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Conserving, Reinstating and Converting Queensberry House

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ABSTRACT

This paper discusses the work that the author has carried out as project and resident architect for the conversion of Queensberry House, a 17th century Grade A-listed townhouse, as part of the new Scottish Parliament at Holyrood, Edinburgh. The complex stratification of this fine masonry building together with severe water penetration caused major problems when carrying out the works. The richness of the original masonry, the abusive additions and reconstruction over the centuries, like the late conversion to hospital, and the way the building fabric was conserved and reinstated are illustrated. Very little of the original interiors survived and there was a need to strengthen the building for reasons of security. The building now provides accommodation for the Presiding Officer and staff of the Parliament. The process followed since the author took over the conservation and conversion project, with the building as an almost masonry shell, until conclusion is discussed, including a record of the fabric condition and the decisions concerning its repair and final presentation.

KEWORDS

Queensberry House, historic stone masonry, conservation, renovation, repair

1. INTRODUCTION

This paper discusses the work that the author has carried out as project and resident architect for the conversion of Queensberry House, a 17th century Grade-A listed building, as part of the new Scottish Parliament at Holyrood, Edinburgh (winner of the Stirling Prize 2005)[2]. When the Scottish Office purchased Queensberry House from Scottish and Newcastle for the Scottish Parliament in early 1998, it was in a state of disrepair. Between 1832 and 1996, it was a House of Refuge and a geriatric hospital (Fig 1) and earlier the building was used as barracks, during which period the upper storey was added (between 1808-10). As part of the Parliament project, the building had to be converted in order to accommodate the Presiding Officer, his deputies, clerk and their staff. Preliminary investigation and demolition works were carried out, removing all modern interiors and plaster, which made evident that very little of the original interior design remained. During that phase, the poor condition of the masonry fabric was also revealed and this meant that there was a need to strengthen the building for reasons of security.

Figure 1. South elevation of Queensberry Hospital before 1998

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The process followed since the start of the conservation works, when the building was found as an almost masonry shell (Fig. 2), until the conclusion of the conversion will be discussed in terms of the approach and decisions concerning its repair and final presentation, supported by condition survey of the masonry construction. The complex juxtaposition of additions in this fine masonry building coupled with severe water penetration was the source of major problems during the conversion works. In this study, the richness of the original masonry and building fabric, its contrast with the abusive additions and reconstructions over the centuries and how it was conserved and reinstated will be illustrated in detail.

Figure 2. Building fabric at the start of the works

2. THE HISTORY OF QUEENSBERRY HOUSE

Queensberry House is located near Holyroodhouse, now the Royal Residence but once a medieval Abbey founded in 1128 by David I. The precise date of the first house in the site is not known but a house for Dame Margaret Douglas of Balmakellie was built in this location in the 1660s. In 1680 the land was sold to Patrick Maitland, Lord Hatton, who previously, as Treasurer Depute, was appointed as overseer for the repairs of Holyroodhouse. This experience probably helped him to supervise the construction of his own house. There is a view of c. 1690 by John Slezer (Fig. 3), showing a T-shaped building in the site. The house would be already by then quite large, having 52 rooms fitted with hearths [Hume and Boyd 1984].

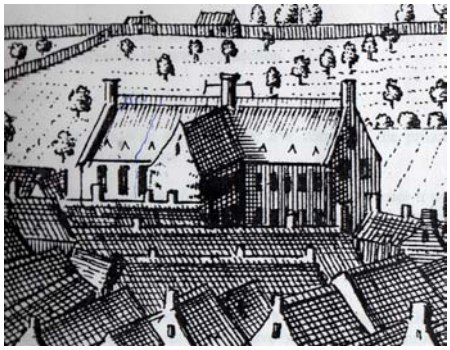

Figure 3. Fragment of 'Prospect of Edinburgh from the North', John Slezer, c. 1690

The important Scottish architect James Smith was involved with the house as mason in 1681, at the beginning of his career, although he was already named "archetecter" when he was made burgess and guildbrother of Edinburgh in 1679. It is possible that he also advised Lord Hatton on the overall design. James Smith was a very innovative architect known for his search of simplicity, which was often criticised by his colleagues, and for incorporating existing buildings into his new designs. His earlier studies were in Rome, not in architecture but as a priest. However, he changed his mind and upon his return he went to work in Holyrood with Sir William Bruce, a leading architect of the time. William, the 1st Duke of Queensberry gave him at this time his first important commission, Drumlanrig Castle, while in 1683 he was appointed Royal Surveyor [Glendinning *et al.* 1997].

