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## 1.0 Introduction

# 1.1 Background

Dublin City Council Heritage Office commissioned this research project to review the use of wigging and tuck pointing techniques used in the Dublin context and ascertain the validity of their use in pointing renewal schemes for historic brick facades . This review was be supported by gathering and assessing documentary and physical evidence.

As the project evolved the focus of study fell primarily on wigging as this was the predominant historic style observed and, to date, no surviving evidence of historic tuck pointing has been identified. Therefore, the substantial content of this study addresses wigging.

# 1.2 Project Team

Conservation Architects/Project Leader: Shaffrey Associates Architects

Key Personnel: Gráinne Shaffrey, Project Director

Eamonn Kehoe, Technical Director

Master Bricklayer, Historic Brickwork Consultant: Dr. Gerard Lynch
Architectural Historical Research: Dr. John Montague

The project team would like to acknowledge the significant contribution and assistance provided by Dublin City Council during this project, in particular Charles Duggan who took an active role in the study and Susan Roundtree who generously inputted her significant knowledge and expertise on the historic brickwork of Dublin.

# 2.0 Aim

A range of historic pointing finishes exist in Dublin. Pointing is used as a finish to brickwork joints to give brickwork a particular aesthetic. A predominant aesthetic that was aspired to was that of gauged brickwork which has very fine joints. As a result historically pointing techniques were developed that gave an artificial impression that very fine joints have been made. In the English context tuck pointing was utilised to achieve this and its use also is not unknown in the Irish context. However in the Dublin context evidence observed to date of historic tuck pointing is anecdotal and no physical evidence has been identified. The pointing technique found in the Dublin context to achieve a similar aesthetic, of which there is considerable physical evidence still existing, is commonly referred to as wigging. The wigging technique differs from that of tuck pointing.

A growing tendency in pointing renewal specifications and methodologies employed during the last decade has seen a homogenous approach where English style tuck pointing has been used predominately irrespective of physical evidence of this being the original pointing technique and often through a lack of understanding or incorrect identification. Further, there has been the development of a range of hybrid methods of pointing which effect a compromise aesthetic finish and are based on what appears to be an inability to produce authentic wigging. These hybrid techniques not only lack the finesse of the eighteenth century wigging/tuck, but often also utilise inappropriately strong mortars or modern proprietary 'engineered' mortars. There is a concern, therefore, that the replacement of a regional traditional practice through, mostly, use of a non-authentic technique or inappropriate variants, can dilute and erode the value of an historic craft practice and tradition as well as compromising architectural historical authenticity, overall aesthetics and potentially, where inappropriate materials are used, the welfare of the building fabric.

The aim of the report is to assist in implementing an evidence-based approach to façade renewal/ repair of brick buildings in Dublin. The report makes preliminary conclusions and recommendations based on the historic evidence elicited during the research stage and the physical evidence gathered during the fieldwork survey. The report has been careful not to make any conclusions where there is insufficient evidence to support them and so does identify where further research and survey may be necessary or helpful. It should be noted that the conclusions and recommendations are preliminary and need to be kept under review as further evidence comes to light through research and practice.

In prompting an approach to future façade renewal and repair, through the preliminary conclusions and recommendations, this report addresses the following key aspects:

- Historic authenticity and evidence based arguments for adopting a particular finish
- The physical welfare of the building fabric—through the particular expertise and experience of Dr. Gerard Lynch, important information on the significance and implications of materials specification to the future condition of the building fabric in addition to their influence on craftsmanship and quality has been considered.
- The use of compatible lime-based materials and pigments.
- · Visual impact on the wider urban setting.
- · Craftsmanship of application.

This report will hopefully provide a practical resource for anyone planning, designing or assessing historic brick façade repair/renewal projects in Dublin. The fieldwork survey, in addition to supporting the report's conclusions, forms an important overview of the current condition of our historic brick buildings in Dublin, albeit it only a sample selection, which can (and should) be added to over time.

# 3.0 Methodology

This project builds on previous research on facade renewal carried out by members of the project team for Dublin City Council in addition to the research carried out by Dr. Gerard Lynch, Susan Roundtree and Shaffrey Associates Architects, for the DoEHLG Advice Series on Repair of Historic Brickwork (published in 2009). Previous and ongoing research carried out by Dr. Lynch into historic forms of joint finishes, techniques (including tuck pointing, bastard tuck jointing/pointing and wigging) and materials which is further informed by craft expertise and knowledge has also been fed into this study which is also informed by the ongoing research of Susan Roundtree into historic Irish brickwork. It is hoped that the information arising from this study will be of assistance to this and other research into historic brickwork in Ireland.

The methodology used in this research project is as follows:

## **Data Collection**

Data Collection was carried out initially in the form of fieldwork observation of selected buildings and historical research of documentary and archival sources.

# **Fieldwork**

The scope and timeframe of this project imposed a restriction on the quantity of building facades that could be reasonably recorded and it was also felt that it is unnecessary to record every single historic brick façade to inform the findings. The building period of primary interest to this study is

## **Primary Sources**

- 1. 18th-century newspaper references to brick
- 2. Pattern Books. Pricing books
- 3. Builders Companions

#### Secondary sources

- 1. Related Theses
- 2. Reference Books
- 3. Photographic records

## **Qualitative Analysis**

A qualitative analysis of the data collected and field observations was carried out . The preliminary findings provide supporting evidence and inform recommendations. Arising from the preliminary findings and primarily the fieldwork findings, the focus of the study has been on wigging as it was found to be the predominant surviving historic pointing technique and, to date, no physical evidence of historic tuck pointing has been observed which would allow for a similarly detailed study .

#### **Trial Panels**

Six trial panels were prepared to assess and understand techniques observed and to assist in developing appropriate specifications and methodologies for pointing renewal.

#### **Conclusion on Findings**

Here recommendations are set out which record our observations and interpretations to date and which can guide and inform planning, decision making and practice.

#### **Further Research**

Further areas of research have been identified.

# 4.0 Definitions

The following definitions are provided to assist in understanding the pointing styles relevant to this particular study and are not a definitive list of pointing elements and styles found in Dublin:

## 4.1 Jointing:

In jointing, the brick joint bedding mortar is finished to the desired profile

#### 4.2 Pointing:

In pointing, the pointing mortar is inserted into the joint and finished to the desired profile. Pointing will usually use a superior quality of mortar of fine silica/silver sand and, frequently, either an improved class/strength of binder and/or a richer binder:filler ratio.

#### **4.3 Wigging (**Figure 4.1)

Wigging is a distinctive Irish pointing technique that emulates the visual aesthetic of English tuck pointing. It differs to English tuck in that the ribbon and stopping material are a homogenous material formed in single application and a colour mortar the wigging is applied over to give definition to the ribbon, a unifying 'colour washing' of facade brickwork was also commonly applied. Dr. Lynch has observed that wigging appears to be primarily based on the older practice of 'Bastard Tuck' jointing, described at 4.5 below.

Dr. Lynch has recently observed classic Irish style wigging on the soffit of the barrel vaulted ceiling of the main gateway into Fort Sumter, Charleston, South Carolina. The work dates from the 1870's.

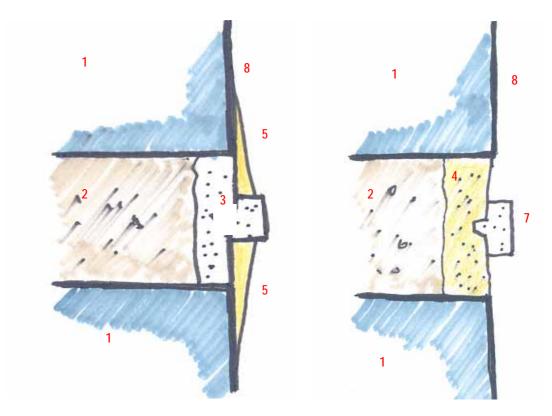


Figure 4.1: Wigging Pointing:

Figure 4.2: Tuck Pointing:

### **KEY TO DRAWINGS**

Brick
 Bedding mortar
 Stopping mortar
 Stopping Mortar
 Coloured stopping mortar
 Colour wash

## **4.4 Tuck pointing (**Figure 4.2)

The technique was used in England from the late seventeenth century to imitate brickwork constructed using rubbing bricks (gauged brickwork) cut to precise shape for ashlared work, and continued in popular use there throughout the eighteenth, nineteenth and early twentieth centuries. In the late seventeenth and eighteenth centuries, when the quality of bricks and brickwork was good, it was a means of achieving a very high standard of aesthetic finish to a principal façade to imitate ashlared gauged brickwork, typically set with 1/4 inch joints, which at this time had become expensive to do. Later, in some Victorian brickwork, tuck pointing was adopted as a way of achieving a similar effect using cheap or poor quality, un-rubbed bricks. Often associated with the unifying 'colour washing' of facade brickwork. The effect being achieved by pigmenting the pointing mortar to match the colour-washed facing brick, over which a narrow ribbon of fine, generally white or cream coloured pointing material, of well sifted lime mixed with fine silica sand, is skilfully applied, or 'tucked', onto the regularly grooved centres of the prepared joints.

