991, p.875) and a small number of much larger and more solidly constructed examples survive from the 17th century, especially in the North West and South West. Surviving examples of corn-drying kilns, concentrated in upland farming areas, are very rare. The processing of corn to flour was undertaken in mills normally powered by water or wind. Mill buildings are often found isolated from farmsteads but occasionally they can form part of the farmstead.

#### 6.4.2 HAY BARNs AND OTHER CROP-RELATED BUILDINGS IN THE NORTH WEST (Figure 30)

A common feature of many larger pastoral farms was the hay barn. This was usually a separate structure with open sides that allowed adequate ventilation of the hay whilst keeping it dry. In some parts of the Region the hay barn could be built in the fields whilst in lowland areas throughout the Region they typically form part of the farmstead. They could be built to substantial proportions

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and given decorative treatment in both the form and detail of the ventilation patterns, particularly in the farmsteads of the Cheshire Plain.

In northern and upland areas of the Region it was not always possible to fully ripen the grain sufficiently by natural means, and so corn-drying kilns were used. Farmers usually shared a kiln, which when built for communal use would often be located on common land. The kiln consisted of a firing chamber with a drying floor

above. Sometimes the kiln was built into a bank so that both the firing chamber and the drying floor could be tended from ground level. Occasionally a kiln was incorporated into another farm building. From the 18th century it became usual to add kilns to a water mill, leading to farmstead kilns being abandoned (Brunskill 1987, pp.96–7). The few examples that survive had slate drying floors supported on stone joists. From the later 18th century, perforated clay tiles typically replaced the slate floors.

# 7.0 Key Building Types: Animals and Animal Products

## 7.1 CATTLE HOUSING

### 7.1.1 NATIONAL OVERVIEW (Figure 31)

There are great regional differences in the management of cattle and the buildings that house them. This extends to how they are described in different parts of the country: for example, 'shippon' in much of the South West; 'byre' in northern England; 'hovel' in central England. Stalls, drains and muck passages have also been given their own local vocabulary.

Evidence for cattle housing is very rare before the 18th century, and in many areas uncommon before the 19th century. The agricultural improvements of the 18th century emphasised the importance of farmyard manure in maintaining the fertility of the soil. It was also recognised that cattle fattened better and were more productive in milk if housed in strawed-down yards and buildings, and fed with carefully measured quantities of nutritious turnips and imported feed. There is hardly a farmstead without 19th-century adaptations for increased livestock accommodation.

The introduction of hygiene regulations early in the 20th century for the production of milk resulted in new floors, windows and stall arrangements being inserted. Animal welfare standards are also important; cows on farms seeking Soil Association assurance require more than double (at 6 square metres) the space of tethered beasts in traditional cow houses. Some, particularly under split-level barns, are too low for modern usage and so have been preserved by abandonment or occasional use by sheep.

Characteristic features of cattle housing include:

- Externally, lower and wider doorways than stabling, with wall ventilation slits (adjustable sliding ventilators from the early 19th century) and holes in gable ends or side walls for the throwing out of muck (especially in areas with limited straw for bedding, where cattle were wintered indoors).
- Internally, ceilings were typically low and there was very little light. Hay was stored above in lofts, and in some examples (such as the Pennines) on either side in 'sink mows', increasing the warmth and airlessness. It was not until the later 19th century that the importance of a well-ventilated cow house became fully appreciated. The size of the haylofts increased as more cows were kept and the production of hay rose; their ceilings were higher and air ducts went from the cow house up on to the roof above the hay barn.

- Interior stalling and feeding arrangements. Cows were usually tethered in pairs with low partitions of wood, stone, slate and, later, cast iron between them. As the breeding of stock improved and cows became larger, the space for the animals in the older buildings became limited and an indication of the date of a cow house can be the length of the stalls or the width of the building. Feeding arrangements can survive in the form of hayracks, water bowls and mangers for feed.
- Variations in internal planning, cattle being stalled along or across the main axis of the building and facing a wall or partition. They were fed either from behind or from a feeding passage, these often being connected to fodder rooms from the late 18th century.

