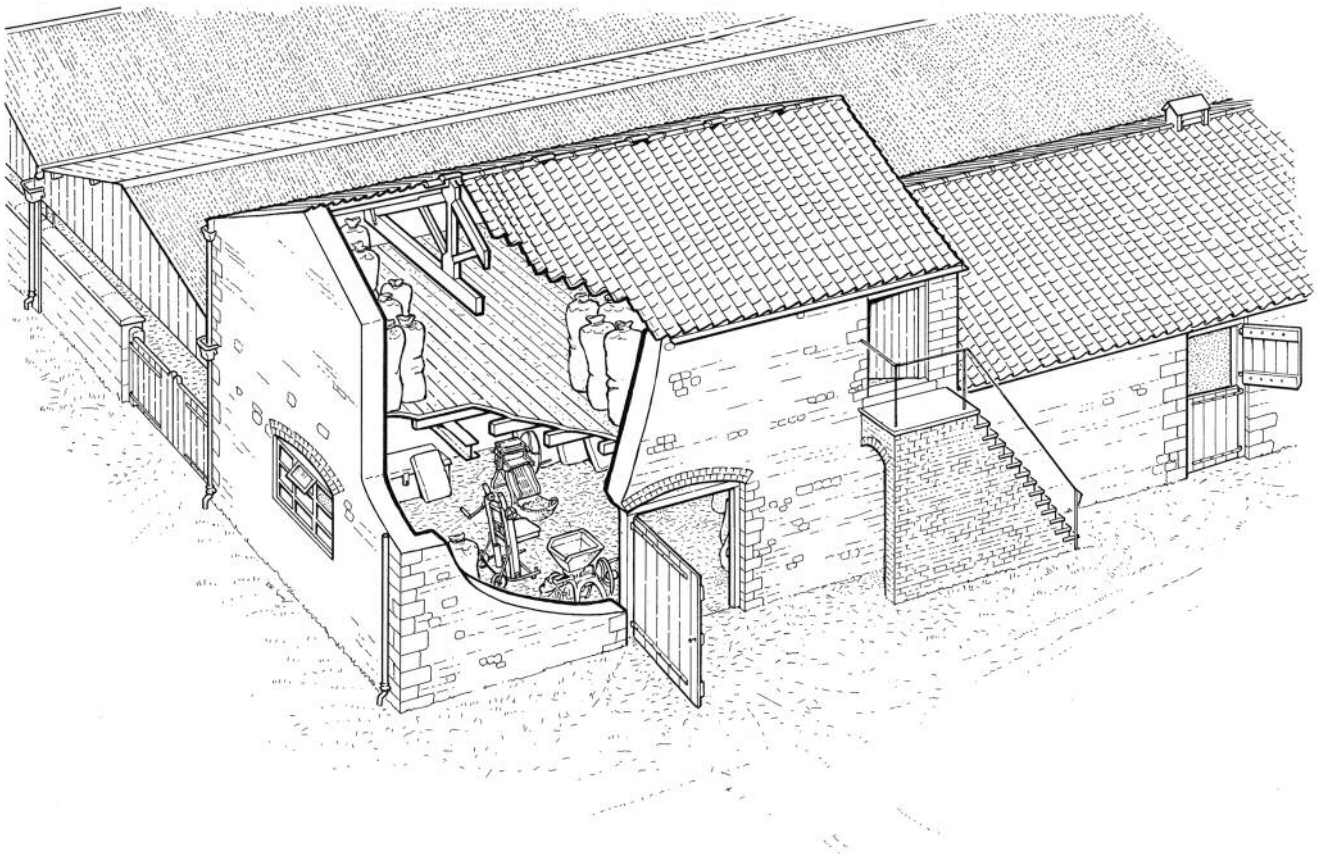
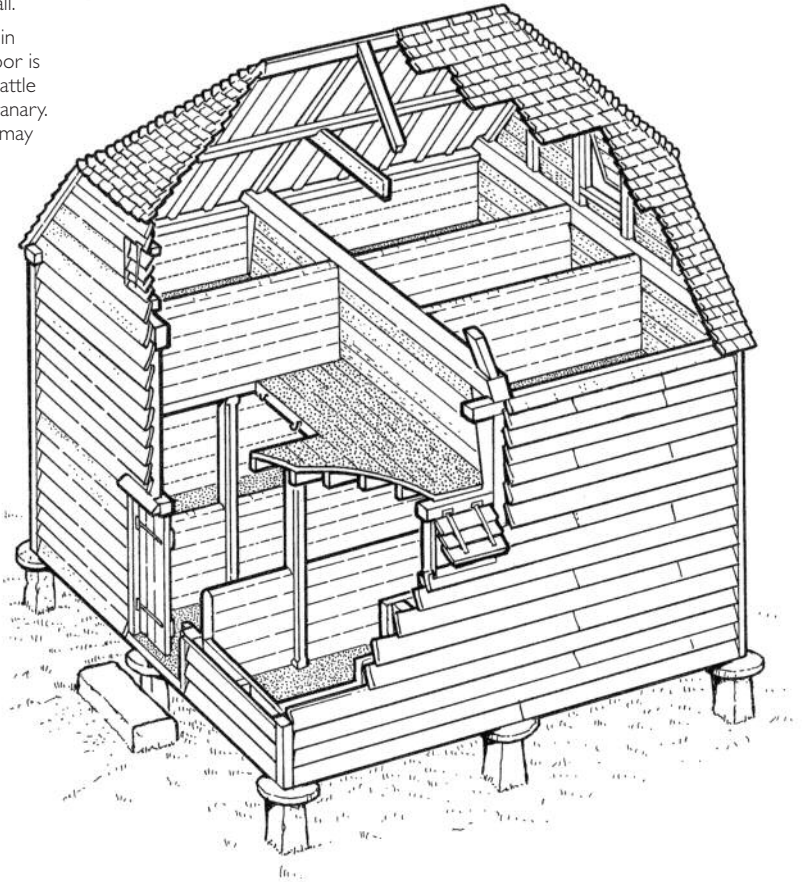


