

Section 40 Introduction to non-ceramic artefacts; building artefacts

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Cross-references to Digital Supplement in red
Cross-references to Printed Synthesis in brown

Introduction to non-ceramic artefacts

Some 3100 small or registered finds, plus sizeable quantities of non-ceramic bulk finds, were recovered from the excavations at La Grava Priory 1973–1985. The non-ceramic artefact catalogue was completed in 1992 and the overview in November 1996, with bibliographic updates in 2001; the report was revised in May 2007.

As no finds assistant could be employed on the site, only a basic level of identification was achieved prior to the post-excavation stage. The small finds or registered finds, those objects which require more detailed recording and description and a controlled storage environment, were identified during the initial post-excavation stage using a 'broad terms' list compiled in consultation with the Bedford and Luton Museums. These identifications were then allocated to a classification system based upon function (cf Crummy 1983) rather than materials of manufacture. It was felt that this approach would reflect more closely the object's relevance to the function and status of the site in addition to facilitating a more integrated presentation of the material and structural evidence. The non-ceramic bulk artefacts were also incorporated into this classification system.

The classification system was based on Crummy (1983), with over half of the original categories incorporated into the scheme employed here. Some modification and addition of categories was made in order that the classification system could be used on all period and multi-period sites. Allocation of the 'broad terms' to categories was not always straightforward as several objects have more than one specific use or can be reused for a purpose other than originally made. The finds assemblage from each site must be examined with these riders in mind and allocations made according to usage. The categories therefore must be clearly defined at the beginning of any finds report. Some small categories have been amalgamated in one Section.

Building artefacts

For this publication building artefacts which describe the structure and its fittings have been detached from activity artefacts which inform how the building was used. Each main category has been given its Section number (which directs the reader to the appropriate part of the report) followed by the writer's category number and description, the page of illustrations and the individual illustration on the page. Thus 40.04/27 will be Section 40, illustration 04, and specific find number 27 on that page. The catalogues precede the category overview and provide the find number, trench number, context, phase, and associated structure: Sf 1389 T7 C675 [P6.1 S16D/65D]. The **Building artefacts overview** is found at the end of the present Section 40.

For related items see Sections:

[37] Floors and superstructures

[38] Roofs

[37] Miscellaneous building material

[39] Architectural stone

[39] Stone catalogue

[41]–[50] Non-ceramic activity artefacts

Building artefacts categories

Category 1 Buildings and services; 40.04/1-27

This category covers objects associated with the fabric of buildings (eg architectural fragments), and services to buildings (eg water piping systems). For roof and floor furniture see [37, 38]; for stone roof and architectural fragments [39].

Category 2 Fittings and fasteners; 40.05-40.10/28-104.

Objects such as hinges, pivots, locks, keys, studs and nails, staples, and wall hooks and general fasteners not attributable to one specific category.

Category 1 Buildings and services

Roofing lead 40.04/1-2

Twelve portions of roofing lead or flashing were identified. Eight of these consist of rectangular or triangular-shaped sheets (1.5–2mm in thickness), perforated by iron nails which remain *in situ*. The sheet was then folded over the nail head. The lead sheet served as a non-corrosive cover to protect the iron nail head, which, if left exposed to weather, would have quickly rusted. These strips of lead may have served as 'clips', attached to the lower edges of lead roofing sheets to hold them in place and prevent wind lift (Roberts 2002, 154–56). Similar objects were recovered from excavations at Kirkstall Abbey (Duncan and Moorhouse 1987, figs 73.306, 307.1).

The remaining four fragments of roofing lead or flashing consist of larger sheets of lead, all incomplete, ranging in thickness from 1.8mm to 4mm. All are multi-perforated, although no nails remain *in situ*. These may have served as roofing material, flashing, or guttering.

Lead was used extensively in medieval building, for example came, caulking, roofing, and piping. It was an expensive commodity and therefore frequently reused; this may explain the small quantities recovered from La Grava. All of the stratified pieces recovered were from deposits of phase 6.1 and later, the majority deriving from demolition deposits associated with S16 and S65.

40.04/1

Sf 1389 T7 C675 [P6.1 S16D/65D]

Roofing nail; sub-rectangular lead sheet (2mm in th), perforated by iron nail *in situ*, remainder of sheet folded over iron nailhead. Lth 31.2mm, wth 32.6mm

40.04/2

Sf 1695 T13 C1 [P6.2–7]

Portion of roofing lead with seven countersunk (from wear) perforations situated near sheet edge. Lth 75.8mm

Window glass

Medieval window glass 40.04/3-21

Four hundred and sixty-eight sherds of window glass were recovered and, with the exception of ten sherds which are of recent date, all show signs of weathering and decay, ranging from total devitrification to slight surface iridescence. The condition of the glass indicates that it is a forest glass with a potash base. The majority of the glass recovered does not retain grozed edges nor do any complete quarries survive. The fragmentary condition of the sherds suggests deliberate destruction and removal for the purpose of extracting window lead. This is supported both by the small quantity of window came recovered and its presence in destruction deposits.

The sherds were assigned broad chronological dates based upon a combination of degree of decay, thickness, and, in the case of the 67 painted sherds, design.

The medieval glass assemblage of 179 sherds ranged in thickness from 2.2–5.8mm. All sherds were totally opacified and devitrified resulting in a matt black ground, the original colour of the glass not discernible.

A complete list of all sherds by context can be found in the site archive. Each chronological group is discussed here in general terms, with selected examples catalogued.

Unpainted sherds accounted for the majority of the assemblage, 112 sherds. Eleven portions of quarries survived; triangular or diamond-shaped (5), rectangular (4), sub-rectangular with concave side (1) and semi-circular (1); thirteen sherds retained a grozed edge or corner [40.04/3, 4]. Two sherds possess a narrow, curving ridge on the reverse surface [40.04/5]. The cause of this feature is unknown, but the ridge may have been formed during the process of manufacture, before the glass cooled.

Painted glass was represented by 67 sherds, all having reddish-brown paint. Portions of seven quarries were identified; semi-circular (2), rectangular (1), triangular (3) and oval (1). A further four fragments have grozed corners and 22 sherds retained grozed edges.

The majority of painted glass from La Grava is of geometric grisaille design paralleled at Salisbury Cathedral (Knowles 1932, fig 58), Church of St Mary, Stodmarsh, Kent, the Five Sisters Window at York (Crewe 1987, figs 7 and 8) and from excavations at Battle Abbey (Kerr 1985, 127–38). Grisaille windows of the 13th century were formed of white glass with painted designs, reddish-brown in colour, of stylised flowers, stems, and geometric forms with a cross-hatched ground (Marks 1987, 141). In the 14th-century heraldic designs were introduced, the foliage patterns became more naturalistic and the cross-hatching ground was abandoned (Marks 1987, 141–43). Although in the early 13th century it was likely that less wealthy churches were glazed with grisaille, by the mid-13th century architectural taste favoured lighter church interiors and grisaille was more extensively used (Crewe 1987, 19).

Three basic designs were evident within the assemblage; foliage, drapery and borders. Stiff-leaf foliage spray designs with trefoil, cinquefoil(?), fruiting buds, and lobed terminals were identified on eleven sherds; all with cross-hatched grounds [Cat 6-13]. These are closely paralleled by sherds from Battle Abbey (Kerr 1985, fig 40.2–6) and Bayham Abbey (Kerr 1983, fig 15.1–2), dating to the

13th century. A further seventeen fragments retain a combination of cross-hatching ground with either curved or straight lines. These may have formed part of the foliage design (stems?) but are too incomplete to be ascribed with any certainty. Multi-foil flowers on a plain ground were noted on two sherds [40.04/14, /15]. A similar design from the south transept at York Minster is dated c 1240 (S Brown pers comm).

Drapery was represented by a single sherd [40.04/16]. This is closely paralleled by a 14th-century example from Bedford (Baker *et al* 1979, fig 172.1271).