The tuck pointing ribbons were skilfully applied and precisely trimmed to the desired/specified joint width by the dextorous use of a specially adapted knife, termed a 'Frenchman' guide by an appropriately positioned straight-edge, or 'Pointing-Rule'.

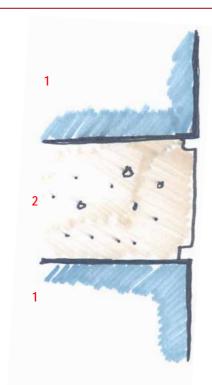


Figure 4.3: Bastard Tuck Jointing:

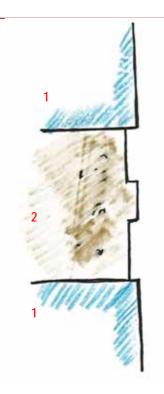


Figure 4.4: Bastard Tuck Jointing:

## **KEY TO DRAWINGS**

- 1. Brick
- 2. Bedding mortar
- 3. Stopping Mortar
- 4. Coloured stopping mortar

# 4.5 Bastard tuck jointing (Figures 4.3 and 4.4)

The joint is finishes flush with the brick face and ruled top and bottom. It should be noted that varying widths of ribbon profile of Bastard tuck jointing have been observed and the above drawings detail a wider (4.3) and slimmer (4.4) profile.

Dublin City Library and Archives – Wide Streets Commissioners minutes books & dispositions

Once again, lease related specifications are of very limited value. Requirements were to do with materials used – brick and stone – and in some cases to the proportions of windows, and to the proscription (in some cases) against projections, house signs of various types, all with a mind to uniform street façades made up of many smaller speculative projects. A review of the Wide Streets Commissioners minute books, particularly around the time when site owners in Dame street took legal action (1780s) against the commission about its overly particular strictures, included nothing on brick or façade treatment as defined by the remit for this project. A recently rediscovered group of original of so-called 'dispositions' or leases related to large swathes of development and smaller site agreements specific to the Commission are currently being catalogued in the Dublin City Library and Archive, under the direction of Mary Clark. A detailed examination of the three of these made available (randomly chosen) reveals (as suspected) a limited set of specifications to do with a range of aspects related to uniformity, but nothing on façade or brick treatment of the type being considered in this review.

# Dublin: Irish Architectural Archives. Patterson Kempster & Shortall papers

This is a very large collection of original quantity surveyors files and notes related to thousands of building works - public and private - carried out during the years 1856-1979, and are generally filed under building job name. The Archive has prepared a 3-volume schedule listing the sets of papers, and these were reviewed during this study, and a small number of records likely to yield information regarding specifications or other information about pointing techniques was considered in detail. Four sets of building records were reviewed, yielding a fairly good set of results, suggesting that more time might fruitfully be invested in investigating these materials further. Particular attention was paid to the 19th-century records, with an eye to possible reconstruction or 'restoration' works being carried out, as well as one example of a contemporary new brick build for the kinds of processes being listed, although similar consideration might also be given to earlier 20th-century brick conservation attempts. A more detailed listing of the relevant passages in these mss is listed in Appendix xxx. What follows is a synopsis of what was found. 1) MS B02/14 relates to reconstruction works carried out at 81 Middle Abbey Street in 1863, as a result of accidental damage caused by the collapse of a neighbouring building. It was stipulated that 'Brickwork of front wall [was] to be taken down and rebuilt, supplying new bricks as may be necessary'; a measure was included (548 feet) of an area that was to be 'Tuck pointed', at a rate of 1 1/2d per foot superficial . 2) MS 0217 gives the bill of measurements for reconstruction works on No. 78 St Stephen's Green. Some demolition works are described, but the full extent is not clear: the movement of a basement door suggests that a good deal of the building was being preserved, and so in this regard, some reconstruction and preservation was being carried out. Some of the processes of raking out, and repointing in 'cement' are listed, but nothing suggests an attempt to recreate or simulate a historically informed style of doing so. 3) MS 0727 contains a bill of quantities for a house to be built by the architect Thomas Drew in Donnybrook in 1892. Here many of the decorative approaches to brick building typical of the second half of the 19th century are evident. The high quality of the bricks being used means that the type of pointing typical of the 18th century – part of the purpose of which, was to disguise the poor quality of the bricks and the resultant jointing between them was not necessary. 4) MS 1230, contains a full volume of specifications regarding restoration works at Aldborough House, carried out under the auspices of the OPW. Nearly every aspect of the building except its façades were altered. There is no reference to any brick work at all.

# 5.0 Preliminary Findings

# 5.1 Historical Research Scoping Study

HISTORICAL POINTING TECHNIQUES AND FAÇADE FINISHES IN DUBLIN Historical Research and Literature Review Introduction

The following is a summary of the most salient documentary resources pertaining to historic pointing techniques and façade finishes in Dublin. It is far from exhaustive, and more in the way of a scoping study of the available resources, reflecting the time allotted in the brief to this aspect of the study.

For the most part, references to brick in contemporary manuscript documents and building specifications tend to be both limited, and mostly to do with, their production, or sometimes included very basic recommendations that brick be used in buildings. Specifications to treatment of façades, and particularly to different types of pointing are rare to non-existent, although such specifications are made all the more difficult to find as they are often unlikely to be included in older form indexes (prior to the scanning of entire documents) of large bodies of materials, when such indexes survive. 18th-century Irish newspapers, for example, from which a fairly significant (but hardly comprehensive) quantity of references to brick have been gleaned, have not been digitised to the same extent as their English counterparts, so digital word searches are not yet possible here. Hence certain resources are assessed in regards to their potential for further research, and the degree to which the needle of brick pointing might be found in the haystack of the largely un-digitised or unindexed resources which are being assessed.

#### **PRIMARY SOURCES - MANUSCRIPTS**

18th-century building accounts are comparatively rare. Recent studies of brick, principally Susan Roundtree's 1999 (see below), suggest that references to brick are relatively rare, and to their treatment and pointing techniques, almost non-existence. Some limited finds in later 19th-century collections, namely the Patterson Kempster & Shortall files, suggest that more extended research within these collections might bear more fruit. Based on a reading of Susan Roundtree's and Arthur Gibney's theses (see below), consultation with Roundtree, and a consideration of some other secondary sources, the following primary sources were reviewed.

#### Dublin, National Archives & National Library – Bryan Bolger papers

Bryan Bolger, a 'measurer' (quantity surveyor) was in practice in Dublin in the later-18th century and early-19th century. His papers (National Archives, Bolger MSS, 1A/58/124-133; National Library, MS 10/711.) have been studied as a source for information on contemporary Dublin architecture by Kelly 1940, Dixon 1973 and McParland 1972 (see below), and for possible information about brick by Roundtree 1999. None of these has recorded anything about brick pointing, although it is possible that information on a development in Mountjoy Square has such a reference (National Archives, Bryan Bolger Papers, Accession no. 92, Bundle 'P'). These materials have not been reviewed directly for the present study.

#### Dublin: National Archives – Pembroke Estate papers

This is a vast repository of materials now in the possession of the National Archives (Pembroke Estate MSS), which was considered in great detail by Eve McAulay for her PhD thesis (2004). Eve (pers. comm.) suggests that references to brick were extremely rare, confined to brick fields, and to some limited lease specifications suggesting that brick be used. McAulay's study is, however, limited to the 19th century, and so further research on these papers, whose extent was outside the time limits of this study, might yield further information.

#### **PRIMARY SOURCES - PRINTED**

Pattern books & builders companions

The vast majority of builders companions appearing in the 18th and 19th century were published in England, and much of what is to be found in them can be accessed via online proprietary databases such as Eighteenth Century Collections Online (ECCO).

One of the most widely used of the builder's companions, William Pain's *The builder's companion,* and workman's general assistant; demonstrating, After the most easy and practical Method, all the principal rules of ... London 1758, lists various parts of the bricklayer's work, but makes no reference to pointing.

Peter Nicholson's *The New and Improved Practical Builder: Masonry, bricklaying, plastering* London 1837, refers (pp 168–9) to Tuck Pointing briefly as follows: 'The composition, called coal-ash mortar, is used to point or fill up the interstices or joints of brick-work, and to receive upon its surface the white lines of tuck-pointing'; in describing 'Pointing Tools' he refers to 'Small trowels used to lay on the pure lime used in tuck-pointing.'

A certain limited number of titles were also published either as pirated editions, or original works, in Dublin. A full description and listing of these is to be found in Casey 1991 (see below). Some references were found in one or two of the Irish published volumes:

P. Levi Hodgson's *The modern measurer, particularly adapted to timber and building, according to the present standard of the kingdom of Ireland, ...* Dublin 1793, in which on page 97 the following prices are listed: 'Stock Brick Pointing on Fronts, 6d. per Square foot. Place Brick Pointing on do. Chimneys etc. from 2d to 3d. per square ft.'

