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Revealing the History Behind the Facade: A Timber-framed Building at No. 302 Lawnmarket, Edinburgh

The property at No. 302 Lawnmarket, Edinburgh, is a rare survival of a 'timber land', the timber-framed buildings that were once commonplace along the city's Royal Mile and elsewhere in Scotland in the late sixteenth and seventeenth centuries. Two painted panels survive as components of the timber frontage, providing insights into the nature and function of the galleries that projected from these buildings. The building also retains fragments of two richly decorated board-and-beam ceilings, the beams of which have been successfully dated by dendrochronology. One possible interpretation of the dendrochronological results is that multi-storied tenements such as No. 302 may not have been conceived as such but were built upwards in stages, the platform-framing of the box-like construction allowing for storey-by-storey development.

Background

Between 2006 and 2008, AOC Archaeology Group undertook a detailed survey of Nos. 302–304 Lawnmarket, two Category A listed tenement buildings located within the Old Town of Edinburgh. The work was undertaken as part of a planning condition for the redevelopment of a large plot located at the junction between George IV Bridge and the Lawnmarket, now the Missoni Hotel. The buildings have now been incorporated into this development, with shops on the ground floor and hotel accommodation on the upper levels (Figure 1).

As with many of the medieval tenements along the Royal Mile, the buildings have, throughout their history, provided commercial premises on their ground floors and basements, and accommodation in the upper floors. A brief snapshot of the mixture of landlords and tenants that inhabited the buildings in the seventeenth century is apparent in the housemails book of 1636.[1] The people listed include John Cook, baxter burgess,

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1. The frontage of No. 302 Lawnmarket after renovation. To its left is the renovated frontage of No. 304 while to its right is the new development of the Missoni Hotel. (Copyright: AOC Archaeology)

who owned all the buildings on either side of Buchanan's Close (now demolished), and had his bakers shop on the ground floor of No. 302. His neighbour was James Archibald, merchant burgess, who owned No. 304, and whose tenants included Elizabeth Dishington, Doctor Sharpe, John Mackabie and Margaret Dalmahoy, whose flats were all accessed off the turnpike stair to the west of Brodie's Close. We know nothing of Elizabeth Dishington except that she lived in the 'upmost hous on the turnpike'. Sharpe, however, was a professor of divinity who lived on the second floor of No. 304, whilst John Mackabie owned a tavern

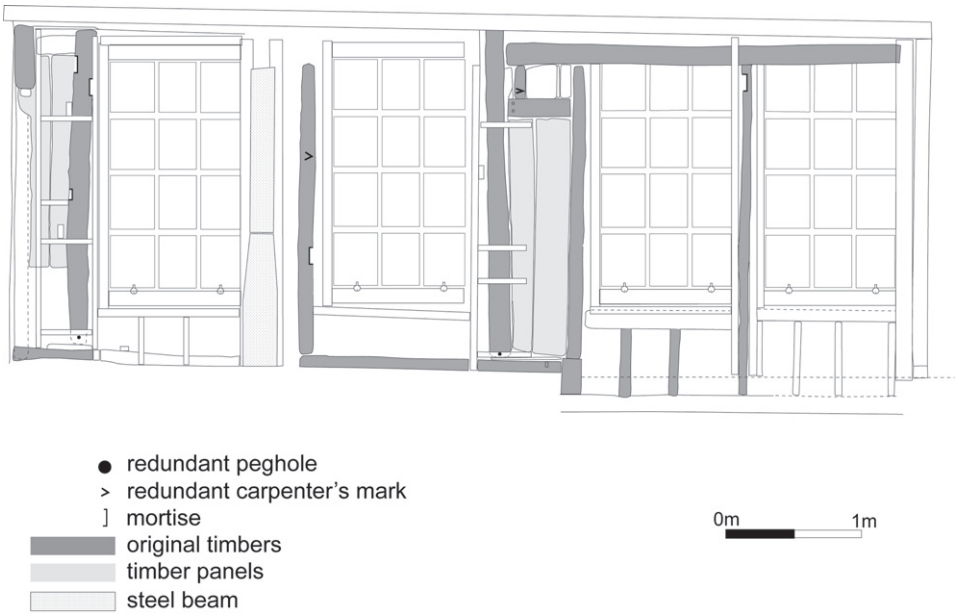
probably located in the cellar of No. 302, and Margaret Dalmahoy appears to have been a separated or divorced woman of some wealth. There was, thus, a great variety of wealth and status amongst the inhabitants of the buildings throughout this early period.