All the border designs have a beading element consisting of a band of paint with unpainted circles within. This is a ubiquitous component found in all periods of glazing (Kerr 1985, 131). The borders retaining a cross-hatched ground are of the 13th century [40.04/17], while those without cross-hatching [40.04/18, /19] may be of late 13th- to 14th-century date.

Two sherds with a border pattern are of 14th-century date. The first has a border of combination beading and circles [40.04/20] while the second has beading interspersed with crossed swords(?) [40.04/21]. The latter can be paralleled at All Saints, North St, York (S Brown pers comm) while the former is similar to 14th-century borders found at Winchester (Kerr 1990, fig 100, 898.2, 898.6).

A total of 66.5% of the medieval window glass assemblage was from phased deposits. The earliest occurrence was in P5.4 (one sherd). Deposits of phase 6.1 or later, however, yielded 86.6% of the phased assemblage. The largest concentration (53 sherds, twenty of which retained decoration) centred on S16, with over half the sherds from destruction deposits. Lesser although still significant, concentrations were noted in the vicinity of S19, S63, and S65.

40.04/3

T7 C675 [P6.1 S16D/65D]

Portion of a rectangular quarry, three grozed edges survive. Totally opacified. Wth 31mm, th 2.8-3mm

40.04/4

T13 C136 [Unph]

Portion of a sub-rectangular quarry, concave end, with three grozed edges. Totally opacified, white residue (cement?) along grozed edges. Wth 21mm, th 2.9mm

40.04/5

T13 C136 [Unph]

Three sherds (two joining) retaining a grozed edge. Totally opacified. A thin curving ridge is apparent on reverse surface. Th 4mm

40.04/6

T6 C25 [P6.1 S19D]

Portion of a triangular quarry, two grozed edges, totally opacified. Red-brown paint, palmette design with fruiting bud, cross-hatched ground. Reverse slightly pitted. Th 2.6-2.7mm

40.04/7

T13 C475/1 [P6.1 S27D]

Portion of quarry, one grozed edge, totally opacified with pitting on both surfaces. Red-brown paint, curving stem, trefoil leaf with cross-hatched ground. Th 3.3-4mm

40.04/8

T6 C16 [P5.2-6.1 S19A]

Sherd with grozed edge, totally opacified. Red-brown paint, portion of palmette stem and leaf with cross-hatched ground. Th 4.6mm

40.04/9

T13 C141 [P6.2 S63D]

Sherd, no original edges, totally opacified. Red-brown paint, cinquefoil(?), cross-hatched, ground and straight line border. Th 3.8mm

40.04/10

T30 C1 [P6.2-7]

Sherd, no original edges, totally opacified. Red-brown paint, stem, lobed terminal and start of foiled leaf, cross-hatched ground and beaded border. Th 4.4-4.8mm

40.04/11

T13 C136 [Unph]

Sherd, no original edges, totally opacified. Red-brown paint, curved stem, start of foiled leaf and cross-hatched ground. Th 2.4mm

40.04/12

T13 C112 [P6.2]

Sherd, one grozed edge, totally opacified. Red-brown paint, portion of stem(?) and cross-hatched ground. Th 3.3-4.1mm

40.04/13

T30 C1 [P6.2-7]

Sherd, two grozed edges, totally opacified. Red-brown paint, portion of multi-foiled leaf, straight stem(?) and cross-hatched ground. Th 3.4mm

40.04/14

T7 C696 [P7 S16D]

Sherd, no original edges, totally opacified. Red-brown paint, portion of a multi-petalled flower on plain ground. Th 3.2-3.6mm

40.04/15

T7 C696 [P7 S16D]

Sherd, totally opacified, reverse surface pitted. Red-brown paint, portion of a multi-petalled flower on plain ground. Th 3.5mm

40.04/16

T13 U/S

Portion of a triangular quarry retaining two grozed edges, totally opacified. Red-brown paint, curving and straight lines, with up to 4mm; drapery. Th 3.1-3.8mm

40.04/17

T30 C1 [P6.2-7]

Sherd, no original edges survive, surface opacified, thin clear core surviving. Red-brown paint, beading, curved lines interlinking horseshoe-shaped motif, cross-hatched ground and double-line border. Th 4-4.3mm

40.04/18

T13 C79 Unph

Sherd, one grozed edge, totally opacified. Red-brown paint, beaded border with outer straight-line border. Th 4.3-4.4mm

40.04/19

T13 C79 Unph

Sherd, portion of grozed edge, totally opacified. Red-brown paint, corner border of beading with narrow straight line border above. Th 4.3mm

40.04/20

T13 C42 Unph

Grozed corner sherd of a quarry, totally opacified. Red-brown painted ground, diagonal band of beading and circles, fleur-de-lys and other geometric designs. Th 3.1mm

40.04/21

T7 C521 [P7 S16D]

Portion of a semi-circular quarry, totally opacified. Red-brown paint, border of beads interspersed with crossed swords(?), abstract foliage(?) pattern on plain ground. Th 3.7mm

Late medieval/post-medieval window glass 40.04/22-23

Thin green window glass of less than 2mm in thickness became more widely available for use in domestic windows in the late 16th–17th centuries (Oakley 1979a, 296). Two hundred and forty-eight sherds, with thicknesses of 0.55–1.95mm, were identified. All have suffered some degree of decay, confined to slight surface iridescence or surface corrosion. The cores of the glass are clear, the majority having a pale-green tint. Only three fragments retain portions of grozed edges, one surviving as half a circular quarry [40.04/22]. Two sherds have portions of flame-rounded edges and may have been manufactured by the cylinder or muff process (Harden 1961, 43).

Thirty-one sherds of unpainted glass are between 2–4mm thick. The majority of these have either opaque surfaces or laminating, silvery corrosion. Where visible, the cores of the sherds are clear with usually a pale-green tint. Four sherds, all portions of rectangular quarries [40.04/23], have a pale-bluish-green tint. A total of six sherds retained portions of grozed edges.

Both crown and broad glass were in use during the medieval and post-medieval periods (Harden 1961, 55). Although there are methods of identifying crown and broad glass these are not foolproof (Harden 1961, 39–40, 42) and the opacity of the La Grava sherds makes positive identification difficult. Although thickness is sometimes used as an indicator, this is not reliable; wide variations can occur within one pane of crown glass (cf Cunningham 1985, 39). The four rectangular quarries of bluish-green glass are of similar thickness to 16th-century quarries found at Basing House (Moorhouse 1971, fig 31.94–99).

Of the phased assemblage, 250 sherds, 86% occurred in deposits of phase 6.2 and Period 7. Only twelve sherds were found in phases preceding phase 6.1, phase 5.4 being the earliest. S16 accounted for 70% of assemblage associated with buildings, in the main from destruction deposits, while S63 accounted for 22%. A limited quantity was also associated with S65.

40.04/22

T13 C119 [P6.2 S63D]

Approximately half a circular quarry with grozed edge surviving, surfaces covered in a beige-matt corrosion. Clear core, slight greenish tinge. Dia 47mm, th 1.9mm

40.04/23

T30 C1 [P6.2–7]

Portion of a rectangular quarry with three grozed edges. Surfaces slightly iridescent and pitted. Clear green tinged glass. Wth 31mm, th 3.1mm

Window came 40.04/24-27

Of the 80 pieces of lead came recovered, the majority had suffered flattening and/or twisting, making it impossible to determine with certainty the cross-section shape, profile and internal width. The state of the came is consistent with the destruction and removal of window glass for the salvage of costly lead for reuse. This is supported by the majority of came having been recovered from destruction deposits. In some cases the came portions have been wrapped round to form a tangled mass, perhaps in preparation for remelting.