William Stitt's *The Practical Architect's Ready Assistant; or, Builder's complete companion ...*, Dublin 1819, also has some brief references to pointing. In a section titled: 'The following rules and regulations have been taken into consideration and agreed upon by the Corporation of Bricklayers and Plaisterers unanimously – Post-hall, May 30th, 1796', Rule no. XVII states 'That all pointing, on new or old work be charged by the superficial foot'. However there are no descriptions of pointing techniques or any other specialist related vocabulary to be found there.

Adam Hammond, The rudiments of practical bricklaying (1875) [not yet consulted].

# 18th-century Irish newspaper references to brick

Because the majority of Irish 18th-century newspapers are not scanned and available online, only a very limited trawl could be made of these to find references to brick treatment. Appendix xxx is a full listing of these, including for their interest value, some references to brick houses, bricklayers as a profession, etc. For the most part, unsurprisingly, references were to manufacture and sales of brick, but there is nothing on pointing techniques or façade treatment. A *Dublin Journal* article from 30 November, 1790, refers to bricks from Fingal for sale by Mr Francis Sandy, at Peter Street, 'both place brick and grey stock of superior quality', but no prices are given.

Dublin Builder & Irish Builder

A limited scan during this study through c. 40 years of these journals (1862-1900) revealed few references to brick – mostly manufacture of glazed and new brick types – and none to brick pointing.

# **SECONDARY SOURCES — UNPUBLISHED**

Three key unpublished PhD theses were considered in depth in preparing the research for this project.

Christine Casey. 'Books and builders: a bibliographical approach to Irish 18th-century architecture', (TCD PhD, 1991), is a very useful source of contemporary book titles, especially of those published, whether as originals or as pirated versions of English books, in Dublin. See Appendix xxx for relevant notes from that.

• Arthur Gibney. 'Studies in eighteenth-century building history', (PhD, Department of History of Art, Trinity College, 1997), is a broad-based and detailed account of a wide range of aspects of building technology in the 18th century in Ireland. All references to brick have been recorded (Appendix xxx), and there remains a number of possible future sources of further researches in primary sources suggested by this work. As always, however, the majority of references are to do with brick manufacture and some brick building, but nothing directly on pointing or façade treatment. Susan Roundtree's researches into brick technology in Ireland remain the seminal secondary source for work in this field. Her thesis: Susan Roundtree. 'A history of clay brick as a building material in Ireland', (M.Litt, Department of the History of Art, Trinity College, 1999), concentrates, however, for the most part, on brick manufacture, and the use of bricks in buildings, with a reasonably minimal amount of references (p. 53 the exception) to pointing per se. Notes from this are included in Appendix xxx, and as with the detailed references in Arthur Gibney's thesis, some hints at further research directions may be found there as well.

Other unpublished secondary sources worthy of consideration, but not accessed in the course of the present research is the Dublin Corporation collection of photographs of Dangerous Buildings in the possession of the Royal Society of Antiquaries of Ireland. A good quantity of these have been reproduced in Niall McCullough, and the photographs there and in the *Georgian Society Records* 1910–11, have proved a useful source for the appearance of some early restoration works, and of historic façades at the beginning of the 20th century.

## SECONDARY SOURCES — PUBLISHED (SELECT LIST)

- Christine Casey, 'Architectural books in eighteenth-century Ireland' *Eighteenth-Century Ireland* 3 (1988): 105–13
- Christine Casey, 'Subscription networks for Irish architectural books 1730-1760' *Long Room* 35 (1990): 41-49
- F.E. Dixon, 'The papers of Bryan Bolger' Dublin Historical Record xxvi, no. 2 (Mar. 1973): 62–64
- The Georgian Society, *The Georgian Society records of eighteenth-century domestic architecture and decoration in Dublin* 3 vols, (Dublin: 1910–11).
- Alderman Thomas Kelly, 'Papers of Bryan Bolger, 1792-1834' *Dublin Historical Record* 3, no. 1 (Sep.-Nov., 1940): 8–18
- Gerard Lynch, *Brickwork: history, technology and practice* (Shaftesbury, Dorset: Donhead, 2008)
- Lynch, G.C.J, 'Gauged Brickwork: A Technical Handbook', 1st Edition, (1990), Gower Publishing, 2nd Edition (Revised 2006), Donhead Publishing—Chapter 8, Tuck Pointing, ppp. 175-187
- Lynch, G.C.J. 'The Colour Washing and Pencilling of Historic English Brickwork', Journal of Architectural Conservation, Volume 12, July 2006, Number 12, Donhead Publishing, pp. 63-80.
- Gerard Lynch, Susan Roundtree, and Shaffrey Associates Architects, *Bricks: a guide to the repair of historic brickwork Advice Series*. (Dublin: Department of the Environment, Heritage and Local Government, 2009)
- Niall McCullough, *Dublin an urban history: the plan of the city* (Dublin: Anne Street Press/The Lilliput Press, 2007)
- Carroll L.V. Meeks, 'Books and buildings, 1449-1949. One hundred great architectural books
  most influential in shaping the architecture of the western world' *Journal of the Society of Ar-*chitectural Historians 8, No. 1 (Jan-Jun 1949): 55-67.
- Edward McParland, 'The papers of Bryan Bolger, measurer' Dublin Historical Record 25, no. 4 (Sep. 1972): 120–31
- Susan Roundtree, 'Brick in the eighteenth-century Dublin town house' in *The eighteenth-century Dublin town house: form, function and finance*, edited by Christine Casey (Dublin: Four Courts Press, 2010), 73–81.

# **5.2 Fieldwork Scoping Study Observations**

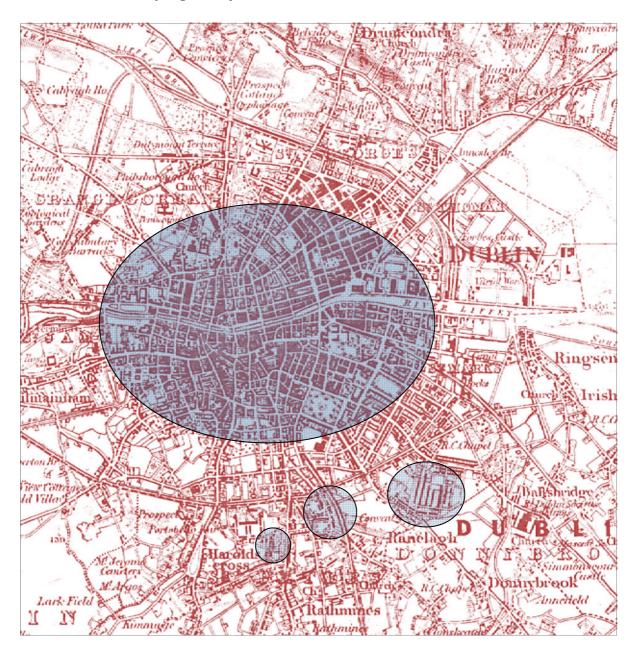


Figure 5.1: Map of Dublin showing fieldwork scoping study area of study.

The fieldwork observations were carried out on a cross section of buildings primarily located in the central part of the city. Appendix A contains a record this scoping study in the form of record sheets. The dates of the building inspected range from early to mid-eighteenth century to latenineteenth century. The building selected for recording were buildings that were pointed in the wigging/'tuck'style. While buildings with other techniques of pointing or jointing were not investigated during the scoping study, it should be noted that these buildings were predominantly subject to modern (mid to late-twentieth century) pointing renewals. The predominant finding from the fieldwork observations was that tuck pointing as a historic pointing technique is not present on the surviving historic buildings observed. Tuck pointing has survived on buildings of similar age in England and it is unusual (intriguing) that no surviving examples have been observed in Dublin to date. It raises the question to whether the technique had wide-spread use in the Dublin context.

Generally, the techniques used on the historic brick facades recorded during the study can be classified as follow

- 1. Wigging (with no evidence of colour wash)
- 2. Wigging with colour wash application to façade
- 3. Bastard tuck jointing with wigged perpends
- 4. Bastard tuck jointing.

The English tuck pointing technique when used correctly, was to imitate ashlared gauged brickwork set within 1.4 insch (6mm) joints (or less) but later could also be utilised to mitigate against poor quality brick and sometimes deficiencies in workmanship and other materials and, an aspiration to have fine jointed brickwork— will have vertical alignment of the perpends and even coursing of the horizontal joints even if it is required to have the joint across the face of the brick. In such cases the brick is scored to hold the tuck pointing ribbon. The buildings observed in the scoping study generally did not adhere to this principal where perpends were not aligned, albeit with some exceptions. Either this aesthetically was not of primary concern or could have been as a result of the wigging technique employed which in its particular application does not easily lend itself to being directly applied to the brick face.

#### Windows

Treatment of windows varied from building to building and can be subdivided and classified as follows:

#### Reveals

- 1. Exposed Brick reveal
- 2. Patent Reveal
- 3. Feathered Reveal

Patent reveal are known not to be original and are a later addition. There were a greater number of feathered reveals recorded than exposed brick. It is, however, not yet determined whether the feathered reveal was a later application or original to the buildings.