From the outside, Nos. 302–304 appear as two distinct buildings, which they once were; No. 302 with a rendered facade and No. 304 with a stone-built principal elevation. However, in the late 1950s the two buildings were gutted internally to create a headquarters for the County Police.[2] The interiors were stripped out and walls removed to create large spaces spanning both buildings. RCAHMS had recorded the buildings a decade earlier and observed that the upper flats of both buildings were already conjoined.[3] At that time the facade of No. 302 consisted of harled rubble up to the second floor, with timber-framing above. Inside there was an early eighteenth century marble fireplace and painted panelling in the first floor flat, traces of panelling in the second floor flat, and an elaborate plaster ceiling in the third floor flat. No. 304 (then referred to as Nos. 306–10) had an ashlar front and a turnpike stair allowing access to the upper floors.

During the late 1950s remodelling of the buildings the timber-framed frontage was enclosed behind a wire mesh and render facade, and most of these interior finishes were removed. The removal of the third floor plaster ceilings revealed two painted board-and-beam ceilings and the Inspectorate of Ancient Monuments became involved in their repair and consolidation.[4] A photographic survey of the ceilings was undertaken in 1959, after which they were removed for fumigation (against woodworm) and preservation. The City Architect's plan required smaller ceilings and so they were cut up and re-installed, albeit on different floors (see below), and the Inspectorate retained the surplus boards and beams. Midlothian Police HQ opened in 1960, but by 1966 the police had moved out and during subsequent redecoration by the City Council the ceilings were hidden once again, this time behind suspended ceilings.

As part of the recording exercise undertaken by AOC, a detailed written and photographic record of the interiors and facades of both buildings was compiled, while surviving architectural details such as blocked openings and fireplaces were annotated onto elevation and floor plans prepared by the leading architects on the projects, Allan Murray Architects (AMA). External and internal elevations of the timber frontage were hand-drawn, recording both the surviving original timbers and later interventions (Figures 2 and 3). A detailed photo rectification survey of the painted ceilings was undertaken and they were subsequently conserved for display within the new hotel.[5] Dendrochronological analysis of some of the beams from the painted ceilings was also carried out so that the building could be dated more precisely. These documents are all available in the site archive. Given the rather fragmentary nature of the earlier fabric of the buildings that survives it is not the intention of this paper to present a detailed description of their historic development. Instead, the focus is on the timber framing that has survived in No. 302 and the dendrochronological analysis of the painted board-and-beam ceilings because it is this

2. The street frontage with the remnants of the original timber framing on the first, second and third floors highlighted. (Copyright: AOC Archaeology)



3. The internal elevation of the first floor showing surviving original timbers and the back of the decorated panels. (Copyright: AOC Archaeology)

that may contribute to our understanding of the 'timber lands' which were once such a common feature of the Scottish urban landscape.[6]

The Painted Ceilings

The painted ceilings were originally on the second and third floors but, as described above, they were both removed for conservation. They were then reinstated on other floors to fit into the new internal arrangements of the Midlothian Police HQ. The second floor ceiling was reinstated on the fourth floor while the third floor ceiling was reinstated on the second floor. Only the ends of the beams, left in situ and protruding from the wallhead show the original location at this level. The second floor ceiling was also substantially cut down to fit its new home on the fourth floor, with only half of the original span being reinstalled. Most of the third floor ceiling was reused. Throughout this paper the ceilings shall be referred to by their original location, ie, the 'second floor ceiling' and 'third floor ceiling'.