## 24 Granaries

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 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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## 25 Granaries and cart sheds in the North East Region

- A Detached, free-standing granaries are rare in the North East. This example was built by Durham Cathedral Priory. (Tyne and Wear Lowlands)
- B Granaries in the North East Region often form part of a linear range, located on the first floor and approached by a flight of external steps

(B North Pennines) or are located above cart sheds. Cart sheds typically form part of combination ranges (C Cheviot Fringe) and are sometimes located over hemmels.

A & C © Jen Deadman; B 404168 Taken as part of the Images of England project © Mr Thomas S. Bolton

25A



25B



25C



### 6.3.2 CART SHEDS IN THE NORTH EAST

Few pre- or mid-19th century cart sheds survive, and many are later additions to pre-existing farmsteads. The increases in the number, size and sophistication of carts and field implements after about 1840 were associated with greater mechanisation and intensification of farming in the Region. Some of these mid-19th century cart-shed ranges in lowland arable areas can extend up to 13 bays (Barnwell & Giles 1997, p.84). Combined granary/cart-shed ranges are a distinctive feature of larger lowland steadings, and on smaller steadings or upland areas cart sheds can appear as individual or single-bay structures.

### 6.4 HAY BARNES 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, 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 over-wintering 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

26A



### 26 Hay barns in the North East Region

Hay barns are found on some pastoral farms but they are not as common in the North East compared to the North West Region. Most date from the 19th century and may be found located in the fields (A North Pennines) or at the main farmstead (B North Pennines; C Cheviot Fringe).  
 All © Jen Deadman

26B



26C



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 EAST (Figure 26)

A feature of many larger pastoral farms – but not as common as in the North West – was the hay barn. This was usually a separate structure with open sides that allowed adequate ventilation of the hay whilst keeping it dry. There are some very fine examples of large estate hay barns (for example at Croxdale Hall and Home Farm, Ushaw College, both near Durham).