#### Window Heads

Generally the rough or axed flat camber<sup>2</sup> arch is used, and in only notable exceptions is the gauged flat camber arches used (Henrietta street, Marsh's Library)

- 1. Rough flat camber arch
- 2. Axed flat camber arch
- 3. Gauged camber arch

#### Ribbon Profile

The ribbon profile has in the majority of observed cases weathered back and generally are only intact in sheltered areas such as under windows sills. Where the profile is intact the perpend ribbon profile (4-6mm) tendx to be slightly thinner than the horizontal ribbon profile (5-9mm). Some recent pointing renewals have replicated the weathered ribbon look.

# Wigging Mortar

The wigging mortar recorded in most cases is a pigmented mortar (natural pigment) of predominantly red colour although buff coloured examples have also been recorded. The application of the mortar is generally 1-2mm applied over the stopping mortar and partially on the brick face. In a number of cases the wigging mortar has been undercut beneath the horizontal white ribbon to accentuate definition.

<sup>&</sup>lt;sup>1</sup>These also reflect the predominant historic techniques not only recorded but observed within the areas studied

<sup>&</sup>lt;sup>2</sup>Most window heads recorded were flat camber arched. However, a small number of flat arches were also recorded. The setting out of brickwork would be similar for both.

#### Colour Wash

Trace evidence of colour wash was observed and recorded. The colour wash was applied to the brick face prior to the application of the pointing. The colour wash would have been formed with a natural pigment, hot water and a mordant<sup>3</sup> additive (e.g. alum or white copperas), Other additives such as glue size and stale beer were also added. The colour wash should not be confused with a lime wash.

#### **Historic Authenticity**

The wigging stopping observed were in general thinly applied applications. Traditionally in English tuck pointing technique it is known that the stopping mortar was applied in a thin coat to the bedding mortar when it was still 'green' to form a compound joint. It was understood that if this compound joint was not formed the durability of the pointing would be shortened. In pointing renewal (re-pointing) the joint is raked out to a considerable depth—usually 2.5 times the height of the joint (which is 25mm for a typical 10mm high bed joint) - to provide a sufficient anchorage for the fresh re-pointing. If an equivalence can be made between the application of stopping mortar in wigging and historic tuck pointing, this would imply that the wigging stopping mortar was also applied 'green' to the bedding mortar, suggesting that wigging was an original finish (rather than applied purely a repair technique).

#### Original or Repair/Renewal?

Applying the above observation to the evidence arising from the fieldwork study, the following lists the various situations recorded and our conclusions regarding the status of the wigging—original or repair:

- 1. Ribbon and stopping intact and sound: Found in sheltered areas, e.g. below window sills or where protected behind signs, plaques, etc.
- 2. Ribbon weathered with sound stopping mortar: There is a high probability that this pointing is original.
- 3. Ribbon weathered with stopping mortar delaminating from the bedding mortar behind: Here, while the pointing may be original, it may also be evidence of a repair/renewal which due to the ultimate failure of the bond between the fresh repair/renewal wigging to the well cured bedding mortar behind, delamination between the two mortars has occurred.
- 4. Bastard jointing intake: It is highly probable that this is original

Of the buildings recorded Nos. 2 and 3 were the most common situations.

The following annotated photographs —figures 5.2 to 5.15— show the range of pointing finishes observed. Of the examples observed, and recorded, these illustrate the generally superior quality of execution, finesse and fineness of the ribbons of the eighteenth century pointing as compared with that of the nineteenth century.

<sup>&</sup>lt;sup>3</sup>A mordant is a fixative. setting out of brickwork would be similar for both.

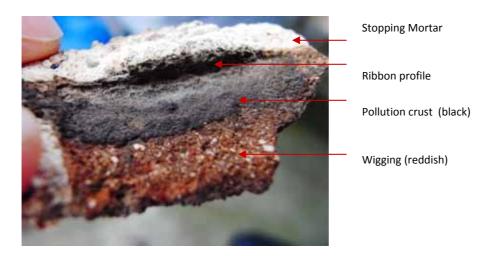


Figure 5.2



Figure 5.3

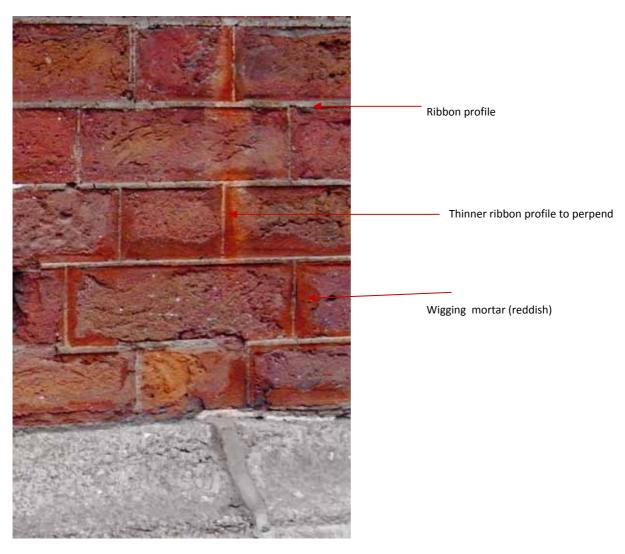


Figure 5.4



Figure 5.5

Window reveal wigged Note also undercut to stopping mortar below horizontal ribbon.

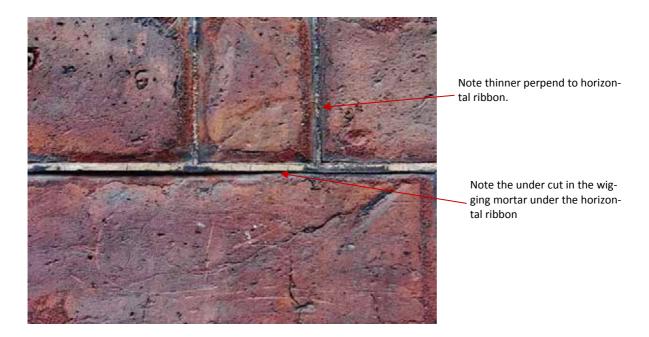


Figure 5.6

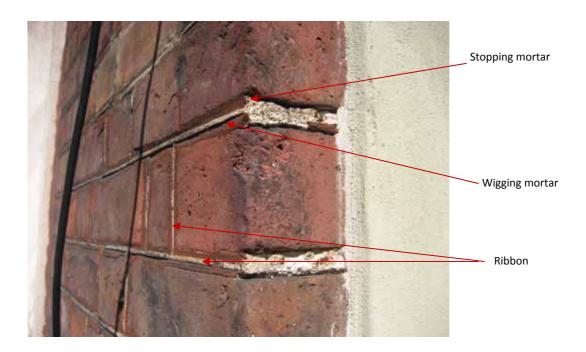


Figure 5.7

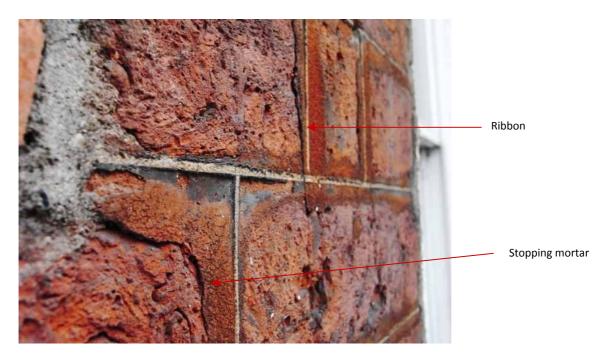
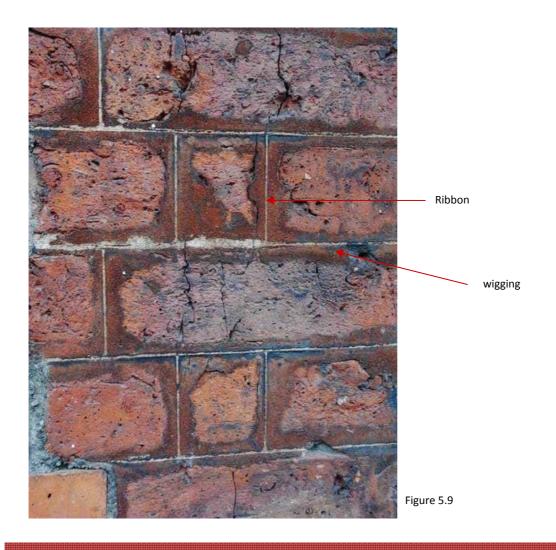