What remains of the second floor ceiling consists of ten boards, each approximately 300mm wide, supported over eleven north-south running beams, also painted. It seems clear from the designs on the boards now in storage at the Historic Scotland Conservation Centre, that the second floor ceiling probably spanned two rooms separated by a dividing wall.[7] The third floor ceiling also comprises ten boards supported by eleven beams.

4. The board-and-beam ceilings from the second floor (upper) and third floor (lower). (Copyright: AOC Archaeology)

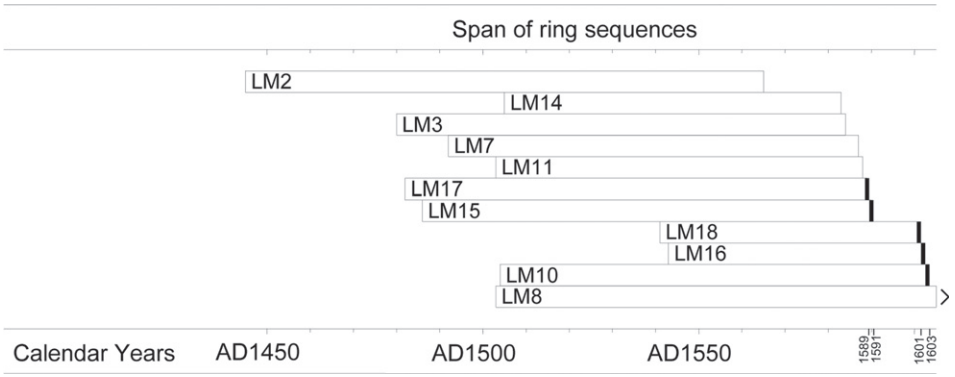
The decoration of the painted ceilings has already been described in detail by Bath,[8] and so is only briefly summarised here. Both ceilings share decorative motifs in common, notably arabesque or trailing tassel decoration along the beams, with fruit and floral patterns including roses and acanthus leaves on the boards, all heavily outlined in black or brown (Figure 4). However, the third floor ceiling displays a greater variety of motifs, including a rabbit, a lion, a fox and several birds interspersed amongst the vegetation, as well as a male head resembling a Green Man. The overall colour scheme of both ceilings was warm and vibrant, with certain colours highlighted by varnishing.[9]

Table 1 Dendrochronological data for the ceiling beams. The length of tree-ring sequence is given (No. rings), whether the bark edge is present, the range of years covered by the dated sequences (Calendar date), and the year in which the timbers were felled.

	No. Rings	Bark Edge (be)	Calendar Date	Felled
IN SITU TIMBERS (Floor 2)				
LM1	77+	/		
LM2	121+	/	1445–1565	
LM3	105+	/	1480–1584	
LM4	126+	/		
LM5	140+	/		
IN SITU TIMBERS (Floor 3)				
LM6	143+	/		
LM7	96+	/	1492–1587	
LM8	103+	/	1503–1605	*tpq* 1605
LM9	205+	/		
LM10	100+	be?	1504–1603	1603
LM11	86+	/	1503–1588	
LM12	249	be		
EX SITU TIMBERS				
LM13	170	be		
LM14	79	/	1505–1583	
LM15	106 +1	be	1486–1590	1591
LM16	60 +1	be	1543–1602	1603
LM17	108	be	1482–1589	1589
LM18	61	be	1541–1601	1601
LM19	87	be		
LM20	156	be		

One of the requirements of the planning condition for the Missoni Hotel project was to undertake dendrochronological analysis of the beams in the painted ceilings to understand more fully the development of the building. Samples from twelve of the sawn-off stumps which had been left in situ and eight of the beams removed in 1959 (see Table 1 for ex situ timbers) were analysed.[10] The beams are all Scots pine (*Pinus sylvestris*) and none of them bear any evidence that they had been re-used in the building.