In the following descriptions of buildings for cattle the wide variety in the means of providing accommodation for cattle, both over time and regionally, can be seen .

#### 7.1.1.1 Longhouses

In this type of building the family and animals used a common entrance and the cattle (typically prized dairy cattle) were stalled at one end, usually the end down-slope. Examples (often high status in terms of their size, detail and construction) survive in parts of the north and west of England and are usually the only evidence for cattle housing before the 17th century. They were more widespread in the medieval period (see 5.1.1 and Figure 17).

#### 7.1.1.2 Ox houses

Oxen were the favoured animals for draught work on the farm in the medieval period, although in some parts of the country horses were already replacing them.. They survived in some areas into the 19th and even 20th centuries. Ox houses can be very difficult to identify, the most distinguishing feature being wide doorways and wider-than-average stalling (see 7.3.2).

#### 7.1.1.3 Combination barns

See 6.1.2. These were used for cattle accommodation from the 17th century, and in northern aisled barns from at least that period.

#### 7.1.1.4 Open-fronted sheds

The earliest of these were the two-storey linhays of the South West, with cattle accommodated below a hayloft. Shelter sheds, facing on to yards and either with haylofts above or simply single-storey, were increasingly built from the mid-18th century. Cattle yards with open-fronted sheds were typical of mixed farming areas where cattle

### 31 Cattle housing: national examples

- A & B Wooden cow stalls and slate cow stalls, the latter as found throughout the northern uplands. (A Durham Coalfield Pennine Fringe; B Yorkshire Dales)
- C Cow houses needed to be well ventilated, by either slits in the wall or windows. Horizontal sliding hit-and-miss ventilators, as here, achieved wide popularity in the mid- to late 19th century. (Vale of York)

- D A range of looseboxes, easily distinguishable by its rows of doors providing access to individual cubicles for fattening. (North Northumberland Coastal Plain)
- E The interior of a covered yard, on a home farm of 1875. (Shropshire, Cheshire and Staffordshire Plain)
- A-C © Jen Deadman; D & E © English Heritage / Michael Williams



were housed on the steading as fatstock and for their manure. Common internal fittings were mangers and hayracks, and sometimes stalls.

#### 7.1.1.5 Lean-tos (outshots)

These were attached to other buildings (particularly barns) and farmyard walls, either as part of the initial

phase of build or (particularly if the barn is pre-1750 in date) a later addition. These could be either open-fronted or closed with doorways to individual cow houses or looseboxes.

#### 7.1.1.6 Free-standing cow houses

These comprised either single-storey ranges, or two-



storey ranges with haylofts. Pre-19th-century examples of the former include the neathouses of the claylands of Suffolk and examples of both types are found in the West Midlands. In cattle-rearing areas calf houses have also been found; typically they are smaller in scale and often sited close to the house.

#### **7.1.1.7 Looseboxes** (Figure 31D)

Mostly dating from the 1850s, these served as accommodation for sick or calving beasts, bulls or most commonly fatstock. They comprised individual boxes or more usually a row of boxes with a central or rear feeding passage. The latter were usually distinguished externally by continuous rows of doors. There was often a feeding passage along behind them, with a feed store at one end. If used for fatstock, the floor of the boxes was sunken and the manure would build up in them during the winter. They reflected a realisation that warm and dry conditions would promote weight gain (through minimising heat loss) and retain the quality of the manure. Double rows would have a central feeding passage and were to be found on many farms by 1860.

#### **7.1.1.8 Covered yards**

By the 1850s it had been proved by agricultural chemists that the nutritional value of manure would be better preserved if it were under cover, and as costly feeds produced richer manures, the incentive to protect them was great. The problem was that it could be difficult to provide enough ventilation, but this could be overcome by complex systems of louvers and shutters. Some continued to be built as the depression in grain prices focused attention on livestock production. The best-known examples of covered yards are on the most expensively designed model farms of the mid- to late 19th century, almost all of them being estate-owned. The introduction of roofs to existing yards became general in fatstock areas from the late 19th century and especially after 1940. Dairy cattle are now typically housed in portal-framed sheds erected in the post-war period.