The Duke acquired the house in 1686 but there is no evidence that he made alterations. After his death, the house was passed in 1695 to James Douglas, the 2nd Duke of Queensberry and King William's Commissioner to the Scottish Parliament, a very prominent figure better known from his role in making possible the Treaty of Union in 1707. He employed James Smith once again, by then Scotland's leading architect, for alterations at the House. Looking at the existing building fabric and masonry walls, it appears that the previous fabric was kept and incorporated to the new house, in a typical James Smith's fashion. Apart from making internal alterations, Smith added the west wing, built pavilions at each end of the garden front with slated ogee-shaped roofs and created a new entrance from the Canongate, raising the entrance level to the first floor level. The previous T-shaped building became now a great mansion with a U-shaped main block flanked by two ogee-roofed pavilion towers towards the garden and orchid.

There is a drawing by Thomas Sandby from ca. 1740 showing Queensberry House in a Panorama of Canongate from Salisbury Crags as well as the plan of Edgar from 1742 showing the house in this period. These were considered in the conservation project as enough evidence to inform the reinstatement of the Dutch gables and ogee roofs to the pavilion towers of Queensberry House (Fig 4).

Figure 4. [a] View by Thomas Sandby [b] Plan of William Edgar, 1742 [c] South façade after the works

In 1745, the Army of Prince Charles Edward Stuart ("Bonnie Prince Charlie") occupied Edinburgh and requisitioned Queensberry House, when it was still occupied by Charles Douglas, the 3rd Duke of Queensberry. William Douglas, the 4th Duke, seems he never occupied the house, while later in 1756 it was rented out as apartments. The Duke sold it in 1801 to James Aitcheson, who stripped the building of all its fittings, including panelling and fireplaces. Some of these fitting were purchased by the Earl of Wemyss and they can be seen now in Gosford House, near Edinburgh. The house was subsequently sold to Her Majesty's Principal Secretary for War, to be converted later in barracks and a whole new storey was added between 1808 and 1810.

An epidemic of fever broke out in Edinburgh in 1817 and the house was used as fever hospital. In 1832 it became a cholera hospital, then in 1834 a House of Refuge and later a geriatric hospital. [Hume and Boyd 1984]. After its closure in 1996 it was bought by Scottish & Newcastle Breweries and it was in disuse until the Scottish Office purchased it for the Scottish Parliament in early 1998.

3. CONSERVATION APPROACH

According to Brandi's theory [Brandi 1963], *"conservation constitutes the methodological moment of acknowledgement of the work of art, on its physical consistency and in its double aesthetic and historic polarity, in order to transmit it to the future."*

Perhaps looking at the appearance of the building as was found at the beginning of the conservation works that will be described later, the classification as a work of art would appear exaggerated. However, there are clear architectural and historic values in the building to elevate it to the category of work of art, as it is also recognised by his Grade-A Listed Building status.

Brandi also considers that, when dealing with historic buildings, the formal structure is the most important element and the starting moment of a conservation work is the time and condition in which the building fabric is found. This is very important in order to understand the approach and outcomes of the project. For the conservation works described hereafter this moment was a saturated masonry wall shell that still had intact its

archaeological and historical values. It was of paramount importance to maintain the authenticity of the historic fabric and to avoid any further damage, as well as to reinstate its full architectural value.

Despite the poor appearance of the fabric, its authentic architectural identity was still present and this was the clear element to conserve. Historical and archaeological values are not independent of the architecture and of the architectural aesthetics. The clear way forward was to present the building in a way that integrated all these values, in their integrity and complexity, and without prejudices.

Although the decision was already made to reinstate the external appearance of the building to the graphic evidence from mid 18th century, there was still opportunity to proceed with this reinstatement in the most appropriate way. The new work, based in the existing graphic evidence, was designed and detailed to match and blend with the old, but to be also distinguishable to a discerning eye. The interiors however did not benefit from similar evidence, and the most appropriate way to intervene was to expose the building's rich history and different construction phases internally. The way forward was, when there was enough documentary or physical evidence, to reinstate the building and to re-integrate the original fabric with a simple and contemporary new design, enhancing the evidential value of this fine piece of architecture.