A chronology for the building was constructed which incorporated tree-ring sequences from eleven of the beams, subsequently dated to 1445–1605 against regional chronologies from Norway (Figure 5). Thus, Norway may be the most likely source, but it is also possible that timber from other Scandinavian countries such as Sweden is present in the assemblage. During the sixteenth and seventeenth centuries the bulk of Scotland's timber imports came



5. Chronological relationships between the dendrochronologically dated timbers. (Copyright: AOC Archaeology)

from Scandinavia and dendrochronological analysis has enabled the identification of this imported timber in many buildings of the period.[11]

Figure 5 illustrates the chronological relationships amongst the dated timbers. The bark edge was present on four, possibly five of the dated timbers, indicating felling in 1589, 1591, 1601 and 1603, while the outermost ring on one of the beams (LM8) was dated to 1605 indicating that it was felled at some time after that date (Table 1). With hundreds of boats laden with timber from Scandinavia arriving in the ports along the Firth of Forth every summer and depositing their cargos in merchant's yards,[12] one might anticipate encountering a range of felling dates in any phase of building of this period.[13] For instance, in other buildings in Edinburgh (see Edinburgh Castle;[14] Abbey Strand, Holyrood;[15] Advocates Close, High St[16]) dendrochronological analysis has identified timber felled over a period of three to five years. It is thus possible that the spread of felling dates observed in the Lawnmarket assemblage suggests timber being stockpiled in a merchants yard before being used in building. However, in a period when Edinburgh was expanding rapidly to cope with its burgeoning population (see below) it seems unlikely that timber of good construction quality would have lain around in a timber yard for well over a decade, as the felling dates would suggest.

The alternative interpretation is that there were two phases of construction. There are no in situ timbers with surviving bark edge from the second floor ceiling; however, beam LM15, one of the ex situ timbers which was felled in 1591, compares well with the in situ beam LM2, suggesting a close chronological relationship. As none of the dated in situ timbers end later than that, it can be argued that Floor 2 was installed first, in or shortly after 1591. Of the in situ timbers in the third floor ceiling beam LM10 was felled in 1603 and beam LM8 was felled sometime after 1605 so this ceiling must have been installed at least a decade later than that on the second floor. The significance of these dates is discussed below.