Figure 5.8



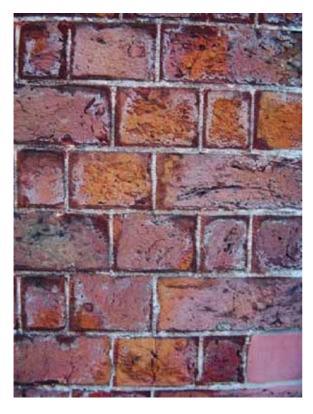


Figure 5.10: wigging

Wigged perpends





Figure 5.11

19





Figure 5.12 Figure 5.13



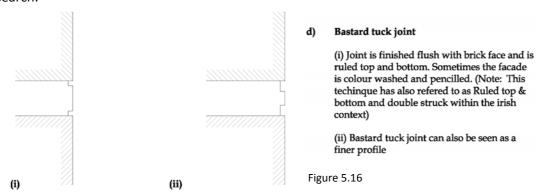


Figure 5.14 Figure 5.15

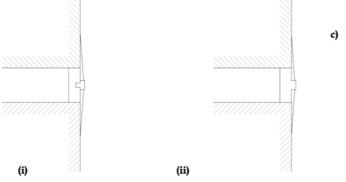
Figures 5.12 to 5.16 are all examples of bastard tuck jointing with wigged perpends

# Evolution of a style: Some thoughts

Tuck pointing as a technique has been used in England since the seventeenth century. The English architectural influence on Dublin is well documented. It is intriguing that a distinctive technique should evolve that is markedly different in application but similar in appearance to tuck pointing in the Irish context . Research carried out by the Dublin Civic Trust has noted that before the arrival of the classical taste to Ireland at the turn of 1700, Dublin was a gabled city very much like Amsterdam and other continental cities. This style of architecture, with its curvilinear, stepped and pedimented gables, emerged from the vernacular triangular gabled house format of the 1600s. The popularity and refinement of this style flourished with the influence of the Dutch and Huguenot immigrants who settled in Dublin in the late 1600s, as well as that of the supporters of King William III who brought the same prevailing style with them from England after 1690, hence the popular title 'Dutch Billy'. Seventeenth century gauge work in England was also influenced by the Dutch and tuck pointing techniques were also in use on the continent. It is possible, therefore, that there may be some European influence in the development of wigging in Dublin and this deserves further research.



Dr. Gerard Lynch's previous research in Europe and the UK suggests the origin of the wigging technique may possibly be found in what in the UK is termed as Bastard tuck. This research shows that in the Netherlands there is a historic tradition of trimming either sides of bed and cross joints to produce fine ribbon pointing which helps emphasise fine mortar joints. As illustrated in Figure 5.16 above the joint is finished flush with the brick face and is ruled top and bottom. The profile is not unlike that achieved when forming the ribbon from the stopping mortar (as found in the wigging technique). In bastard tuck jointing the application of a colour wash was not uncommon and appears to have been similarly used in wigging . The coloured wigging mortar is used to give definition to the ribbon and eliminate irregularity in the brick . It has been observed that tuck jointing with wigged perpends was in common usage and perhaps wigging was a technique developed to finish the perpends with a thinner profile and gradually came to be used on the horizontal joint as well, particularly if the quality of brick was poor. Availability and cost of materials may also have been an influencing factor , such as natural pigments and fine sands.



c) Wigged Joint

Possibly an Irish derivation on Bastard tuck pointing or jointing. The tuck may have been formed as a ribbon as in the bastard tuck pointing (i) technique or formed out of the stopping mortar (ii). The wigging is the thin layer of colour mortar that is applied over the face of the stopping mortar which is white. The build up shown here is based on examined samples of repointing wigging.

Figure 5.17

Spons' mechanic own book a manual for handicraftsmen and amateurs second edition 1886

"There is another description of pointing, sometimes called" bastard tuck," the mode being somewhat similar to the last, only that it is done without any previous stopping. The pointing mortar is generally laid on with a tool called a "jointer," guided by a straightedge. This tool has a face the same width as the intended joint, and leaves its impress upon the material, the superfluous margins being cut or dragged oil" by the Frenchman, the same as before [i.e. tuck pointing]. This kind of work is preferable to tuck-pointing, in as much as it is capable of being made sound and durable, especially if the original joints have been previously and effectually raked out; also the mortar may contain a greater proportion of grit, and need not contain any colouring matter to depreciate its setting qualities. It can also be pressed into the natural joints with greater effect, thereby ensuring stability, and finished flush with the face, which will be a nearer approach in appearance to work legitimately struck off the trowel.

There is yet another kind of " bastard tuck-pointing," which used occasionally to be applied to brickwork, faced with yellow malms, which consists of a method of stopping in the natural joints, while yet soft, and at the same time rubbing over the whole surface with a piece of brick of the same kind as those in the wall. By these means, the particles ground from the friction of the bricks become mingled with the mortar, so that the face of the wall, bricks, and joints are one level surface, and as nearly as possible one tint. It is then left until the time arrives for finishing, when the artificial joints are laid on in the same manner as described in tuck-pointing. One thing in favour of this method is the fact that the stopping becomes nearly as hard as the bricks, and therefore very little danger occurs of early decay. But with the disappearance of yellow malm bricks, this system of pointing appears to have disappeared also, and it would be well to be enabled

The description of the application of bastard tuck pointing in Spon's reference book is not too dissimilar to the formation of the ribbon as carried out in wigging.

## 5.3 Trial Panels

To develop a clearer understanding of the Wigging Technique a number of trial panels were prepared by Dr Gerard Lynch, who is a Master Craftsman and authority on historic joint finishes. The purpose was to explore variations in technique that would help inform appropriate specifications and methodologies for future façade renewal projects .

Six trial panels were repaired and the principal materials used were:

- 1. Bedding mortar—NHL 3.5 lime mix (2:5 (lime:sand) mix)
- 2. Stopping mortar—NHL 1 lime mix sand (the NHL 1 mortar is not commercially available and was from Gerard Lynch's own stock). 1:2 (lime:sand) mix.
- 3. Ribbon—NHL 1 lime mix with fine sand. 1:1 (lime:sand) mix.

The sand was a very fine (110µm) from Gerard Lynch's own stock.

The technique used for each panel was as follows:

- 1. The first two panels show the preliminary stages of the process—bedding mortar (Panel 01) and the stopping mortar grooved (Panel 02)
- 2. Tuck Pointing (Panel 03)

The tuck pointing panel serves a reference quality control panel to compare the quality level that can be achieved using the wigging technique

- 3. Irish Wigging—ribbon formed from stopping mortar (Panel 04)
- The initial attempt had the stopping mortar flush with the brick face, the ribbon was then sculpted out of the stopping mortar and then the wigging mortar was applied. This gave a very flat finish and did not achieve the profile that had been observed in the fieldwork. An undercut was applied to the wigging mortar on the horizontal and this had a marked effect lending the profile depth and shadow. Pressing in the wigging mortar under the ribbon had been observed in number of cases and may have been a historic technique used to sharpen the definition of the ribbon.
- 4. Bastard tuck pointing technique used to form ribbon with wigging mortar applied (Panel 05) The stopping mortar was slightly recessed and was grooved and the ribbon formed using tuck pointing technique to form a compound joint between the tuck ribbon and the stopping mortar. The wigging mortar was then applied. The bastard tuck pointing technique produced a high quality ribbon and could be considered as possible variation to improve quality.
- 5. A final trial panel was carried out (Panel 06) where the ribbon had been formed by bastard tuck pointing. The ribbon was formed to project proud of the brick face to replicate the relative position of the ribbon to the brick face in wigging. The wigging mortar was then applied, during this process it became apparent that forming an indent groove in the stopping mortar allow an easier application of the wigging mortar. This is not an observed historic technique however it was prepared to explore possible methodologies which can achieve the desired standard of finish more efficiently and economically. It is recommended that further trials of this nature be carried out and, if possible, on a larger scale (a live project).

# Conclusions arising from the trial Panels

- The wigging technique could achieve a quality comparable with that of tuck Pointing.
- Fine sand is a perquisite to achieving a sharp clean ribbon
- Nuances in application technique need to be further explored, e.g. pressing in or undercutting of wigging
- Colour wash application needs to be trialed in conjunction with the wigging technique
- Shadow formed from the projecting ribbon is an important aesthetic factor
- The thinner perpend ribbon is aesthetically more pleasing to the eye.