### **7.1.2 CATTLE HOUSING IN THE NORTH WEST** (Figures 32 & 33)

The movement of livestock (particularly cattle) to summer pastures on the high ground (a process known as transhumance) had been a key component in the economies of upland valleys probably since the prehistoric period. The summer grazing grounds, characterised by groups of huts, typically developed into permanently occupied farms or even hamlets as transhumance was abandoned in favour of permanent farmsteads. (Adams & Carne 1995, pp.91–2). Townships were typically allotted defined areas of waste, which were in turn subdivided between farming tenants and communally managed in order to prevent overgrazing

and the encroachments of individual ownership onto common land. The summer grazing grounds, by the early 16th century called shielings, were characterised by groups of stone, timber or turf huts, of rectangular or circular form (Coggins 1992, p.81). They typically developed into permanently occupied farms or even hamlets, as transhumance was abandoned in favour of permanent farmsteads. This practice survived longest – into the 17th century – in the North Pennines and Cheviots where the instability of the Borders area had also inhibited the expansion of settlement (Winchester 1987, pp.3, 7; Adams & Carne 1995, p.92). Shielings are readily distinguishable from the archaeological remains of farmsteads (although later use has obscured the origins of the latter), which are marked by enclosures for holding livestock and stack stands for winter fodder (Hillelson 1984; Ramm, McDowell & Mercer 1970, p.7). They were dry-stone walled structures located above the 1000ft contour and none survive in a complete enough form to be able to suggest how the interiors were arranged (Denyer 1991, pp.3–4). No other buildings would have been necessary and the great majority are now ruinous, although a small shieling hut has been located in Warndale Bottom at Buttermere, Cumbria (Ramm, McDowell & Mercer 1970, p.35).