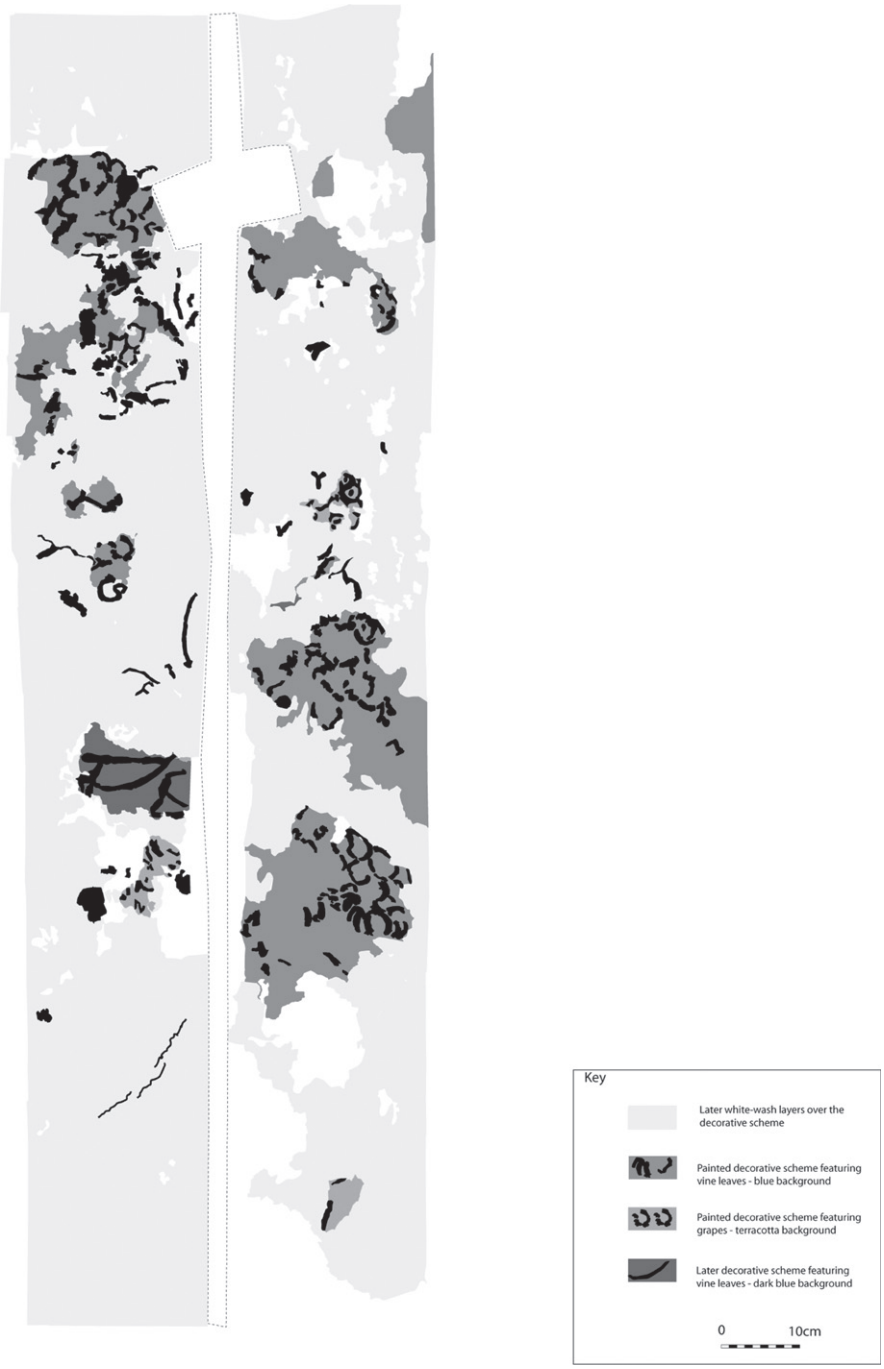
The Timber-Framed Frontage

During the recent development works, the removal of the wire mesh and render facade revealed a patchwork of timber features relating to the original late sixteenth century construction, late nineteenth century alterations and the 1960 development, all of which were recorded in detail (Figure 2). The vertical timber framing was confined to the Lawnmarket frontage; the rear and gable walls of the building were stone rubble-built, as was the ground floor frontage, and there was no evidence to suggest that these elevations had not always been stone-built. The fourth floor and attic of the building were added in the late nineteenth century (see below) and, whilst still retaining a timber facade, the timber used on these floors was machine-cut pine. The original timber framework on the first, second and third floors is vestigial, much confused by the later interventions, and was also rotten in places, so much so that it was often impossible to determine how individual components had been jointed together. Nonetheless, the facade retained enough features to allow something of the nature of the original construction to be determined.