Only ten pieces have a measurable internal width, 2.5–3.6mm, the average width being just over 3mm. Where discernible, the majority of comes have H-shaped cross-sections. H1 and H2 profiles [40.04/24, /25] were cast in a two-piece mould as described by Theophilus (Hawthorne and Smith 1963, chapters 24–26). Cast comes existed prior to the 12th century and continued in use until the middle of the 16th century (Knight 1983, 49). H1 profiles (five recovered) have diamond-shaped flanges and a casting flange along the outside edge, while H2 profiles (fourteen recovered) have had the casting flange scraped off. H3 profiles (two recovered) have straighter sides and were probably milled in a toothless mill. Nine portions of came, all too distorted to determine their profile, have a series of continuous ridges, 0.75mm apart, on the internal edge [40.04/26]. These were formed by milling the came in a toothed mill. The earliest documentary sources for lead mills date from the mid-16th century (Knowles 1930, 133–39). Hence, came with profiles H3 and fragments retaining toothed edges are most likely to have been associated with the farmstead buildings of the 16th to 17th centuries. One further profile was identified, having a V-shaped cross-section. This may have been used to fix the window to an iron glazing bar.

Ninety-one percent of the post-medieval assemblage derived from phased deposits, the earliest phase yielding came, of H2 profile, was 5.4. A second fragment, H1 profile, was from deposits of phase 5.5. Phase 6.1 to Period 7 yielded the remainder, the majority, 59%, from the final phase. The bulk of the came, 68%, was found in destruction deposits of S16, with a further eleven fragments found in destruction deposits of S63.

40.04/24

T13 C138 Unph

Portion lead came, H-shaped profile with diamond-shaped flashes and a casting flash along the outside edges. Ends broken off. Lth 80mm, internal wth 3–3.5mm

40.04/25

T30 C190 [P5.3–5.4]

Portion lead came, H-shaped profile with diamond-shaped flanges removed. Ends broken off. Lth 86.55mm, internal wth 3.2mm

40.04/26

T13 C1 [P 6.2–7]

Small portion lead came, profile distorted, straight tooth marks visible, 0.75mm. Lth 20.2mm

40.04/27

T13 C78 [P6.2–7]

Triangular glass quarry, surfaces opacified, Th 1mm, with lead came *in situ*. Profile distorted through flattening. Lth 40mm, wth 24mm

Category 2 Fittings and fasteners

This category includes objects associated with fittings on or in buildings, and fasteners for doors, gates, and windows. Due to the utilitarian nature of many of these objects, they are not susceptible to changes in fashion and are therefore not easily datable; similar examples occur from the Roman period to recent times.

Little in the way of ironwork used within the structure of buildings, for example angle ties and masonry cramps, was recovered. This is not unexpected as, whether timber-framed or stone-built, ironwork did not form a major component of the building fabric. However, it did play a large part in equipping buildings. Fittings to construct, hang, and lock doors and cupboards comprised a sizeable part of this category, along with multi-functional staples and wall hooks.

Masonry cramps, ties, and wall anchors 40.05/28-30

Two iron staple-like objects were found each having one arm with a wedge-shaped tip and one with a rounded tip [40.05/28]. These are thought to have been used to cramp masonry together. Ties [40.05/29] performed a similar function to cramps, binding timber and strengthening the junction between them. Both examples were angled at 90°, the commonest form.

Iron wall anchors were used to attach wood to masonry and brickwork, for example holding doors and window frames in place. The shank of the anchor was driven into a mortar joint, the head resting against the wood and holding it in position. The head is flattened, sometimes perforated, and can be either in line with the shank or at right angles to it [40.05/30]. Two of the three examples identified, possessed head at right angles while the third was in line with the shank. The first instance of wall anchors occurred in phase 6.2.

40.05/28

Sf 1981 T13 C1 [P6.2-7]

Large staple-like object, rectangular in section; one arm with wedge-shaped tip, the other rounded. Lth 163.5mm

40.05/29

Sf 806 T13 C878 [P5.3-5.4 S17]

Angle tie, 90° angle, both arms tapering; rectangular in section. Lth 86.4mm, ht 64.2mm

40.05/30

Sf 1271 T7 C608 [P6.2 S16D]

Wall anchor, tapering rectangular shank, head bent at 90° angle, flattened and perforated. Lth 197mm

Wall hooks

Hooks rising from shank 40.05/31-33

Iron wall hooks are multi-purpose items of various forms and sizes. Three types were identified, hooks which rise from the shank, simple hooks with spiked ends and hooks with perforated terminals. The first two types could be driven into timber or into masonry joints, while the latter form appears to have been attached to a wall by means of a nail. Generally these items are not able to be closely dated with the exception of the first, and perhaps most common, form. Seven wall hooks of this type were recovered, all with hooks rising before the end of the shank [40.05/31, /33]; six downward bending hooks and one upward. This form of wall hook is thought to post-date the 12th century (Goodall 1980a, 104), the earliest instance at La Grava occurring in P 5.4. The remaining forms, two spiked hooks [40.05/34] and six looped hooks [40.05/35, /36], first appear in deposits of phase 6.1 and later. S16 yielded 47% of the total wall hook assemblage.

40.05/31

Sf 357 T13 C48 [P6.2 S63D]

Wall hook, hook rising before end of shank; downward curving. Rectangular in section. Lth 77.3mm

40.05/32

Sf 1236 T7 C613 [P6.1 S16D]

Wall hook, hook rising before end of shank, angled downward. Rectangular in section. Lth 110.3mm

40.05/33

Sf 157 T13 C6 [P6.2-7 S16A]

Wall hook, hook rising before end of shank; upward curving. Rectangular in section. Lth 109.9mm

Spiked hook 40.05/34

40.05/34

Sf 1091 T6 C30 [P6.1 S19D]

Spiked hook, rectangular in section. Lth 133.8mm

Looped hooks 40.05/35-36

40.05/35

Sf 1279 T7 C538 [P7 S16D]

Tapering hook, rectangular in section, opposite end flattened and perforated. Lth 70.6mm

40.05/36

Sf 1322/1 T7 C510 [P6.2-7 S16A]

Tapering hook, rectangular in section, looped terminal. Lth 139.6mm

Staples 40.05/37-41

Iron staples were used to bind wood together and to attach fittings to wood and stone

Rectangular staples (23 examples):

- 1a: arms longer than backs (6 examples)
- 1b: backs longer than arms (17 examples)
- 2: U-shaped staples (24 examples)
- 3: Looped staples (10 examples)

Rectangular staples may have either straight or inturned (with or without clenching) arms, the ends of which are tapered and either pointed or wedge-shaped. Two examples were clenched [40.05/37, /39] indicating a thickness of wood of 10mm and 50mm respectively.

U-shaped and looped staples [40.05/40, /41] can have either straight or out-turned arms. All the U-shaped examples from La Grava were less than 40mm in width, indicating that they, like the looped staples, were used to hold chains and hasps on doors or gates or to support tethering rings or handles (Goodall 1980a, 103).

Staples first occurred in phase 5.3 with a steady presence throughout the succeeding phases. Increased numbers in phases 6.1 to 7 may reflect disuse and abandonment of buildings. The highest concentration noted was associated with S16 and S63, with smaller clusters in S23, S27, and S19.

40.05/37

Sf 948 T1 C2 [P7 S16D]

Rectangular staple, arms longer than back; inturned, clenched arms. Lth 62.4mm

40.05/38

Sf 944 T1 C2 [P7 S16D]

Rectangular staple, back longer than arms, arms straight and tapering. Lth 132mm

40.05/39

Sf 1522 T13 C117 [P6.2 S63D]

Rectangular staple, back longer than arms; inturned, clenched arms. Lth 43.6mm

40.05/40

Sf 2273 T30 C31 [P5.4-7 S50A]

U-shaped staple, arms tapering, rectangular in section. Lth 69mm

40.05/41

Sf 501 T13 C112 [P6.2]

Two joined looped staples, arms out-turned, rectangular in section. Lth c 80mm

Looped spike 40.05/42

Iron looped spikes were driven into mortar joints and had a similar function to looped staples. The robust nature of the single example suggests use on sizeable doors or tethering of livestock.