In northern and upland areas of the country it was not always possible to fully ripen the grain sufficiently by natural means, and so corn-drying kilns were used (Ramm et al 1970, p.17; Hillelson 1984, p. 58). See North West and Yorkshire and the Humber for further details.



# 7.0 Key Building Types: Animals and Animal Products

## 7.1 CATTLE HOUSING

### 7.1.1 NATIONAL OVERVIEW (Figure 27)

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).

#### 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

27 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



27A



27B



27C



27E



27D

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 27D)

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 EAST (Figure 28)

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. These include the remains of fortified bastle houses where the cattle could be accommodated at ground-floor level and the family housed above (see 5.3.1).

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). No other buildings would have been necessary and the great majority are now ruinous.

As we have seen, cow houses were rarely built as separate structures but were nearly always part of a larger building, either at one or both ends of a single-storey barn, within a partially lofted barn, below a lofted extension or in the ground floor of a bank barn (see 6.1.2). Cattle housing typically formed part of linear farmsteads in the uplands, including those rebuilt in the 19th century. Field work in the south of the Region – notably on the Bearpark Estate, Durham, where farmstead buildings date from its leasing off by the Dean and Chapter of the Cathedral after 1655 – indicates that many more examples of multi-functional partitioned buildings, with triangular vents and upper cruck trusses, remain to be discovered (Edwards 1985). Recent investigation and dating by dendrochronology on the Bearpark estate has revealed a 17th-century cruck-roofed cow house and a unique (for the North East) example of a late medieval longhouse with a very long low end (information from Martin Roberts).

There is very little additional evidence for cattle housing until the late 18th century. In addition to the traditional cow house, enclosed and accessed by one or more doors, from this period cattle were kept in open yards with long, low, open-fronted shelters that often adjoined the barn, the source of their fodder and straw for litter. Sometimes these shelters had a hayloft or a granary over. The most regionally distinctive example of a specialist building erected to house fatstock is the hemmel, typically an open-fronted shed with an arched entrance providing access to a small yard. It is found throughout the Region, on both large and small farms.

Fatstock became increasingly important during the second half of the 19th century, and the buildings found on many Northumbrian farmsteads in particular reflect this development as well as the need to more closely manage and accommodate smaller groups of cattle. Existing open-fronted shelters could be altered to provide a greater degree of shelter, and new ranges were often built outside the core of existing buildings, the latter being a characteristic feature of farmstead development in this Region. These new wide-span ranges could often incorporate root houses for fodder storage,

28 Cattle housing in the North East Region

- A The undercroft of a bastle house, which provided secure housing for cattle. Bastle houses, as with longhouses, represent one of the earliest forms of surviving cattle accommodation. (Cheviot Fringe)
  - B & C Hemmels are a regional characteristic form of cattle housing found on farms of all sizes. They can range from one or two sheds, typically with large arched openings, to whole ranges on one or more sides of a yard. Most date from the first half of the 19th century. (B Border Moors and Forests; C Northumberland Sandstone Hills)
  - D Cattle were often housed in two-storey cow houses that formed part of a combination range that could include stabling, hay storage or a threshing barn (North Pennines).
  - E Many farmsteads include a small number of looseboxes, individual sheds where a sick or pregnant cow could be isolated from other stock. On some large farms greater numbers of looseboxes are found suggesting an intensive system of rearing (as being advocated by some mid-19th-century agricultural commentators) was employed. (North Northumberland Coastal Plain)
  - F On large, lowland farms open-fronted sheds around a yard or arranged to create an E-plan (or larger) were typical. The final stage of development of cattle housing was the covering over of the yard areas. In some cases from the later 19th century covered yards formed part of the original plan but on many farms, such as this example from the Cheviot Fringe, the covering was a late 19th- or early 20th-century addition to the earlier shelter shed ranges.
- A, B & F © Jen Deadman; C & E © English Heritage / Michael Williams; D © Jeremy Lake