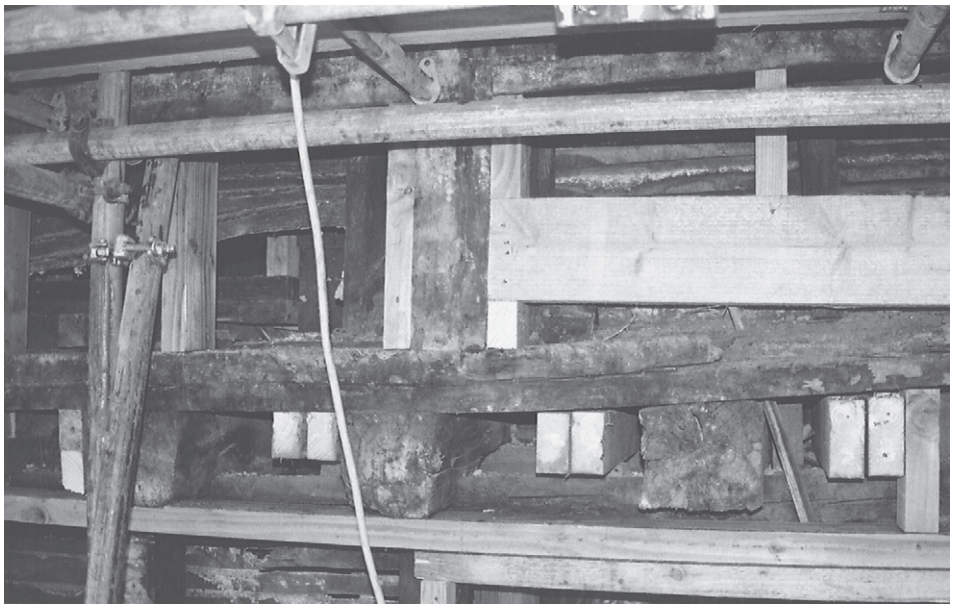
The timber framing on the first floor was most clearly seen from the interior (Figure 3). Large squared posts, or studs, were set at intervals varying from 1150mm to 1550mm, and in between the studs were vertical pine panels, up to 270mm in width. Some of the studs had thin, rectangular mortises cut into their side faces at intervals which may previously have held transverse timbers to support the panelling.

The panels were also previously visible on the exterior of the building where they had been painted over when the later lath-and-plaster was applied (Figure 2). However, the remnants of an earlier painted decorative scheme had survived on the exterior surface of the two central panels (Figure 6). Although the panels had been whitewashed and painted over on numerous occasions, patches of the original decoration were still visible. There appears to have been at least two schemes of decoration[17]. The earliest consisted of grapes and vine leaves, in terracotta and blue and all heavily outlined in black, reminiscent of the decoration on the ceilings of the upper floors. This scheme was painted over with a monochrome paint and subsequently another decorative scheme, also using vine leaves in deep blue and outlined in black, was applied. These panels may be all that survives of a more extensive decorative scheme throughout the first floor apartment. RCAHMS recorded traces of panelling in several of the first floor rooms, some of which '. . . are known to have been painted with landscapes'.[18] This decorative scheme may be contemporary with the early 18th century marble fireplace in this same apartment,[19] but it may have overlain earlier decorative schemes.

The ceiling of the second floor is defined on the frontage by double rails, between which the beams of the ceiling are sandwiched with their ends projecting out beyond the frontage.[20] The beams were set between 320 mm and 520mm apart and were lap-jointed over the lower rail, while the upper rail lay directly on the beams with no apparent means of fixing (Figure 7). On the third floor, the ceiling beams were similarly spaced but appeared



6. Detailed drawing of the decorated panels on the first floor external façade. (Copyright: AOC Archaeology)



7. The jointing between the beams and rails of the second floor ceiling, on the western side of the building. The half-lap joints are visible some distance behind the ends of the beams, while the upper rail lies directly over them. (Copyright: AOC Archaeology)

to lie directly over the lower rail, although the beams had been cut back at an angle and later interventions made it difficult to see whether they had actually been jointed over the rail (Figure 8). A notch had been cut into the lower rail to one side of each beam; these features do not appear to have served any function in the later interventions so they may well relate to the original design of the framework. The upper rail was missing, if it had existed at all.

Most of the main vertical framing has been removed on the second and third floors. On the second floor there were remnants of a mid-rail about 750mm above ceiling height with vertical studs below, each one approximately 250–350 mm apart (Figure 2). Where the joints survive, the horizontal members of the framework have been tenoned into the sides of the vertical members. However, there is no evidence that the joints were ever pegged together. One of the few surviving studs on the third floor is tenoned into the upper rail of the second floor ceiling. Like the studs on the first floor, the studs on the second floor had mortises cut at irregular intervals into their side faces, suggesting that there was also a lattice of transverse timbers.