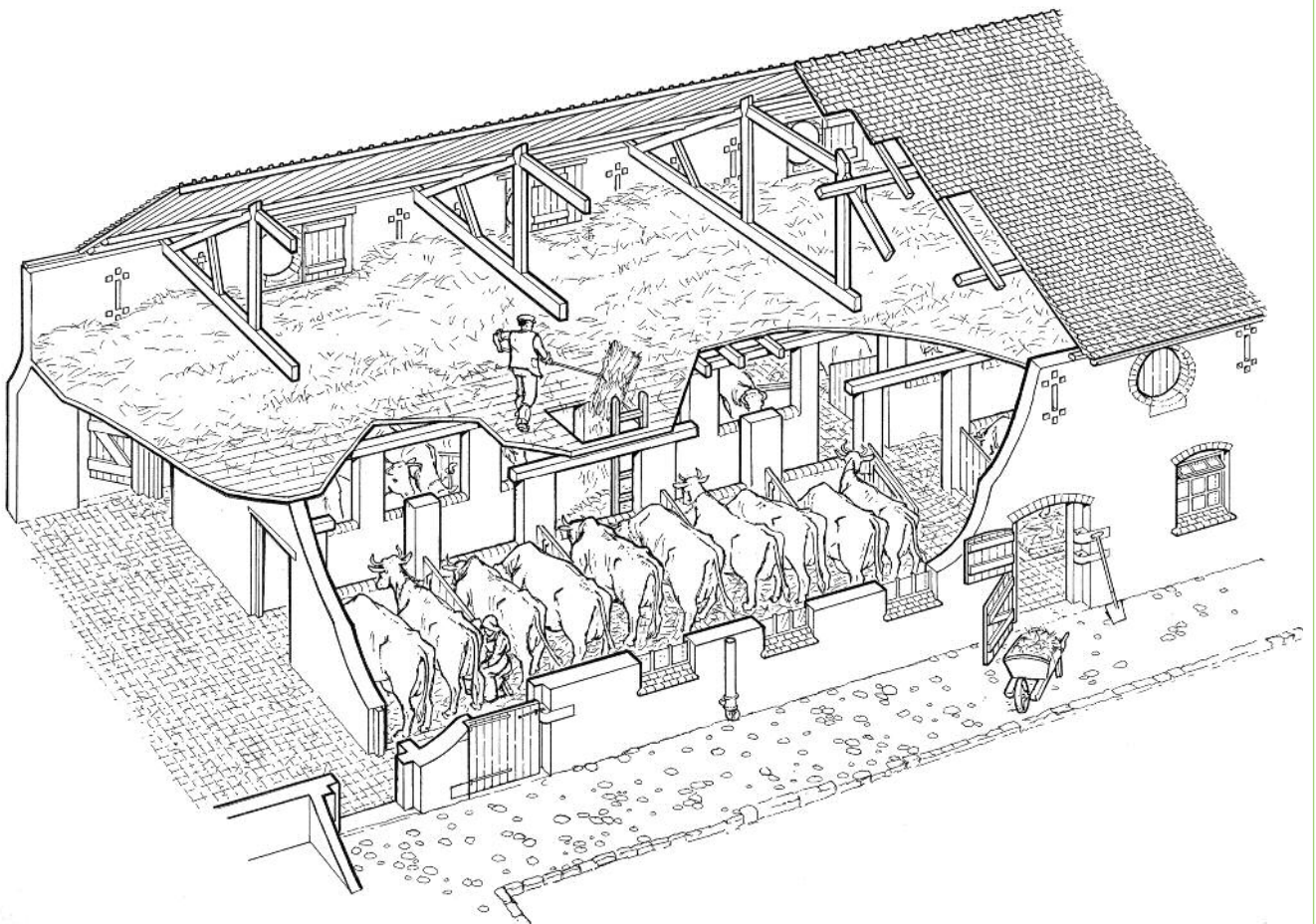
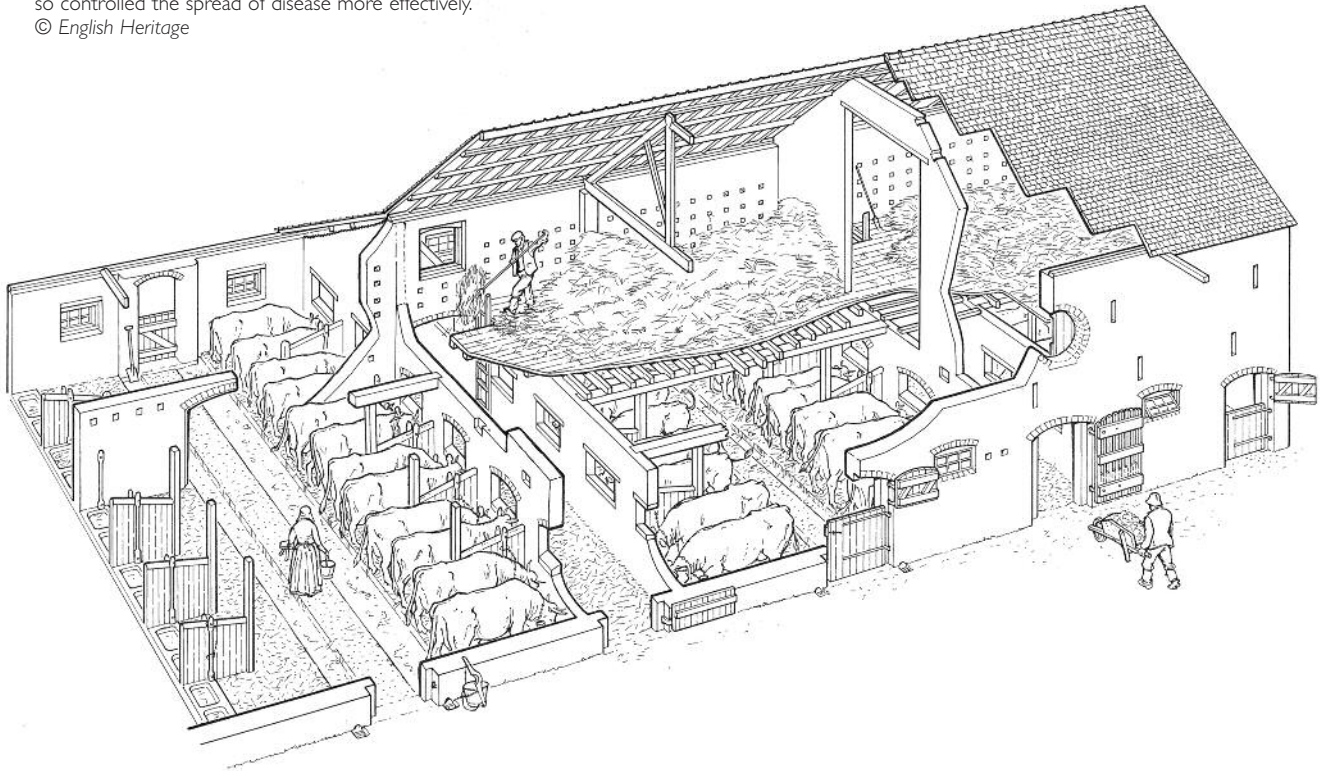
Cattle have long been a mainstay of the Region's agricultural economy, and this Region holds some of the country's earliest surviving buildings featuring cattle housing. As we have seen, cattle housing has had a major impact on the form and plan of the Region's barns and also its field barns (see 6.1.2 and 8.1.2). Detached fully lofted cow houses date from the late 17th century in the Lancashire Plains and Valleys and the southern Pennine uplands, but pre-1800 examples are rare and often associated with gentry or wealthier farms. By the mid-19th century they were standard on dairy farms in Lancashire and Cheshire. Fully enclosed cow house ranges were also commonly joined to the barn at right angles often with a cart entrance or driftway between. These cow houses were known as 'cross shippens' and were usually lofted throughout.