4. THE CONDITION OF THE BUILDING FABRIC

The walls of Queensberry House are of rubble-filled stone masonry, mainly sandstone, with wall thickness between 300mm and 700mm. Dressed stonework is present at raised quoins and window margins, doors surrounds and in the channelled rusticated V-jointed ashlar of the vestibule. The poor condition of windows stone lintels, sills and jambs (Fig. 5a), required initially an extensive and time-consuming campaign of careful survey and drawing, leading to stone indenting and in some instances replacement. The inspection of the stone windows' margins was hampered by the existence of paint covering the fabric, as all stonework has been painted at various times with differing materials. Such paint finishes had to be carefully removed from the stonework, which was a long and time-consuming task.

Figure 5. Before and after the works [a] External masonry and window margin [b] Internal wall and fireplace

The building and in particular the wall heads have been exposed to rainwater penetration for a prolonged period of time, during the demolition of the top storey and the construction of the new roof. At the time the conservation works started, the building was still suffering from exposure to the wet weather: the upper storey added in the early 19th century was already removed but no temporary roof was yet provided. The water penetration resulted in extensive staining of surface layers to a depth of 0.1-1mm. The material in the surface layers was badly weakened and could be easily fractured (Fig. 5b, 8a). Consolidation of the existing masonry had already involved significant re-pointing and grouting as well as the filling of the chimney flues, in order to deal with cracking in the walls and insufficient tying between crosswalls, as well as to respond to the new and enhanced security requirements.

In addition to the thick masonry walls presenting severe water penetration as result of months of exposure to the rain, the main contractor dealing with the masonry works had no previous experience in conservation works and did not have sufficient resources to carry on with the construction of the roof in the desired timescale and quality, requiring an extra effort in managing and inspecting their work. In addition, there was continuous pressure for delivering the project on time, even if the moisture and resources problems were seriously

hampering progress. There were works carried out with concrete block bonded with cement that had to be removed, as the only mortar to be used in a stone masonry building had to be lime based. Lime mortar is a breathable material, allowing rapid free movement of water as vapour from deep within masonry structures.

5. THE CONSERVATION OF THE WALLS

5.1 Staining

At the beginning of the conservation works the efforts were concentrated in the elimination and control of the sources of damage (mainly dampness and staining) and the design of the most appropriate intervention considering the condition in which the fabric was found. The first priority was to get the building watertight so that any further damage to the stonewalls could be avoided. With the likelihood of wet weather and strong winds it was important to effectively protect the vulnerable damaged fabric. The damaging effect of water penetration in historic buildings is well known and it is unfortunate that the building did not benefit from a temporary roof. The materials most affected by the action of water were the old mortar and the stone. Water is the universal solvent and the principal agent of the staining present in existing masonry walls.

The volume of water poured on to the fabric from the rain, flues filling and grouting had a serious consequence for the building, including salt damage to the masonry and over the likely time that would be required for the building to dry out. It was also unfortunate that there was not the benefit of well-ventilated flues, as they were filled during the previous works. Moisture levels increase rapidly in a redundant flue if either the fireplace or the chimney is sealed.

Once the roof was completed, the main sources of water ingress were removed. In conjunction with the lead subcontractor, adequate detailing was developed which would avoid, with a correct maintenance procedure in place, future rainwater damage to the existing building (Fig. 6).

Figure 6. [a] New roof to South [b] New roof to pavilion tower

Some residual staining became apparent externally once the lime harling and lime wash was applied (Fig. 7a). After various surveys and monitoring, three different types of external staining (discolouration, superficial staining on stone window margins and on harling/lime wash) were identified and mapped (Fig. 7b). Although the discolouration had similar origin as the internal staining, there was a clear new pattern that showed superficial staining in areas in which rusting scaffolding ties were fixed to the stone and in contact with traditional burnt sand and linseed oil mastic, probably also contaminated with some dust from the roof works above.

Figure 7. [a] External staining of harling [b] Mapping of external staining

Discolouration of the harling required local removal of the stained harling and reapplication in the area. Course lines were used, cutting away the surrounding harling in order to “key in” the new works. The staining originating from the superficial types was successfully removed once it appeared by carefully dubbing with damp tissue paper. The superficial staining at the window margins was carefully removed by softening it with steam and carefully scraping the remains by wooden scrapers; when the stain was hardened, scalpel or chisel cleaning and tooling was carried out by experienced stone masons.