The bulk of the timber used in the original framework was small, fast-grown pine roundwood, adze-dressed roughly square. A very small amount of oak was used; two of the studs on the first floor were oak roundwood, again adze-dressed square and, again, one of the studs on the second floor was oak. All the oak appears to be re-used; the second

8. The lower rail and beams of the third floor ceiling, on the eastern side of the building. The chopped-off ends of two of the beams are visible on the right of the photograph, as are the notches cut into the lower rail. The timber lying over the rail and between the beams forms part of the 19th century renovations. (Copyright: AOC Archaeology)

floor stud had a redundant tenon while the first floor studs display redundant features such as a peghole and a redundant carpenter's mark (Figure 3). Another redundant carpenter's mark, on a short length of pine used as infill, indicates that some of the original timberwork was probably cut up and re-used during the nineteenth century alterations to the frontage. Unfortunately, none of the small pine scantling or re-used oak in the vertical framework was suitable for dendrochronological analysis.

Discussion

No. 302 was one of a small number of timber-framed buildings along the Lawnmarket which had survived into the late nineteenth century. Other examples include the house of Mary of Guise in Milne's Court[21] and the two neighbouring buildings on the corner of the West Bow.[22] In 1898 plans were drawn up to improve the building; these involved the removal of the projecting timber galleries so that the frontage of No. 302 was flush with its neighbours, and the addition of the fourth storey and attic, thus bringing it to the same height as its neighbours and creating a more harmonious elevation along the Lawnmarket (Figure 9).

9. No. 302 Lawnmarket *c.* 1908 (from '*Map showing the old houses remaining in the High Street & the Canongate of Edinburgh, March, 1908*' prepared by B. J. Home).

The cut back frontage was harled to hide the mess of timberwork, but the timber rails of the second and third floor ceilings appear to have been left visibly defined.

It is this mess of timberwork that was re-revealed during the recent development of the building. The framework described above formed the internal or 'back' walls of the galleries that were removed. The nature of these timber galleries, which were so much a feature of Scottish urban architecture in the seventeenth century, has been much debated. The galleries would have provided the apartments behind with additional space, albeit no

more than a corridor's width, with some writers suggesting that these spaces would have been open to allow the inhabitants to enjoy fresh air in privacy and security away from the crowded, noisy streets below.[23] Some contemporary visitors to Edinburgh did describe them as open[24] although Bell thinks it unlikely because of the damage the interior would have sustained from wind and rain.[25] The decorated panels on the first floor of No. 302 tend to support Bell's view. Their presence suggests that the gallery was a prestigious space, decorated for public display. It may have formed part of a continuous space with the room behind, such as that witnessed in the nearby building on the West Bow, where the same decorative plaster ceiling was found throughout the gallery and the adjoining room.[26] This created, as Bell suggests, an intimate space within the whole.[27]

Early writers[28] considered that the wooden galleries were set in front of a load-bearing masonry wall, and this view has remained current, perhaps because this is, indeed, the case at John Knox's House, the most well known of the jettied buildings in Edinburgh. However, when recording the house of Mary of Guise, Peddie could find no evidence of a masonry wall behind the gallery and he suggested that this internal wall may have been constructed of wood, or wood and plaster.[29] The evidence from No. 302 confirms that the internal wall between gallery and the rooms behind was indeed constructed of wood, in this case of vertical panelling set within a framework of studs and transverse timbers. The evidence for transverse timbers up the height of the wall on the first and third floors suggests that the openings in these panelled walls, if there were any, would have been relatively small, perhaps not unlike the windows in the external gallery walls which were known to be either 'shotts' – small openings often only the size of a man's head – or small shuttered openings.[30]

Perhaps the most important evidence revealed at No. 302 Lawnmarket is the dates for the painted ceiling beams. The beams are an integral part of the main load-bearing framework and as there is no evidence for a cantilever structure to support the jettied galleries, it is supposed that the beams simply extended outwards and were supported on another façade of posts and rails forming the external frontage of the galleries. The second floor ceiling was built in (or more probably shortly after) 1591 while the third floor ceiling was built some time after 1605. As has been argued above, it is very unlikely that good building timber would have been stockpiled for a decade or more, particularly during the building boom that Edinburgh must have witnessed as its population tripled between 1550 and 1650.[31] One other possible explanation for what amounts to at least a decade between felling dates is that the building was built upwards in stages. The manner in which the building was constructed would certainly have made this feasible. The second and third floors are clear examples of platform framing, in which each storey is a self-contained unit, the rails and beams forming the platform on which the next storey could be built. Walker[32] has extolled the virtues of this system of building – simplicity and speed of erection, the facility to use smaller, more manageable lengths of timber, flexibility in changing internal arrangements from floor to floor, and the ability to clad the building without the need for