Figure 5.18 Trial Panel 01
Bedding mortar

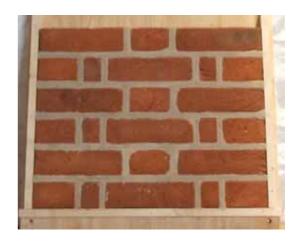


Figure 5.19: Trial Panel 02
Stopping mortar grooved

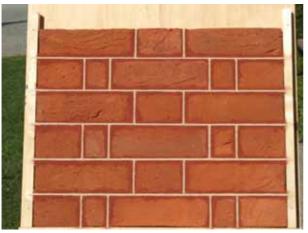


Figure 5.20: Trial Panel 03
Tuck pointing

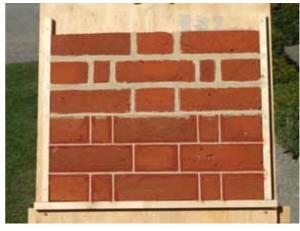


Figure 5.21:

Trial Panel 04 Ribbon formed out in Stopping mortar with wigging mortar applied

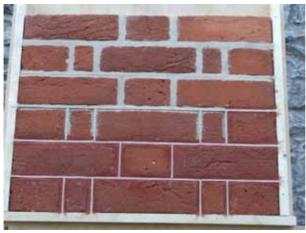


Figure 5.22: Trial Panel 05
Stopping mortar grooved with ribbon formed in bastard tuck pointing



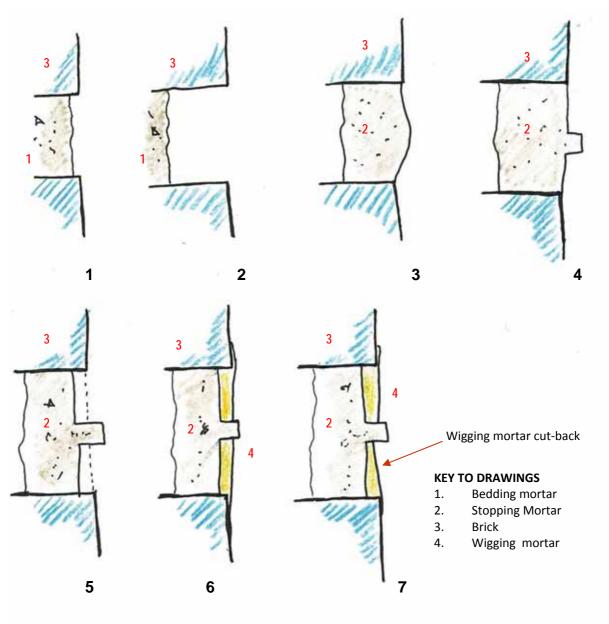




Figures 5.23 –5.25 Panel 06

Application of the wigging mortar

# Development of a Renewal Technique



- 1. Original pointing failure, bedding mortar face exposed
- 2.Rake back joint to sufficient depth (generally twice joint width or min 25mm). Flush out clean Apply colour wash at this stage when appropriate
- 3. Fill joint with white stopping mortar
- 4. Form ribbon profile from stopping mortar. Stopping mortar should contain fine sand to enable a sharp ribbon profile
- 5. A cut back is indicated to provide key for wigging mortar, this is a modification of original technique observed during field study. Alternatively the wigging is applied to the stopping mortar without the indent for the key (see 4)
- 6. Wigging mortar is applied over stopping mortar
- 7. Wigging mortar cut back under projecting ribbon to give definition . This was observed on some of the buildings observed and recorded during the field study

# 6.0 Conclusion on Study Findings and Preliminary Recommendations

# **6.1 Conclusion on Study Findings**

Wigging as a pointing technique had common usage in the Dublin context. Buildings examined as part of this study suggest it was in use as a technique during the eighteenth century and continued to be used in the nineteenth century. Its origin is still uncertain and why a different technique was developed when it is likely that knowledge of English tuck pointing would when been available is intriguing. Further research into this is required. The technique used in wigging is consistent throughout the range of dates of building s examined during the study. As such it is found on buildings dating from the early eighteenth up to the early twentieth century. Despite the fact that he term 'wigging' has survived in common parlance amongst bricklayers to today, its application in the recent phase of facade renewals has been notably absent., the preferred technique being English tuck. This perhaps tells more about the growing gap between the professional and the tradesman/craftsman in Ireland. At this stage other key conclusions on the wigging technique include:

- Many historic brick facades which were wigged were also colour washed;
- The stopping mortar application is a very thin application
- The ribbon is formed from the stopping mortar
- The coloured wigging mortar is applied over the stopping mortar
- Perpend ribbon is thinner than the bed (horizontal) ribbon
- Vertical alignment of perpend and even coursing of brickwork were not strictly adhered to , unlike English tuck examples from England.

Bastard tuck jointing was also recorded as being widely used with the perpends only wigged.

Of the recently renewed facades which adopted the English tuck technique, few match the quality of execution of what was observed from the surviving historic examples of wigging. It also appears many lack the durability with failure already evident.

It is difficult to successful 'patch' re-point historic wigging (as it is tuck pointing), and so it is likely full renewal of the facade will be appropriate. However, only where the pointing has failed to a condition where the building is at risk of damage, should complete renewal of facade be carried out, where historic pointing survives. A repair technique that reproduces a weathered pointing maybe appropriate for small localised repairs rather that wholesale removal of weathered pointing that is otherwise sound.

If carrying out a full facade renewal this will result in a significant change to the overall aesthetic of the building, which may be particularly striking where the building sits in a terrace of similar buildings (as is mostly the case in Dublin City). However, the quality of the execution of the work will have a significant bearing on the change and so it is imperative that the skills and experience of the brick-mason carrying out the work, the materials used and the workmanship and site procedures implemented are of a sufficient standard.

There is little historic reference to brick pointing techniques. The reference found in the PKS Quantity Surveyor records to 'tuck' pointing specified for repairs to 81 Middle Abbey Street, date 1863 is the only explicit historic 'evidence' of tuck identified.

### **6.2 Preliminary Recommendations:**

- The current use of English tuck pointing for pointing renewal schemes should be discouraged as there is currently no supporting evidence to indicate that this is an historically authentic technique in the Dublin context. However, the possibility of tuck pointing techniques being used historically must remain open and further research, in particular, fieldwork should be carried out. There are opportunities within the planning application and conservation grants assessment processes to add to the data collated during this study. Further, the upcoming National Inventory of Architectural Heritage survey of Dublin City could include historic brick pointing finishes on the record sheets (this may require some training for recorders).
- The hybrid techniques for pointing renewal which have evolved in an attempt to approximate historic techniques should generally be discouraged on aesthetic, historic precedence and where inappropriate mortars are used, material grounds. This is not to discourage the evolution of the craft of brick masonry for repair of historic facades—part of an intangible heritage value— which arises from close study of authentic techniques and aesthetic effects as well as from an awareness of materials, tools and site practice.
- Any decision on pointing renewal of historic facades should be informed by the surviving evidence where extant, and observation of the immediate historic context.
- Further historical research is required (refer to 7.0)
- Further fieldwork recording is required
- Analytical analysis of the wigging using further trial panels/real project trials and laboratory testing
- Materials guidance—to assist in identifying and sourcing suitable materials. The use of Naturally Hydraulic Lime (NHL) should be advised over Hydraulic Lime (HL), and the use of proprietary engineered mortars using HL (even where stated as 'lime-based), should be discouraged as these can contain up to 10% of unspecified materials. The impact of this unspecified material on a pointing mortar can be significant. Equally the fineness of the sand used in re-pointing can have a notable impact on the quality of application—coarser aggregate can lead to a rougher, 'dragged', ribbon. The historic use of other materials, such as glue size which were also used in the trial panels, aided the fine execution of ribbons.
- Methodology on pointing renewal. The benefit of carrying out further test samples—either as similar panels to those prepared for this study or, preferably, larger scale trials—will be to explore different techniques and methodologies for carrying out wigging. These will assist firstly in identifying likely historic techniques and secondly, in developing techniques, based on the historic, which provide the quality, aesthetic standard and longterm durability of finish desired while also addressing issues of greater affordability and efficiency.
- Prepare technical application guidance for wigging—this would result from the further test panels and would include materials guidance.
- There is a need for greater training in the craft of brick masonry and, in particular the historic pointing techniques identified in this study.
- Many historic brick buildings are in private ownership, many are private homes. There is a need
  to communicate in a concise and informative manner the findings and overall conclusions of
  this study. These property owners are the primary guardians of this architectural heritage and
  their role in its better protection is critical.
- Conservation policy on pointing renewal: Dublin City Council presently applies a conservation
  policy with regard to historic facade renewal. This requires owners/developers to seek planning
  permission for complete re-pointing schemes. The findings of this study should assist applicants
  in designing appropriate specifications and methodologies for repair solutions. This study will
  also assist planning authorities in assessing proposals for repair and renewal. The next section
  sets out the key points of a suggested conservation policy based on this study's findings.

### 6.3 Historic facade re-pointing policy:

The key elements of this policy might be:

- The requirement for planning permission for large-scale or complete façade repointing/ renewal should be maintained.
- It is acknowledged that the complete re-pointing of an historic façade using a traditional wigging technique will result in loss of historic patina. However, if executed satisfactorily, the aesthetic effect should not be compromised. A repair technique that reproduces a weathered pointing maybe appropriate for small localised repairs rather that wholesale removal of weathered pointing that is otherwise sound.
- The predominant historic pointing techniques observed to date are wigging; bastard tuck jointing/pointing; combination of bastard tuck jointing with wigged perpends. This is particularly so for hand-made bricks, although these finishes have also been observed on machine made brick facades of the late nineteenth and early twentieth century. Where evidence of the historic/original pointing survives, this should generally be the preferred technique for re-pointing. Where no evidence survives of the original/historic finish, then study of adjacent or contemporaneous finishes should be carried out to inform the appropriate approach.
- While surviving evidence shows a range of ribbon widths, the narrower eighteenth century ribbons create a more pleasing aesthetic than the fatter ribbons. It will generally be preferable, on aesthetic grounds, to adopt a narrower width.
- Only where sound evidence can be provided should the English form of tuck pointing be permitted.
- On the basis that patch re-pointing using the wigging technique is unlikely to achieve a
  satisfactory finish it is recommended that wigging be implemented only when carrying
  out a complete façade renewal. A repair technique that reproduces a weathered
  pointing maybe appropriate for small localised repairs rather that wholesale removal of
  weathered pointing that is otherwise sound.
- Materials: the use of feebly hydraulic (2NHL or, if and where available, 1NHL), Natural
  Hydraulic limes should be used in the re-pointing mortars. Fine silica/silver sand and
  only natural pigments and additives should be used. The strength of the mortars should
  not be such as to cause damage to the brickwork over time.
- Sample panels should be provided for all projects in advance of carrying out works.
- Colour washing should only be permitted where there is substantial surviving evidence. Samples for approval should be provided in advance.
- General good practice site procedures for lime based work should be required for all works. This will also address after-care protection and restrictions during cold weather.
- Photographic evidence of any surviving historic pointing should accompany all planning applications. A brief report providing clear reasoning for the proposed re-pointing technique to be adopted should also be provided.