Superficial deterioration of the stonewalls, including a significant discolouration to a brown/yellow and bright orange, depending on the background support, was consistently evident at the upper part of the masonry walls (Fig. 8a). In order to understand the extent of the problem, a detailed mapping showing the internal staining zones was carried out (Fig. 8b). A consistent pattern emerged, closely related with the presence of existing filled chimney flues, but opinions on its origin were contradictory so Dr John Dixon from the University of Edinburgh produced a specialist and independent report [Dixon 2002]. Residual flue products, from the prolonged use of coal-burning fires for 300 years, were identified as the most likely cause of the staining. There was a clear association of the most intense discolouration with the most porous sandstone blocks. The main conclusion by Dr Dixon was that a water solution very rich in dissolved inorganic salt ions and with a very minor content of compounds derived from coal tar deposits in the stonework of the flues, has percolated through the stonework. The evaporative extraction of moisture has concentrated the salt solution on the outer layer of the stone along with its organic components that are water-soluble.

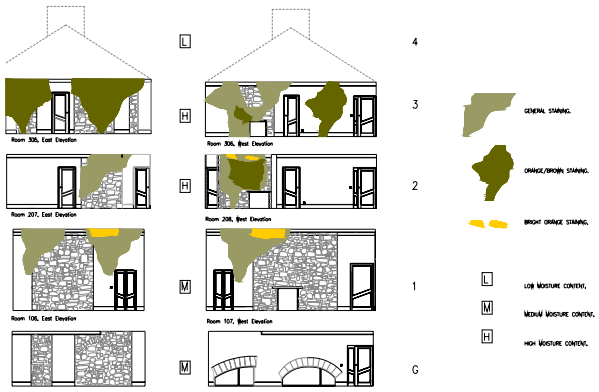

Figure 8. [a] Internal wall and fireplace showing staining- Stone discolouration [b] Mapping of staining

A small trial of removing the staining from the walls using a paper fibre poultice was successfully carried out, but due to cost and time implications it was decided not to proceed with it, concentrating instead into drying out the building. Once it was watertight, a drying out strategy using dehumidifiers was put in place to reduce slowly the relative humidity down to 70%. The BRE criteria were adopted, i.e., masonry walls with a moisture content above 5% would be classified as damp. Weekly readings were carried out. Heating was increasingly incorporated, replacing dehumidifiers, bringing the building fabric to adequate equilibrium conditions. Once the surfaces of the walls were dry, the areas of friable or delaminating stonework were brushed back with a stiff bristle brush to a sound finish. There was also need to rake out loose mortar from the joints and to repoint with matching lime mortar.

5.2 The reinstatement of the Belvedere Tower

Another problem encountered as the works were proceeding was the decision on the treatment of the Belvedere Tower, a lookout tower added probably by James Smith. This was a feature of the 1690s building uncovered when the roof and the upper floor were removed. It caused a great degree of controversy, concerning its original purpose and the way to be presented.

The Belvedere Tower was found to be in very poor condition as the lift of the hospital was located abutting it and in order to provide access the external wall was extensively demolished. The challenge was to conserve in situ all the remains of the original masonry and dressed stone window margins of the paired windows, mainly lintels. This was a difficult operation as the wall had been recently patched with brick, but the presence of almost all the original stone lintels gave enough evidence for the reinstatement of the paired windows. The reconstruction of the area was carried following the traditional technique ‘repair by building’, reconstructing carefully the missing area, in small sections at the time, without dismantling nor disturbing the existing openings, and keeping lintels in their original position during the works (Fig. 9).

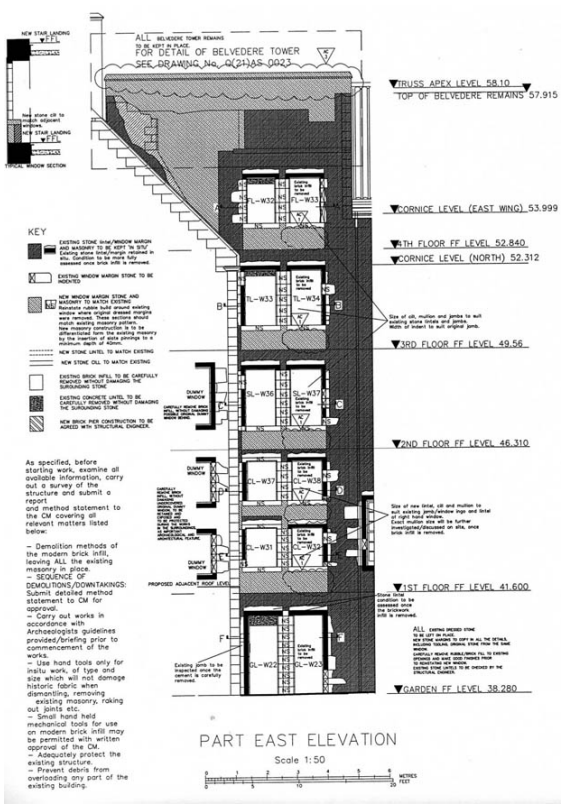

Figure 9. Belvedere Tower [a] Design of intervention [b] Existing lintels [c] After the intervention