Cow houses usually provided accommodation for between eight and twelve animals, except on the smaller farms in more remote upland areas. The standings allowed for two cows between each division, with vertical stone slabs set within wooden frames dividing the stalls (Denyer 1991, p.98). The animals were tethered in these stalls for the winter with a manger along the wall in front of them. Cattle could be stalled across the width of the building or along its length (Figure 32). 'Cross shippens' were often served by a central feeding and manuring passage accessed by a door in the gable end; examples date from the 17th century. From the early 19th century, wider buildings

32 Cut-away drawings of cow houses in the North West Region

Cattle were typically tethered in a line across the width of the cow house (A a cross-shippon) until the later 19th century, when it became usual to tether the beasts along the length of the building (B a lengthwise shippon) with a feeding passage along the centre and manure passages along the side walls. Buildings of the later type usually provided better ventilation and so controlled the spread of disease more effectively.

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### 33 Cattle housing in the North West Region

In the North West Region cattle housing often formed part of a combination barn (A Vale of Eden) (see also Figure 26). Two-storey cow houses are common and range from small buildings housing just a few beasts on small upland farms (C showing cow house to left of taller stable door) to the large ranges of shippons on the dairy farms of

the lowlands which would could include fodder-processing areas. (B Shropshire Cheshire and Staffordshire Plain; C Bowland Fringe and Pendle Hill; D Eden Valley; E Lancashire Valleys F Shropshire, Staffordshire and Cheshire Plain) A © Jeremy Lake; B, D and E © Jen Deadman; C © 182605 Mr Charles Satterly, taken as part of the Images of England Project; F © English Heritage / Michael Williams

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33C



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33F

were being built, which had entrances in both side walls and gable ends, the latter to a long axial passage into which cattle would face: these served as both a feeding passage and a source of cross-ventilation. Increasingly from the mid-19th century the stalls

were being turned round and placed across the building in back-to-back blocks with doors in the front wall to serve each group, the cattle facing a vented passageway into which fodder could be dropped from above.