40.05/42

Sf 1939 T7 C559 [P7 S16D]

Looped spike, incomplete, tapering to end, opposite end looped over; rectangular in section. Lth 150mm

Hinge pivots

Type 2 pivots 40.06/43-44

A total of 30 hinge pivots were found. Of the four types of iron hinge pivot recognised by Goodall (1980a, 108-110), only types 2 and 3 occurred. The twenty-seven type 2 pivots recovered had tapering shanks and were driven into wood or masonry joints. Of the complete examples, nineteen had straight shanks; [40.06/43] being the sole clenched example. This may indicate that [40.06/43] was driven completely through a timber or encountered an obstacle whilst being driven in. A second type 2 pivot (Sf 1697 T18 C10 unph S51; [40.06/43] retains a band of lime wash and mineralised wood along the broken shank suggestive of being driven through a whitewashed door jamb. Wear was noted on three examples cf [40.06/44]. The pivots varied in size, from 48mm to 162mm in length, and may have carried items from doors to shutters and gates. Type 2 pivots were found in all phases from 5.3 onwards.

40.06/43

Sf 973 T1 C9 [P6.1-7 S63D]

Type 2 pivot, tapering shank with clenched tip. Lth 162mm

40.06/44

Sf 974 T1 C2 [P7 S16D]

Type 2 pivot, tapering shank, wear apparent. Lth 114.5mm

Type 3 Pivots 40.06/45, /46

Two possible Type 3 iron pivots were identified, both incomplete [40.06/45]. These pivots had down-turned shanks and were set in a mortice cut in masonry, normally secured with lead. This type characteristically has broad flat shanks. A third type of pivot [40.06/46] not covered by Goodall's typology was tentatively identified as a shutter or window pivot.

Concentrations in the distribution pattern of all types of pivot were noted in S16 (five examples) and in S19, S23, and S63 (three examples each).

40.06/45

Sf 1141 T6 C47 [P5.5 S19]

Type 3(?) pivot, incomplete, shank broad and flat; partially coated in lead. Guide arm missing. Lth 140.4mm

40.06/46

Sf 570 T13 C123 [P6.2 S63D]

Hinge pivot(?), rectangular strap with three perforations, the strap narrows abruptly and is bent at a right angle. Lth 124mm

Hinges

Looped eye hinges 40.06/47-49

Iron hinges with looped eyes fitted over a hinge pivot [40.06/47-49]. The eyes are usually closed (forged or butted) but occasionally open and can be flush or

offset to the strap. The strap was normally horizontal but crescentic or T-shaped straps are known.

40.06/47

Sf 1262 T7 Us

Hinge with looped eye, incomplete, eye closed and forged; flush with strap. One rivet hole surviving. Lth 82.2mm

40.06/48

Sf 112 T13 C 4/5/6 [P6.2-7 S16A]

Hinge with looped eye, eye damaged, triangular terminal with three rivet holes. Lth 101mm

40.06/49

Sf 1120 T6 C54/4 [P5.6 S19D]

Hinge with looped eye, eye flush and open; plain, tapering terminal. Strap has four rivet holes. Lth 285mm

U-shaped eye hinges 40.06/50

Iron hinges with nailed U-shaped eyes [40.06/50] have horizontal straps with rear eye terminals (usually lozenge shaped); both the strap and the rear eye terminal were nailed into the wood either with a single or two separate, nails. The guide arm of the pivot fitted between the wood and the inner curve of the eye.

40.06/50

Sf 1844 T23 C129/5 [P5.6 S23A]

Hinge with nailed U-shaped eye, incomplete. Lozenge-shaped rear eye terminal, strap and terminal transversely perforated. Lth 86.9mm.

Pinned hinges 40.07/51

Pinned hinges [40.07/51] are formed from two straps which turn on a common pin; the single looped projection on the end of one strap fitting between a pair of looped projections on a second strap, the pin holding the two together

40.07/51

Sf 2672 T30 C1 [P6.2-7] Pinned hinge, iron, possibly for casement window(?). Fleur-de-lys terminal; strap retains two rivets *in situ*. Ht 50mm, overall lth 100mm

Hinge terminals 40.07/52-55

Fifteen iron hinges retained terminals from which seven varieties were identified;

- 1 plain, tapered
- 2 squared
- 3 rounded
- 4 triangular
- 5 bifurcated with end scrolls
- 6 C-shaped
- 7 fleur-de-lys [40.06/48, 40.07/51-55]

The simpler forms, Types 1-4, have little chronological value. Type 5 terminals are found throughout the medieval period, while Types 6 and 7 are commonly found on church doors dating to the 12th to 14th centuries (Goodall 1980a, 112-13).

Type 7 terminals also occur on smaller hinges such as window [40.07/51] and casket fittings (see Household utensils and furniture [41.07/187]). The majority of hinges appear to have been used on doors or gates; only one [40.07/51], a pinned hinge, may have been used as a window catch and is likely to be of 17th-century or later date.

Hinges were used on doors, gates, windows, shutters, and well covers, as well as items of furniture. Of the 33 hinges, or portions of, identified, thirteen could be assigned types based upon the manner in which they were hung (Goodall 1980a, 110–115). Hinges first appear in phase 5.2 but the majority were recovered from building destruction deposits of phases 6.1 and 6.2. Concentrations were noted in S63 (7) and S16 (5), and to a lesser degree S19 (3).

40.07/52

Sf 276 T13 C113 [P6.2 S63D]

Rounded terminal from a hinge; three rivet holes. Lth 185mm

40.07/53

Sf 1884 T23 C133 [P5.2-6.1 S23A]

Bifurcated terminal from a hinge, end scrolled. Lth 57.5mm

40.07/54

Sf 304 T13 C47 [P6.2 S63D]

Hinge with looped eye with off-set, open eye, incomplete C-shaped terminal; perforated in three places. Lth 41mm

40.07/55

Sf 1998 T30 C1 [P6.2-7]

Terminal of a hinge, fleur-de-lys (?), two arms incomplete. Lth 93mm

Latch rest 40.07/56

Iron latch rests were set in the jambs and reveals of doors and windows to hold latches closed. All have triangular shaped heads with blunted ends. Those with tapering shanks were driven into wood or into masonry joints. Two examples were tentatively identified, both incomplete. The more complete example, [40.07/56], has a clenched tip indicating it perforated the thickness of the wood. Both examples were from topsoil deposits of phase 6.2 and Period 7; neither could be allocated to a structure.

40.07/56

Sf 2084 T30 C1 [P6.2-7]

Latch rest, damaged and incomplete. Sub-triangular head, tapering rectangular-sectioned shank; tip clenched. Lth 141mm

Door bolt 40.07/57

One iron sliding door bolt was recovered, retaining a single finger-grip and one tapered end. Excavated parallels (Goodall 1980a, H673–H676) dated from the 11th to the 14th century.

40.07/57

Sf 2845 T30 C5 [P5.4-7 S50A]

Sliding door bolt; straight bolt with single finger grip. Incomplete, tapering one end. Rectangular in section. Lth 92.5mm

Hasps 40.07/58-40.08/63

Iron hasps served to keep gates and doors on buildings closed and to fasten lids of chests and coffers. The looped hasp was used in combination with a staple; the loop fitting over a projecting staple, which was then secured by a padlock. Five definite looped hasps were identified; four of figure of eight shape and one oval. A sixth hasp, although incomplete, appears to be of figure of eight shape. Looped hasps can be flat, curved, or angled in side view; of the five complete examples, three are flat, one angled and one curved [40.07/58, /59, /60]. All the complete looped hasps have hooked ends; these served as an aid to lifting. Looped hasps are found throughout the medieval and into the post-medieval period (Goodall 1980a, 118). The earliest phase in which looped hasps were recovered was 5.5.