5.3 The interiors

Little of the original interiors (small fragments of a fireplace and one plastered coved ceiling to the East pavilion tower) remained and there was not enough evidence to reinstate it. Even fireplaces surroundings did not survive in situ after the early 19th century removals and destruction. The only physical evidence of the rich history of the building is now its building fabric. The stone masonry walls were the only survivors. The decision was to leave the internal crosswalls exposed, showing clearly the original 17th century masonry and later additions.

The design of the treatment to the existing walls required both a system and finishing that would allow the walls to dry out gradually over several years without harming the new finishes. As a future working environment, it was important to ensure that all the correct materials were used and that all the details were properly designed and executed. The creation of new interiors needed to cope also with modern servicing and insulation requirements. The simple lining of the external walls and areas around doors responded to this. The detailing had to cope with the current and future environmental conditions, taking in consideration that the building could not be lined until the moisture content was considered acceptable.

Figure 10. Interior of one of the offices

The existing walls were only lined (Figs. 5b, 10) once they reached an acceptable moisture content (below 5%). The contemporary designed internal detailing was configured in a way that shows the linings as floating, separated from each other and apparently independent from the wall, with shadow gaps acting as ventilation devices between the new and the old. A ventilation gap was incorporated into the top (shadow gap between wall and ceiling linings) and bottom (above the skirting) of the linings of the rooms. In the external walls, a ventilated

cavity and a rigid insulation has been provided in order to avoid contact with damp walls. All fixings to existing walls are corrosion resistant and no new timbers are in contact with walls.

7. DISCUSSION AND CONCLUSIONS

Before the site for the new Scottish Parliament was allocated in Holyrood, other schemes had been developed for this site, including a proposal for a hotel that would have included Queensberry House, implying an extensive internal alteration that would have extensively subdivided internally the rooms. Fortunately the building is now part of the Scottish Parliament, which has allowed the internal spaces to be reinstated to their original dimensions and character.

The initial works of demolition and roof construction at Queensberry House were carried out in the context of the huge new concrete and steel construction characterising the rest of the new Scottish Parliament, and it was part of the task of the conservation works to establish clearly the different nature of this work, so that this important historic masonry building would not suffer from an abusive and damaging treatment. Probably the rainwater penetration from the wall heads and poor protection and housekeeping procedures that have caused the staining problem in the building were also a result of this inappropriate initial treatment and unfamiliarity with historic masonry walls, as they are well known for their vulnerability to dampness, specially when penetrating from the wall heads to the interior of the wall.

As the fabric had been exposed to the elements, the first part of the design was the careful assessment of its current condition, which was not an easy operation considering the existence of other committed programmes. It cannot be stressed enough the importance to put in place effective protection measures to avoid the consequences of high water content in thick masonry walls.

Minimal intervention and preservation of the original and authentic fabric was the main goal and the works described have always upheld these principles. By repairing by building *in situ*, without disturbing the original building, including the remains of the Belvedere Tower, the character and authenticity of the building has been kept intact. The stone from previous downtakings kept already on site was reused in the building and landscape.

The work described above and the rest of this painstaking intervention was based on extensive research and technical and historic-critical analysis of evidence from the existing building and the site. This approach prevented the destruction of the existing fabric, while also the urban presence of the building was highlighted and preserved. The badly damaged shell was carefully repaired and conserved and the new additions, which are physically reversible, are clearly distinguished from the old, all in accordance with best conservation practice. Queensberry House has emerged once again as an authentic historic building while becoming a comfortable office environment to work for the Scottish Parliament. The building has also reinstated its urban image, becoming again a substantial part of Edinburgh's Canongate townscape and of the views from the Salisbury Crags.

To summarise the approach taken during the works, all the existing building fabric has been conserved and repaired when damaged. When there was reliable evidence, reinstatement based on this information was carried out, but when not, simple and contemporary new design has been added. Despite all the great difficulties in carrying out the works, the clarity of approach contributed in successfully reinstate and convert the historic masonry shell into a pleasant and inspiring working environment. Queensberry House had all its authenticity preserved and appears now with dignity within the new Scottish Parliament buildings, all also in sympathy and in the spirit of James Smith's approach and work.

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