In addition to the above recommendations for specific repair projects/planning applications, the policy should address training and dissemination of information to building owners, specifiers and practitioners.

# 7.0 Further Research

The study identified a number of historic sources (ref. section 5.2) which may yield critical documentary information on this subject. While this study 'opened the book' with regard to these sources, there is a further substantial research (indeed potentially several) project to study in depth these sources.

Further research also into the influence of the European settlers of the seventeenth and eighteenth centuries on bricklaying and finishing is warranted. This could be part of a wider research project on the broader architectural and urban legacy of this influence.

Some of the buildings recorded in this study are part of the Wide Streets Commissioners schemes and a broader research project on the surviving buildings/interventions of the Wide Streets Commissioners may also yield useful information on aspects of historic brickwork in addition to the wider architectural and urban planning aspects.

# **Appendix A**

# **Fieldwork Record sheets**

The field record sheets are a record of the visual identification of pointing techniques employed on building facades. The fieldwork was carried out in July and October 2010 and provide a sample scoping within Dublin City.

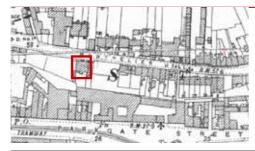
# **Surveyors:**

Eamonn Kehoe (Shaffrey Associates Architects)
Grainne Shaffrey (Shaffrey Associates Architects)

Dr. Gerard Lynch (Master brickmason and historic brickwork consultant)

Dr. John Montague (Architectural Historian) Charles Duggan (Dublin City Council)

Susan Roundtree (Dublin City Council)
Carl Raftery (Dublin City Council)



OS 1888-1913

Record No: 0001

Address of Building: 26 Montpelier Hill

Building Type: Detached

3 Storey Over Basement

Date of Building: 18th Century

Façade orientation Reference: Front / North orientation

Brick Bond: Flemish
Brick Type Handmade

Brick Colour Orange to Purple colour range

Joint Technique used Pointing

Joint style: Wigging, reddish colour

**Colour Wash:** Probable , trace elements evident

Original Finish: High Probability
Window Head Treatment: Rough Flat arch
Window Reveal Treatment: Exposed brick

**Brick Condition :** Good

**Joint Condition:** pointing weathered back , intact sections under window cill

**Other features :** Parapet with Granite parapet

Semi circular arch to entrance

Sample Taken: Yes

**Observations:** 

Yellow brick to gable walls are ruled.

Colour wash is evident behind pointing application

No attempt to line perpends

4 course Gauge is 340mm, joints 10-12mm

#### **Map References:**

Present on Rocque Map 1756:

Present on Ordnance Survey 6" Series (1838-1842):

Yes

Present on Ordnance Survey 25" Series (1888-1913):

Yes

\* Building structure indicated on map not be the present building





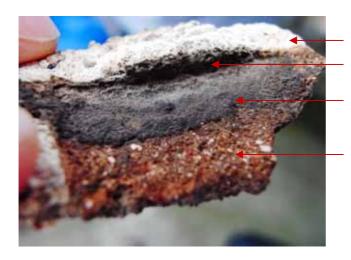
late 0002

32



Wigging mortar

Bedding Mortar



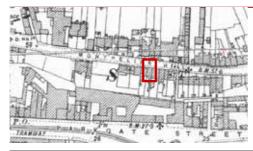
Stopping Mortar

Ribbon profile

Pollution crust (black)

Wigging (reddish)

Plate 0003



OS 1888-1913

Record No: 0002

Address of Building: 46 Montpelier Hill

Building Type: Terrace

2 Storey

Date of Building: 19th Century

Façade orientation Reference: Front / North orientation

Brick Bond: Flemish
Brick Type Handmade
Brick Colour Yellowish
Joint Technique used Pointing

Joint style: Wigging, buff colour

Colour Wash: Probable

Original Finish: High Probability
Window Head Treatment: Rough Flat arch
Window Reveal Treatment: Exposed brick
Brick Condition: Good to fair

Joint Condition: pointing weathered back
Other features: Parapet with Granite parapet

Semi circular arch to entrance

Sample Taken: No

**Observations:** 

**Prepends follow joints** 

Fuel burn out visible on brick face, quality of brick poorer at upper level

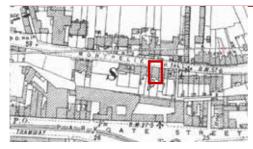
# **Map References:**

Present on Rocque Map 1756: No
Present on Ordnance Survey 6" Series (1838-1842): No
Present on Ordnance Survey 25" Series (1888-1913): Yes

\* Building structure indicated on map not be the present building







OS 1888-1913

Record No: 0003

Address of Building: 47 Montpelier Hill

Building Type: Terrace

2 Storey

Date of Building: 19th Century

Façade orientation Reference: Front / North orientation

Brick Bond: Flemish
Brick Type Handmade
Brick Colour Yellowish
Joint Technique used Pointing

Joint style: Wigging, buff colour

Colour Wash: Probable

Original Finish: High Probability
Window Head Treatment: Rough Flat arch
Window Reveal Treatment: Feather plaster
Brick Condition: Good to fair

Joint Condition:pointing weathered backOther features :Parapet with Granite parapet

Semi circular arch to entrance

Sample Taken: No

**Observations:** 

**Prepends follow joints** 

# **Map References:**

Present on Rocque Map 1756:

Present on Ordnance Survey 6" Series (1888-1913):

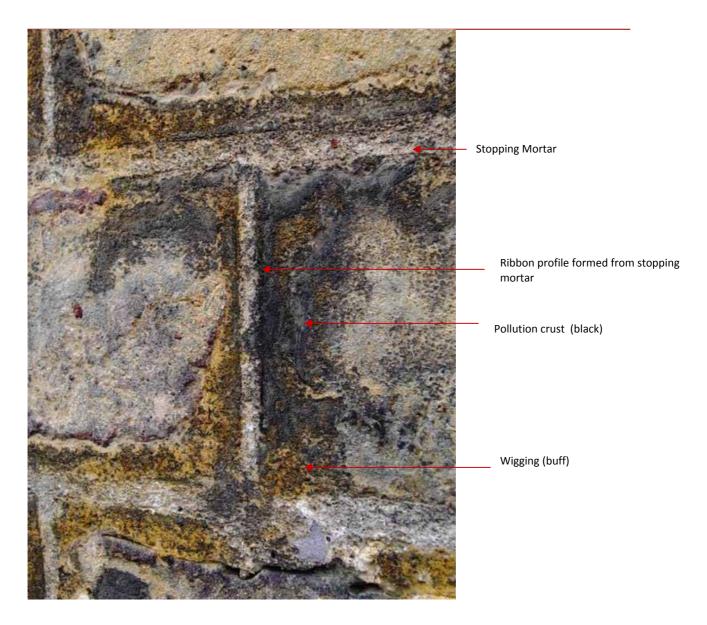
Present on Ordnance Survey 25" Series (1888-1913):

Yes

\* Building structure indicated on map not be the present building

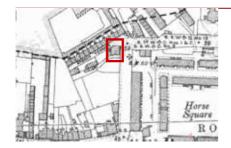








Inclusions in brick



Record No: 0004

Address of Building: 49 Arbour Hill

Building Type: End of Terrace Corner building

2/3 Storey over basement

Date of Building: 18th Century

Façade orientation Reference: Front / East orientation ; Side North orientation

Brick Bond: Flemish
Brick Type Handmade
Brick Colour buff
Joint Technique used Pointing

Joint style: Wigging, red colour

Colour Wash: Yes

Original Finish: Good Probability

Window Head Treatment: Flat arch

Window Reveal Treatment : Patent reveal (east) Feathered (north)

Brick Condition: Good

Joint Condition: Weathered

**Other features :** Parapet with Granite parapet

Semi circular arch to entrance

Sample Taken: No

**Observations:** East façade cement pointed

Surface application applied over pointing to unify building 4 Course gauge 330mm Bed joint 8mm Perpend 4mm

**Map References:** 

Present on Rocque Map 1756:

Present on Ordnance Survey 6" Series (1838-1842):