Stapled hasps, used with fixed locks on chests, caskets and doors, were attached to straps or hinges by means of either end-loops or pinned hinges. Seven stapled hasps were identified; four had pinned hinges while the remaining examples were too incomplete to identify the form. The associated locks were set flush with or behind the face of the wood or projecting from it. Stapled hasps are commonly straight in profile indicating use with flush-set locks; four of the six recovered were straight [40.08/61]. Angled hasps, two of which were identified, were used in conjunction with projecting locks [40.08/62].

Four hasps have thickened or hooked bases which eased lifting cf [40.08/62, /63]. Decoration occurred on two hasps consisting of incised cross-hatching [40.08/62] and parallel grooves [40.08/63]; both retained traces of tinning.

Stapled hasps with pinned hinges were used throughout the medieval period (Goodall 1980a, 117), remaining in use into the post-medieval period (Moorhouse 1971, fig 19.45). All the examples recovered were from phase 6.1 and later; two associated with S16.

40.07/58

Sf 1404 T6 C47/1 [P5.5 S19]

Figure of eight hasp, flat profile, hooked end. Lth 119mm

40.07/59

Sf 2237 T30 C39 [P6.1-6.2 S33A]

Figure of eight hasp, angled profile, hooked end. Lth 128mm

40.07/60

Sf 1065 T6 C47/1 [P5.5 S19]

Oval looped hasp, curved profile, hooked end. Lth 74mm

40.08/61

Sf 921 T1 C1 [P7 S16A]

Stapled hasp with pinned hinge, flat profile, strap *in situ*. Lth (hasp) 83mm

40.08/62

Sf 2007 T30 C1 [P6.2-7]

Stapled hasp, incomplete, angled profile; surface decorated with two bands of incised lattice design. Moulded tip; tinned. Lth 87mm

40.08/63

Sf 2173 T30 C86 [P5.3-5.6 S95]

Stapled hasp with remains of pinned hinge; flat profile. Moulded tip and remains of tinning in bands. Lth 61mm

Padlocks

Padlocks are represented by four complete examples, in addition to bolts, an endplate and part of a spring. The three types present, B, C, and E as classified by Goodall (1980a, 124-32), were all made of iron and all of barrel form, the most common form of medieval padlock. Padlocks were fairly evenly distributed occurring in both domestic and agricultural buildings; the single concentration noted was in destruction deposits of **S63** (five portions recovered).

Type B1 padlocks 40.08/64

Type B barrel padlocks had fins and tubes, the case of the padlock separated from the tube by a rectangular or trapezoidal fin. Of the three sub-types identified by Goodall, only Type B1 was present. This sub-type had a keyhole in one endplate, the opposing endplate had holes for the entry of a U-shaped bolt [40.08/64]. The single example, recovered from a phase 5.3 deposit, has both longitudinal and latitudinal straps decorating the body along with scroll work. Close parallels have been found at the middle Saxon palaces, Northampton (Goodall 1985b, fig 34.33) dating from 13th and 14th centuries. This form is not common after the 14th century; Goodall suggests replacement by fixed locks (1980a, 130).

40.08/64

Sf 1565 T13 C651 [P5.3]

Type B padlock, damaged fin and tube; exterior decorated with longitudinal and latitudinal straps, the ends scrolled. Both endplates survive, internal mechanisms do not. Gunmetal plating. Lth 60mm

Type A and B padlocks 40.08/65-67

U-shaped bolts were used on both box (Type A) and barrel (Type B) padlocks, and can have between one and four spines, each with springs [40.08/65, /66, /67]. Scrolled decoration is frequently found above the closing plate, as on [40.08/67]. Conservation revealed bronze plating on four of the bolts. The earliest phase to yield any bolts was 5.1, with a further four examples occurring between phases 5.3 and 5.6. The remainder were found in destruction deposits of phase 6.1 and later.

40.08/65

Sf 2495 T30 C601 [P5.5]

U-shaped padlock bolt; single spine with double-leafed spring. The bolt had been twisted giving it a cork-screw appearance; bronze plating. Lth 88.6mm

40.08/66

Sf 946 T1 C1 [P7 S16A]

U-shaped padlock bolt; spine split in three, no springs survive. Bronze plated. Lth 82.5mm

40.08/67

Sf 1749 T23 C16 [P6.1-6.2 S19A]

Portion U-shaped bolt, incomplete; split spine. Decorative scroll survives; bronze plated. Lth 37mm

Type C Padlocks 40.08/68, /69

Type C barrel padlocks had inverted U-shaped housing set at each end to house the flat arm of the square U-shaped bolt. This created a small rectangular opening through which passed a chain or staple. The keyhole was always situated on the endplate (Goodall 1980a, 127). This is not a common type although two were found at La Grava [40.08/68, /69]. Both padlocks retained traces of plating; one tin and one copper. Excavated parallels indicate a date range from the 12th to the 15th centuries, although both the La Grava examples were from destruction deposits of phases 6.1 and 6.2.

40.08/68

Sf 1518 T13 C65 [P6.2 S63D]

Type C barrel padlock with decorative strip surviving on one side and scrollwork; plated with tin and bronze. Endplate damaged; internal mechanism survives, bolt damaged. Lth 51.4mm

40.08/69

Sf 2188 T30 C116 [P6.1 S50D]

Type C barrel padlock, decorated endplate. Internal mechanism survives, key hole damaged. Copper alloy plated. Lth 34.35mm

Type E padlocks 40.08/70, 71

Type E barrel padlocks are represented by five T-shaped bolts and a damaged case [40.08/70, /71]. These padlocks had shackles primarily intended to restrain the limbs of both animals and humans although Goodall suggests that they eventually had a more general use (1980a, 129). This type had an end-looped curved shackle with an expanded end which was perforated to permit passage of a padlock bolt. In use the expanded end of the shackle passed through a slot in the upper side of the case and was internally secured by a T-shaped bolt. All the padlocks had keyholes in the endplate below the end loop of the shackle. Type E padlocks were in use throughout the medieval period, although at La Grava instances were restricted to deposits of phase 6.1 and later. All the five bolts identified were double-spined, three retaining traces of copper alloy plating.

40.08/70

Sf 635 T13 C336 [P6.1 S17D]

Damaged Type E barrel padlock case; five latitudinal straps survive. Lth 90mm

40.08/71

Sf 1170 T7 C538 [P7 S16D]

T-shaped padlock bolt; split spine with double-leaved springs. Lth 73.3mm

Locks

Lock plate 40.09/72

One portion of an iron lock plate [40.09/72], with the lock mechanism *in situ* on the back face, was recovered from a Period 7 deposit. The opposing face had a keyhole plus a slot to insert a stapled hasp. The lock has a sliding spring bolt held in position by two staples and the remains of a raised ward. This is closely paralleled by an example from Cheddar dated to the 18th century (Goodall 1979,

fig 92.125), although medieval examples are known (Goodall 1990a, fig 321; no 3688). A sliding lock bolt was also recovered from the area around S63.