10. *Edenburgum, Scotiae Metropolis* (from Braun & Hogenberg *c.* 1582). The approximate position of the Lawnmarket buildings is circled.

external scaffolding. It also allowed for the construction of taller buildings, and in Edinburgh in the sixteenth and seventeenth centuries, when building space was constricted and the population was expanding, the response was to build upwards, so much so that by the eighteenth century Edinburgh was renowned for the height of some of its tenements.[33] If the premise of this research is correct then the proposed construction dates from No. 302 suggest that these early skyscrapers[34] may not necessarily have been conceived as such but were built upwards as and when pressure of space required it and/or available finance allowed it. On Braun & Hogenberg's map of Edinburgh drawn circa 1582 (*Edenburgum, Scotiae Metropolis*), a two-storey building with gabled frontage is shown at the location of No. 302 (Figure 10). Thus, although we have no dating evidence for the ground floor and first floor, the cartographic evidence, albeit that it is schematic, suggests that they may have existed as a unit at least a decade before the second floor was erected.

Conclusion

No. 302 Lawnmarket is a classic example of a 'timber land', comprising a stone-built ground floor above which the rear and gable walls continued upwards in stone whilst the street frontage was framed in timber. Only two other buildings of this type have been recorded in any detail; the early seventeenth century Kinnoull's Lodging in Perth[35] and the sixteenth century house of Mary of Guise further up the Lawnmarket.[36] All three display consistent

similarities in construction and design suggesting that this may have been a standard template for urban tenements. Stell describes these buildings as 'expensive and aberrant structures'[37] because of their apparently lavish use of timber at a time when Scotland's native timber supplies had all but dried up and the country was increasingly reliant on imported timber;[38] indeed, Scandinavian pine was employed in the construction of No. 302. However, the use of masonry walls on three sides, with only the street frontage in timber, could also be seen as an economical way of producing what would have looked like a fully timber-framed building from the street. If, as Stell suggests[39] the desired effect was to impress, to demonstrate that Scotland's expanding urban communities were *au fait* with architectural fashion elsewhere in Europe, then it is perhaps no surprise that they all employed platform framing in their construction, a building technique which Walker[40] argues is a northern European tradition adopted in Scotland.

The surviving elements of the timber framing at No. 302, Lawnmarket have contributed to our understanding of the function and appearance of jettied timber galleries, while one possible interpretation of the results of the dendrochronological study is that these 'timber lands' may, at least in some cases, have developed upwards in stages. However, this is a theory which needs further investigation. Building upwards in stages implies that the roof must have been raised each time a storey was added; more investigation into post-medieval engineering methods would be required to comment on how feasible regular roof raising would have been, and the authors of this paper are not familiar with contemporary documentation which may reveal more about the way in which these buildings were developed. Building upwards in stages also implies that there would be breaks in the masonry construction at each new level, something which could not be observed at No. 302 because the external faces of the masonry walls were not exposed as part of the recent recording or during the earlier RCAHMS recording; again, this is evidence that could be sought in future building recording projects.

The commercial development of the buildings at Nos. 302–304 Lawnmarket has provided an excellent opportunity to record, analyse and sensitively conserve what is a remarkable survival of a 'timber land' into the 21st century. The painted panels have been preserved in situ, a small raised rectangular section on the roughcast render of the facade identifying their location, while the painted beam and board ceilings have been fully conserved and now form part of the decor within two of the Missoni Hotel suites.

Acknowledgements

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