28C



28D



28E



28F



28A



28B





29 A typical stable interior for working horses, showing the stalls that prevented the horses biting and kicking each other; the hay rack and cobbled floor. (Dorset Downs and Cranborne Chase) © Bob Edwards

connected to feeding passages running the length of each building. On most farmsteads cattle were kept in yards for most of the time but a small number of looseboxes were usually provided within the farmstead where calving or sick beasts could be accommodated; fattening boxes were also used (Barnwell & Giles 1997, pp.86–90).

The final development of many yard systems was the roofing-over of the yard to create a covered yard. Although some farmsteads were provided with covered yards in the late 19th century, most found in Northumberland are 20th-century developments (Barnwell & Giles 1997, p.88).

Within the large planned farmsteads of the Northumberland lowlands small byres for milk cows for domestic use were usually provided within the farmstead. These byres could be sited near the house or the cattle yard (Barnwell & Giles 1997, p.92).

## 7.2 DAIRIES

### 7.2.1 NATIONAL OVERVIEW

The dairy, where milk was stored and turned into butter or cheese, was usually located within the farmhouse (at its service end or in a rear room) or located in a lean-to at the rear of the house. Some dairies were separate buildings but, as the women of the household usually managed the dairy, they were normally situated close to the house. Within the dairy, which was commonly cool and damp, milk was poured into large shallow pans and the cream left to rise to the top before it was skimmed off and churned (usually with a plunger) in order to make butter. New types of churn appeared in the mid-19th century, the most important invention being the centrifugal separator in 1890. On some estates, the individual dairy building could be quite ornate in design; they were often circular, with a tall conical roof and plenty of ventilation, cool tiled floors and a low marble, slate or tiled shelf running almost all the way around inside.

Cheeses were made from the preservation and treatment of the curd, the solid mass that separates from the thin whey: harder cheeses were made from skimmed milk, softer cheese such as Cheshire from whole milk. After pressing, it needed space for storage. In areas where cheese making was important the dairies often had a room above called a cheese loft, where cheese was stored while maturing, or there would be a separate cheese house, the equivalent of the arable farmer's granary. In the 19th century more ornate dairy buildings



were built on some of the larger farms, often located within the garden of the farmhouse rather than in the working farmyard.

Dairying for urban markets was already a specialised enterprise by the 1750s, and winter feeding and the ousting of less-productive breeds by the Dairy Shorthorn (after 1820) boosted yields. By the 1850s, butter production for the market was concentrated around towns, and the first small dairy factories started production around 1870. Cheese making in East Anglia gave way to cereal farming and fattening after 1800 (Holderness in Mingay 1989, pp.160, 158). Commercial cheese making and foreign imports (from the colonies) made inroads from the 1860s, and by around 1914 farmhouse butter was being sold only in Devon and Cornwall, and cheese made only in Cheshire, Leicestershire and the vales of Dorset and Somerset (Whetham 1978, pp.11, 15). Changes in hygiene regulations and the centralisation of production through the 20th century had a major impact on dairies, with the majority becoming redundant to their original use. Changes in use may have resulted in the removal of fixtures such as slate or stone shelves for cooling the milk.

The sale of liquid milk had become massively important in many areas by the early 20th century (Whetham 1978, pp.9–10). The stand for milk churns, often built at the farm gate to save the milk cart or lorry from having to come to the farmstead, and the abandonment of all but a handful of farmhouse dairies and cheese rooms for new milk-production plants were the other visible consequences of these developments.

The industrialisation of much of the dairy industry meant that the majority of farm dairies were redundant by the mid-20th century. Where the dairy was part of the farmhouse it is usual to find that it has been brought into domestic use, typically resulting in the removal of any fittings associated with butter or cheese making. Any survivals of dairy equipment in situ are rare. Detached