40.09/72

Sf 1143 T7 C546 [P7 S16D]

Damaged lock plate; portion of raised ward, sliding spring bolt, staples, keyhole, and hasp slot surviving. Lth 60.7mm

Ward plates 40.09/73-75

Six iron ward plates from stock-locks of medieval and post-medieval date were found [40.09/73, /74, /75]. Wards were set in locks to act as barriers which the key bit had to pass through. Five of the six wards are plain; [40.09/73] had two narrow slots, one on either side of the keyhole. These slots would have held strips of iron which engaged the ward of the key. These ward plates may have been part of plain stock-locks, which had the component parts individually mounted in a wooden block, or plate stock-locks, the parts of which were attached to iron lock plates. None of the ward plates have nibs, which might suggest use in a plain stock-lock. All the La Grava examples came from phase 6.1 and later, three of the four examples from S63, were found together in the same deposit

40.09/73

Sf 1997 T30 C1 [P6.2-7]

Ward plate, collarless hole with two slots on either side to hold strips. Lth 75.8mm

40.09/74

Sf 327/02 T13 C95 [P6.1 S63]

Ward plate, collarless hole. Lth 91mm

40.09/75

Sf 327/03 T13 C95 [P6.1 S63]

Ward plate, collarless hole. Lth 80.5mm

Keys

Fifteen iron padlock keys, or portions of, were identified; of these twelve could be assigned to types based upon Goodall's classification (1980a, 139).

Door/chest keys were more numerous represented. Of the 32 keys found, 25 could be assigned to key forms identified by Goodall (1980a, 146).

Sixty-four percent of the key assemblage could be allocated to structures, of these findspots occurred in both domestic/service and agricultural buildings, although the former accounted for the majority. The greatest concentration, of seven keys, occurred in the environs of S16.

Type 3 padlock keys 40.09/76

Keys with elongated sheet metal bits in line with the stem, Type 3, are rare; previously only two examples had been identified from Britain although others are known from the Continent (Goodall 1980a, 142). The restricted date range of both the British and continental examples 13th to 15th centuries, indicates that these keys were used on Type C barrel padlocks. All three examples recovered were plated. It is noteworthy that [40.09/76] was found in the same structure (S50), although a different phase, as a Type C barrel padlock [40.08/69].

40.09/76

Sf 2181 T30 C46/3 [P5.5 S50]

Type 3 padlock key, complete with looped terminal; copper plated. Lth 70mm

Type 4 padlock keys 40.09/77

Type 4 keys have laterally-set bits with radiating wards and are most suitable for use with padlocks of Types A, B, and E. It was in use throughout the medieval period, excavated parallels centring on the 11th to 13th centuries. The single example recovered [40.09/77], of sub-division 4B with plain parallel sided stem and a hooked terminal, was from deposits overlying the central complex of buildings but could not be related to a specific structure

40.09/77

Sf 812 T13 C1 [P6.2-7]

Type 4B padlock key, plain stem, hooked terminal and radiating wards. Lth 157.5mm

Type 5 padlock keys 40.09/78, 79

40.09/78

Sf 647 T13 C1 [P6.2-7]

Type 5D padlock key, plain stem, hooked terminal, single central ward cut. Lth 208mm

40.09/79

Sf 1967 T28 C2 [P5.6 S44]

Type 5D padlock key, plain stem, hooked terminal, two central ward cuts. Lth 140.5mm

Keys with looped laterally-set bits Type 5 were a common form, continuing in use throughout the medieval period, and used in conjunction with padlocks of Types B and E. Of the four sub-divisions of this type identified by Goodall (1980a, 143), only Type 5D (five examples) was present [40.09/78-79]. A further three examples could not be assigned any sub-division due to incompleteness. Type 5 keys first appeared at La Grava in phase 5.3.

Door and chest keys 40.09/80-40.10/90

Type B keys 40.09/80-82

Keys with hollow stems rolled in one with the bit, Type B, had bows which were either a single piece forging with the stem or a separate forging set into the head of the stem. This type was in use throughout the medieval period, becoming popular in the 13th century. Ring bows and plain stems were the most common combination, but D-shaped and 'plate' rings were also present. Variation in size is evident amongst the assemblage, five suggesting use on doors, while two smaller examples were probably used on chests [40.09/80, /81, /82]. Phase 5.2 witnessed the first occurrence at La Grava, although the majority were recovered from deposits of the last three phases of occupation.

All the Type B keys were iron, unless otherwise stated in the description.

40.09/80

Sf 1253 T7 C557 [P6.2 S16D]

Type B key, D-shaped bow, plain hollow rolled stem; wards damaged, tip missing. Lth 140.5mm

40.09/81

Sf 1447 T7 C502 [P7.0 S16D]
Type B key, ring bow, plain rolled stem; bit uncut. Lth 68mm

40.09/82
Sf 2602 T30 C377 [P6.2 S38D]
Type B, made from rolled copper alloy sheet. Plate bow with punched perforation. Stem rolled; bit and bow single thickness. Lth 45mm

Type C keys 40.09/83, /84

Type C: iron hollow stems and separately made bits welded or brazed into position are less common than Type B due to difficulties in manufacturing, but remained in use throughout the medieval period. Stems were usually plain, bows occurring in a variety of shapes. Two such keys were found; both small and probably used on chests [40.09/83, /84]. One example, [40.09/83], had a thistle bow which first came into use in the 13th century. Both keys were recovered from the final phase

40.09/83
Sf 401 T13 C1 [P6.2-7]
Type C key, hollow stem; thistle bow. Lth 56.25mm

40.09/84
Sf 88 T13 C6 [P6.2-7 S16A]
Type C key, hollow, collared stem; oval bow. Lth 62.5mm

Type E keys 40.10/85

Keys with solid stems, the tips end in line with the bit, Type E [40.10/85], were thought to have been introduced in the 13th century and continued in use into the post-medieval period (Goodall 1980a, 154). Ring bows were most common, but oval or D-shaped are also known. Four examples were identified, all with plain stems, three door keys, and one a chest key. The earliest occurrence was in phase 5.6, the remainder were from phases 6.1 and 6.2.

All the Type E keys were of iron.

40.10/85
Sf 1275 T7 C601 [P6.2 S65A]
Type E key, oval bow; solid stem with tip in line with bit. Asymmetrical ward. Lth 116mm

Type F keys 40.10/86

Type F keys with solid stems, projecting tips and asymmetrical wards, usually had ring-shaped bows. This type was found throughout the medieval period but enjoyed greater popularity in the 12th to 14th centuries (Goodall 1980a, 150). One incomplete iron example was identified from topsoil deposits [40.10/86].

40.10/86
Sf 2034 T30 C1 [P6.2-7]
Type F key, solid projecting tip. Bow missing. Lth 120mm

Type G keys 40.10/87-89

Type G keys possessing solid stems, projecting tips and symmetrical wards, are rarely found in the early medieval period, becoming popular in the late medieval

and into the post-medieval periods (Goodall 1980a, 151). Two sub-divisions exist; G1 with wards perpendicular to the stem [40.10/87] and G2 with the wards grouped round a central opening [40.10/88, /89]. Five iron G1 keys were recovered, all with plain stems; bows are of oval, plate or D-shaped forms. Four iron G2 keys were identified; two have oval or D-shaped bows and plain stems. The remaining two keys have kidney-shaped bows and ornately moulded stems. This bow form was introduced in the 15th to 16th centuries, becoming popular in the post-medieval period (Goodall 1980a, 152). The decorative moulding on the stems is indicative of a post-medieval date (Moorhouse 1971, 39–40). Type G keys first occurred in phase 5.6, although the majority occurred in the final two phases in topsoil deposits.

40.10/87

Sf 2530 T30 C1 [P6.2-7]

Type G1 key, oval bow, plain stem with projecting tip; solid stem. Lth 159.5mm

40.10/88

Sf 319 T13 C124 [P6.2 S63D]

Type G2 key, D-shaped bow, plain stem with projecting tip. Symmetrical wards grouped round central opening. Lth 121mm

40.10/89

Sf 1996 T30 C1 [P6.2-7]

Type G2 key, kidney bow, moulding on stem and tip. Symmetrical wards grouped round central opening. Copper plated. Lth 166mm

Type H keys 40.10/90

Keys with solid stems and hollowed out tips, Type H, commonly occur in copper alloy and are not closely dated. The two examples identified, both copper alloy, are of a size suggestive of chest keys [40.10/90], and did not occur prior to phase 6.1.

40.10/90

Sf 589 T13 C37 [P6.1 S30A]

Type H key, ring bow, solid stem with tip hollowed out. Channelled bit. Lth 40mm

Door studs

Thirty-nine examples were identified, 36 from phased contexts. The head sizes range from 27.5mm by 27.5mm to 58mm by 48mm; lengths 68mm to 117mm. Iron studs were used on more robust timber work such as double timber doors and well covers, and in the case of the domed examples, were probably also decorative. Three forms were identified.

Type 1 door studs 40.10/91, /92

Type 1 domed with square, rectangular or rounded heads. Fourteen examples were identified, nine from phased contexts. The head sizes ranged from 22mm by 22mm up to 65mm by 65mm, Lths from 87mm to 134mm.

40.10/91

T30 C1 [P6.2-7]

Type 1 door stud, circular domed head, shank rectangular but incomplete. Head dia c 60mm, lth 35.6mm

40.10/92

T30 C1 [P6.2-7]

Type 1 door stud, square domed head, shank rectangular in section. Head 62mm sq, lth 118.4mm

Type 2 door studs 40.10/93

Type 2 long rectangular heads, frequently domed. Fifty-one examples were noted, 43 from phased contexts. The head sizes range from 30mm by 11.5mm to 58mm by 16.5mm; lengths from 72mm to 98mm

A single example of a Type 2 door stud occurred in a Period 3 deposit (S4) and may be intrusive. The similarity however between Roman T-shaped nails (Manning 1985, 135) and Type 2 door studs could suggest that this example was residual. The remaining door studs first occur in phase 5.2, numbers increasing slightly in later phases. Concentrations of four or more door studs are presented in [40.01].

S no	Structure type	Type 1	Type 2	Type 3	Total
16	Chamber block/Chapel	1	4	11	16
23	Service/Bakehouse	0	3	1	4
27	Service/Latrine Block	0	4	0	4
28	Service/Kitchen	0	4	1	5
30	Service/Gatehouse	0	2	3	5
33	Service/Gatehouse	0	1	3	4
41	Agricultural/Domestic	0	5	2	7
50	Service/Well house	0	3	1	4
63	Manor house	2	2	2	6
Total		3	28	23	55

40.01 Table of concentrations of door studs by Structure

40.10/93

T23 C6 [P6.2-7 S23A]

Type 2 door stud, head narrow and rectangular, shank rectangular in section. Head 33.5 by 12.2mm, lth 72mm

Type 3 door studs 40.10/94

Type 3 flat-headed, square, rectangular, or rounded heads.

40.10/94

T23 C15 [P6.1 S23D]

Type 3 door stud, square flat head, rectangular-sectioned shank. Head 22mm sq, lth 117.8mm

Nails 40.10/95-103

Close to 7200 nails were recovered. Definitions of nail types were established after Goodall 1973 and Spearman 1984. All nail types were examined concurrently, but shoeing nails are discussed under Animal Trappings [46]. Five forms of nail have been established: Categories A to D, incomplete nails forming Category E

Unlike shoeing nails, the forms of medieval timber nails do not appear to alter with time and therefore no firm typological dating evidence is available. All forms with the exception of Categories C and D were present throughout phases 5.3 to 6.2 [40.02]. At St Peter's St, Northampton it was noted that the occurrence of nails was more frequent in the period between 1400-1650 than preceding

periods (Oakley 1979b, 277). A similar pattern was noted at La Grava. A total of thirteen nails, the majority incomplete, occurred in Period 1 to phase 5.1, forming about 0.2% of the total assemblage. It is probable that the single example from Period 1 is intrusive; no nails were recovered from Period 2. The quantity of nails steadily increased through the phases, the greatest numbers being recovered from phase 6.2, reflecting the greater availability and use of nails in the late medieval and early post-medieval periods. **S16, S19, S23, and S63** consistently had larger quantities of nails [40.03], perhaps reflecting lengthy and concentrated use. The concentrations of incomplete nails noted in **S16** and **S63** may also indicate post-occupation salvage activity.

Period/ Phase	A1	A2	A3	A4	B	C	D	E	Total
1								1	1
2								0	0
3								1	1
4	1			4				10	15
5.1	2			1				7	10
5.2	30	1	3	22	4			88	148
5.3	66	1	3	38	5	1	1	136	251
5.4	102	6	4	47	5	1	1	259	425
5.5	48	1	0	34	1	1	0	95	180
5.6	116	2	5	40	3	0	0	223	389
6.1	380	16	16	249	21	8	13	737	1440
6.2	724	11	30	253	20	22	190	912	2162
7	530	6	15	79	19	97	65	558	1369
unph	218	5	4	95	10	7	50	417	806
Total	2217	49	80	862	88	137	320	3444	7197

40.02 Table of occurrence of nail types by phase

S no	A1	A2	A3	A4	B	C	D	E	Total
16	458	3	12	30	9	93	147	568	1320
19	102	5	5	74	2	1	0	141	330
23	116	7	2	86	8	5	0	246	470
27	72	2	1	44	4	0	1	129	253
28	20	0	0	19	0	0	0	84	123
29	45	2	0	44	4	0	1	84	180
30	32	0	0	38	2	0	1	41	114
38	24	1	1	13	2	0	0	123	164
41	76	2	2	16	2	0	0	120	218
43	31	1	0	19	1	0	0	85	137
50	36	2	1	39	3	0	0	64	145
56	23	3	1	24	1	0	0	64	116
59	40	2	2	29	0	0	0	85	158
63	507	4	27	111	16	31	119	411	1226
65	42	1	7	23	2	2	3	88	168
Totals	1624	35	61	609	56	132	272	2333	5122

40.03 Table of Structures yielding concentrations of 100 or more nails

Category A nails

Category A comprises flat-headed nails. These form a recognisable group known as clout nails and were used in general carpentry and, particularly in the case of shorter nails, for attaching fittings, sheet materials and planking to main timbers (Spearman 1984, 357). These form the most numerous type of nail from the site.

Within this general type are four sub-divisions:

The various shapes of the heads of A1 and A2 do not appear to reflect different uses. The shape of the heads may be the result of chance rather than design. Nails were produced from iron bars which were cut and worked to the required length and shape. They were then headed in a tool which consisted of a series of countersunk holes into which the blank nail could be inserted leaving a protruding stump that was then beaten to form the nail head. The resulting shape of the head would have been dependent upon the length of the protruding stump. Other head forms, A3 and A4, were produced by design. A3 may perhaps be equated with the medieval *brodde* or brad. These forms, like D below, may have been used in carpentry work in which the nail was to be flush with the wood. The heads of A4 are frequently damaged or missing and can be mistaken for a separate form (cf Goodall 1980a, 106-07). All the shanks of the flat-headed nails are either square or rectangular in section; tips most commonly being wedge-shaped but some having rounded points.

Category A1 nails 40.10/95-97

A1 round, square or rectangular; 2220 recovered, lengths ranging from 38mm to 81mm.

40.10/95

T23 C6 [P6.2-7 S23A]

Category A1 nail, square flat head (17.5mm²), tapering rectangular-sectioned shank, lth 67mm

40.10/96

T23 C6 [P6.2-7 S23A]

Category A1 nail, rectangular flat head (12.7mm by 10mm), tapering rectangular-sectioned shank, lth 66mm

40.10/97

T23 C6 [P6.2-7 S23A]

Category A1 nail, circular flat head (19mm dia), rectangular-sectioned shank, wedge-shaped tip, lth 74mm

Category A2 nails 40.10/98

A2 long rectangular; 49 recovered, lengths ranging from 42mm to 79mm.

40.10/98

T23 C16 [P6.1-6.2 S19A]

Category A2 nail, long rectangular head (15mm by 7.3mm), rectangular-sectioned shank, lth 63.6mm

Category A3 nails 40.10/99

A3 rectangular offset; 80 recovered, lengths ranging from 35mm to 60mm.

40.10/99

T23 C128/01 [P6.1 S19A/27A]

Category A3 nail, off-set head (12.6mm by 6mm), tapering rectangular-sectioned shank, lth about 57mm

Category A4 nails 40.10/100

A4 figure of eight; 860 recovered, lengths ranging from 30mm to 47mm

40.10/100

T23 C10 [P5.4 S23A/19A]

Category A4 nail, figure of eight head, tapering rectangular-sectioned shank, wedge-shaped tip, lth 37.5mm

Category B nails 40.10/101

Category B nails have rectangular shanks flaring to form a flat head. These were more robust nails but still used in carpentry. Eighty-eight examples were identified, complete lengths ranging from 48mm to 105mm. All shanks were rectangular in section with either wedge-shaped or rounded points. This form perhaps can be equated with the medieval *spyking* (Salzman 1952).

40.10/101

T23 C6 [P6.2-7 S23A]

Category B nail, flaring shank forming head, rectangular-sectioned shank, wedge-shaped tip, lth 95mm

Category C nails 40.10/102

Category C nails, with faceted rectangular heads, were perhaps used as decorative features on timber work. One hundred thirty-seven examples were recovered, length ranging from 38mm to 70mm, with wedge-shaped tips. It should be commented that although this is a recognised nail type (Goodall 1980a, 106-07), in many cases it is difficult to differentiate this form from A1, with down turned edges. It could be that this form is merely the result of use and not intentionally designed.

40.10/102

T23 C16 [P6.1-6.2 S19A]

Category C nail, domed rectangular head (14 by 13mm), tapering rectangular-sectioned shank, lth 53mm

Category D nails 40.10/103

Category D comprised tacks or small nails with rounded or rectangular flat heads and narrow shank with wedge-shaped tips, lengths from 20mm to 32mm. Three hundred and twenty examples were identified.

40.10/103

T7 C538 [P7 S16D]

Category D tack, flat rounded head (dia about 12mm), tapering rectangular-sectioned shank, wedge-shaped tip. Lth 32.8mm

Category E nails [not illustrated]

In addition to the identified nail forms, 3443, amounting to 47.8% of the nail assemblage, consisted of fragments of nail heads and shanks Category E.

Roves 40.10/104

Roves were shaped perforated plates which were fitted over bolts or nail shanks, the shanks were then clenched. The rove prevented the nail tip pulling through the wood, thus ensuring a secure join. Clenched bolts and roves were used in ship building and for other double thickness timber construction such as doors, hatches, and well covers. They were made from strips of iron by punching nail holes and then cutting off individual roves. They come in a variety of shapes, the most common being lozenge. Only four roves were found, all of roughly triangular shape. None were found in phases prior to phase 6.1. Single examples were found in destruction deposits of S16 and S63 and associated with S65.

40.10/104

Sf 1713 T23 C1 [P6.1-6.2]

Rove, incomplete, roughly triangular in shape with central, circular nail hole. Lth 38.8mm

Building artefacts overview

Structures which went out of use prior to phase 5.3 yielded no window glass, came, or roofing lead. Likewise these earlier structures produced little in the way of fittings. Where recovered, fittings were in the main limited to small quantities of nails. Those structures which remained in use into phases 5.6 and 6.1 yielded a higher percentage of these categories of finds. This pattern may be due, to a large extent, to successive replacement of structures within the central complex, particularly in the case of purposeful demolition and reuse of building materials and fittings. However, other factors must be taken into consideration.

Some materials were not readily available or affordable prior to the mid- to late medieval period. Iron was used sparingly in the earlier medieval period due to the high cost of production (Steane 1985, 218). The adoption of water power for driving hammers and bellows in the later 13th and 14th centuries greatly increased the capacity for iron production and working and this coincided with a growing demand for iron (Crossley 1981, 35–36). The quantities of various iron fittings and fasteners, in particular nails, increased in the final phases of La Grava's occupation. This may be indicative of a greater use of nails for all purposes in the later medieval and post-medieval periods, preceding periods perhaps more dependent upon trenails due to the high cost of iron production.

Glazing, although not uncommon in churches by the end of the 12th century, did not reach the same levels of usage in domestic structures until the later 15th century. Changes in taste and fashion could have also affected the overall pattern of recovery. The practice of glazing enjoyed a marked acceleration from the 13th century onwards. This was not due to technological improvements in glass production but to changes in architectural style (Hunter 1981, 146). The increase in frequency of occurrence of both medieval and late to post-medieval window glass at La Grava, with over 85% of phased assemblages coming from deposits of phases 6.1 and later, is perhaps indicative of both greater availability and popularity. The presence of medieval and post-medieval window glass from the same deposits is unsurprising. Once a window is installed it will remain in position for the life of the building; repairs to windows resulting in a mixture of old and new glass.

A further consideration when analysing the reasons for growing quantities of materials over time is whether the intensity of occupation increased or decreased. At La Grava the number of structures in use reached its peak in phases 5.4 to 5.6. Many of these buildings appear to have gone out of use by phase 6.1 and this is mirrored in an increase in the occurrence of building materials and fittings from this phase.

It would appear that the intensity of occupation at La Grava diminished markedly in phase 6.1 and there followed a steady period of decline into the late 16th century. In the normal course of events one might expect a decline in the frequency of artefact occurrence in phase 6.2. The opposite is the case. Although robbing of structures in phase 6.1 seems to have occurred, there is an increase in the frequency of occurrence of building fittings and materials in phase 6.2 concentrated in and around the area of S16 and its destruction deposits. This pattern suggests that S16 had a lifespan beyond that of surrounding structures and that when it eventually fell out of use these materials were no longer required or were too deteriorated to be of use. Perhaps the increasing availability and affordability of iron fittings made salvage less of a necessity. Conversely, the expense and relative ease of reworking lead may account for both the small quantity of came recovered and the increase in the

occurrence of window glass in the final periods of occupation. Window glass may have been sacrificed in order to retrieve the came for reuse.

The continued use of **S16** may indicate a much diminished level of occupation of the excavated area due either to declining economic fortunes or a shift in the focus of occupation, with this building serving as an annex to the main area of activity. Finds of agricultural tools, horse equipment, vessel glass, and cutlery in destruction deposits of **S16** (see below), suggest that this building continued in use into the 17th century. Documentary evidence records that in 1581 a licence was granted to erect a dwelling house at Grovebury, while a subsequent reference, of 1668, to Grovebury manor house indicates that this structure was sited on land adjacent to the excavated area, across the Cocklake stream.

The distribution patterns of certain building fabrics and fittings may indicate status and occasionally function of structures. The occurrence of wall plaster within **S16**, **S19**, and **S63** is indicative of a higher status, and it is noteworthy that finds of decorated plaster were restricted, in the main, to **S16**. The marked concentration of painted window glass (46.5% of the assemblage) within, and in the environs of, this building indicates not only its higher status but its probable role as a chapel. The dating of this glass assemblage, mainly of 13th-century date, also accords well with the modification to **S16**, in phase 5.3, and the granting of sepulture in *c* 1220. The retrieval pattern noted in door studs (see catalogue), with the largest concentration in **S16**, is again consistent with the practice of decorating church and higher status doors. It is tempting to suggest that the door studs recovered from **S50** could have formed part of a well cover, such as that from Lydford Castle, Devon (Geddes 1980, 165).

Examining the overall distribution pattern of the category of construction materials and fittings, it was noted that the highest concentration of findspots, in particular plaster, window glass, padlocks, and keys, occurred in the areas of **S16**, **63**, and, to a lesser extent, **S19**. This pattern might suggest a higher status for these three structures but as the concentrations mainly occurred in the final phases of occupation, their increased survival may reflect the abandonment of the site as a whole; it does not signify that there were no other structures of a similar status in earlier phases of the site's life.