Yes

Present on Ordnance Survey 25" Series (1888-1913):

Yes

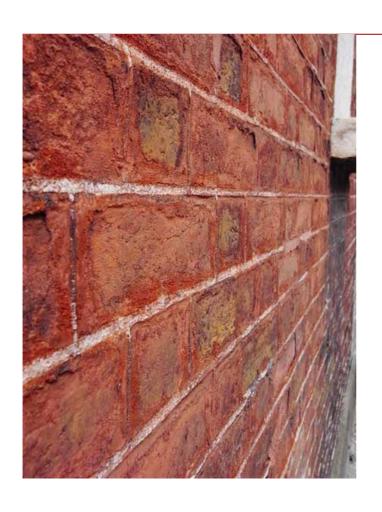


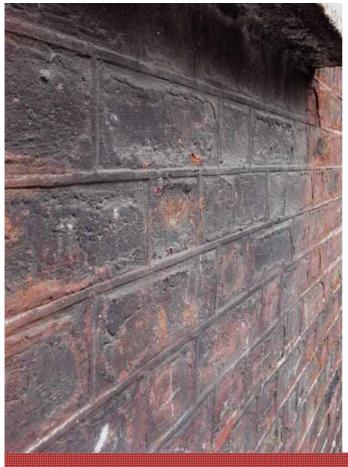














Record No: 0005

Address of Building: 3 Arbour Terrace
Building Type: Terrace building

2 Storey

Date of Building: 19th Century

Façade orientation Reference: Front / South East orientation Brick Bond:

Brick Bond Flemish
Brick Type Handmade
Brick Colour buff
Joint Technique used Pointing

Joint style: Wigging, red colour

**Colour Wash:** discernible tone at upper level

Original Finish: Good Probability
Window Head Treatment: Flat arch with camber

Window Reveal Treatment : brick

**Brick Condition**: Good where exposed

Joint Condition: Weathered

Other features : Overhanging eaves with brick corbel detail

Sample Taken: No

**Observations:** cement pointed in parts

# Map References:

Present on Rocque Map 1756:

Present on Ordnance Survey 6" Series (1838-1842):

No
Present on Ordnance Survey 25" Series (1888-1913):

Yes





<sup>\*</sup> Building structure indicated on map not be the present building



Record No: 0006

Address of Building: 6 Arbour Terrace
Building Type: Terrace building

2 Storey

Date of Building: 19th Century

Façade orientation Reference: Front / South East orientation Brick Bond:

Brick Bond Flemish
Brick Type Handmade
Brick Colour buff
Joint Technique used Pointing

Joint style: Wigging, red colour

**Colour Wash:** discernible tone at upper level

Original Finish: Good Probability
Window Head Treatment: Flat arch with camber

Window Reveal Treatment : brick

**Brick Condition**: Good where exposed

Joint Condition: Weathered

Other features : Overhanging eaves with brick corbel detail

Sample Taken: No

**Observations:** cement pointed in parts

# Map References:

Present on Rocque Map 1756:

Present on Ordnance Survey 6" Series (1838-1842):

No
Present on Ordnance Survey 25" Series (1888-1913):

Yes





<sup>\*</sup> Building structure indicated on map not be the present building



Record No: 0007

Address of Building: 54 Montpelier Hill

Building Type: detached corner building

3 Storey over basement

Date of Building: 18th Century

Façade orientation Reference: Front / North orientation

Brick Bond: Flemish
Brick Type Handmade

Brick Colour buff/reddish (not easily discernible due to pollution)

Joint Technique used Pointing

Joint style:Wigging, red colourColour Wash:UndeterminableOriginal Finish:Good Probability

Window Head Treatment: Flat arch (concealed behind render)

Window Reveal Treatment : Façade rendered

Brick Condition : Good where exposed

Joint Condition: eroded back (weathering or removed)

**Other features :** Parapet with Granite parapet

Semi circular arch to entrance

Sample Taken: No

**Observations:** 

**Prepends follow joints** 

## **Map References:**

Present on Rocque Map 1756:

Present on Ordnance Survey 6" Series (1838-1842):

Present on Ordnance Survey 25" Series (1888-1913):

Yes









Record No: 0008

(observations date from 2008)

Address of Building: 86 Aughrim Street
Building Type: Terrace building

2 Storey

**Date of Building:** 18/19th Century

Façade orientation Reference: Front / North East orientation

Brick Bond Flemish
Brick Type Handmade
Brick Colour buff
Joint Technique used Pointing

Joint style:Wigging, red colourColour Wash:not discernibleOriginal Finish:Good ProbabilityWindow Head Treatment:Flat arch with camber

Window Reveal Treatment : patent reveal

Brick Condition :GoodJoint Condition:WeatheredOther features :Granite parapet

Sample Taken: No

Observations: Building re-pointed 2008 using wigging technique

#### **Map References:**

Present on Rocque Map 1756: No
Present on Ordnance Survey 6" Series (1838-1842): Yes
Present on Ordnance Survey 25" Series (1888-1913): Yes



<sup>\*</sup> Building structure indicated on map not be the present building







Record No: 0010

(observations date from 2008)

Address of Building: 87 Aughrim Street
Building Type: Terrace building

2 Storey

**Date of Building:** 18/19th Century

Façade orientation Reference: Front / North East orientation

Brick Bond Flemish
Brick Type Handmade
Brick Colour buff
Joint Technique used Pointing

Joint style:Wigging, red colourColour Wash:Trace discernibleOriginal Finish:Good ProbabilityWindow Head Treatment:Flat arch with camber

Window Reveal Treatment : patent reveal

Brick Condition :GoodJoint Condition:WeatheredOther features :Granite parapet

Sample Taken: No

**Observations:** Building facade painted

4 Bed gauge: 355mmm Bed—6-9mm Perp—4-5mm

**Map References:** 

Present on Rocque Map 1756:

Present on Ordnance Survey 6" Series (1838-1842):

Yes

Present on Ordnance Survey 25" Series (1888-1913):

Yes









Record No: 0011

(observations date from 2008)

Address of Building: 21 Aughrim Street
Building Type: Terrace building

2 Storey

**Date of Building:** 18/19th Century

Façade orientation Reference: Front / South West orientation

Brick Bond Flemish
Brick Type Handmade
Brick Colour buff
Joint Technique used Pointing

Joint style: Wigging, red colour **Colour Wash:** None evident **Original Finish:** undetermined **Window Head Treatment:** Flat arch **Window Reveal Treatment:** feathered **Brick Condition:** Good **Joint Condition:** Weathered Other features: Granite parapet

Sample Taken: No

**Observations:** Groove visible in bedding mortar. Possibly original joint finish.

Pointing similar to bastard tuck pointing technique 4 Bed gauge : 355mmm Bed—6-9mm Perp—4-5mm

## **Map References:**

Present on Rocque Map 1756: No
Present on Ordnance Survey 6" Series (1838-1842): Yes
Present on Ordnance Survey 25" Series (1888-1913): Yes

















**Record No: 12** 

Address of Building: 57 & 58 Aughrim Street Building Type: Terrace building

2 Storey

Date of Building: 19th Century

Façade orientation Reference: Front / North East orientation

Brick Bond Flemish
Brick Type Handmade
Brick Colour buff
Joint Technique used Pointing

Joint style: Wigging, red colour
Colour Wash: None evident
Original Finish: undetermined
Window Head Treatment: Flat arch
Window Reveal Treatment: feathered
Brick Condition: Good
Joint Condition: Weathered

Other features : Brick corbelled eaves

Sample Taken: No

Observations: wigging mortar approx 2mm

## Map References:

Present on Rocque Map 1756: No
Present on Ordnance Survey 6" Series (1838-1842): No
Present on Ordnance Survey 25" Series (1888-1913): Yes











Record No: 0013

Address of Building: 34 Manor Street
Building Type: Terrace building

2 Storey over basement

Date of Building: 19th Century

Façade orientation Reference: Front / South west orientation

Brick Bond Flemish
Brick Type Handmade
Brick Colour buff
Joint Technique used Pointing

Joint style: Form of Bastard tuck

Colour Wash:

Original Finish:

Window Head Treatment:

Window Reveal Treatment:

Brick Condition:

Joint Condition:

Other features:

None evident

Good

Weathered

Granite parapet

Sample Taken: Yes

**Observations:** Sculpted perpends

## **Map References:**

Present on Rocque Map 1756: No
Present on Ordnance Survey 6" Series (1838-1842): Yes
Present on Ordnance Survey 25" Series (1888-1913): Yes









Record No: 0014

Address of Building: 27 Manor Street
Building Type: Terrace building

3 Storey

Date of Building: 19th Century

Façade orientation Reference: Front / South west orientation

Brick Bond Flemish
Brick Type Handmade
Brick Colour buff
Joint Technique used Pointing

Joint style: Form of Bastard tuck

Colour Wash:

Original Finish:

Window Head Treatment:

Window Reveal Treatment:

Brick Condition:

Joint Condition:

Other features:

None evident

Undetermined

Flat arch

patent

Good

Weathered

Granite parapet

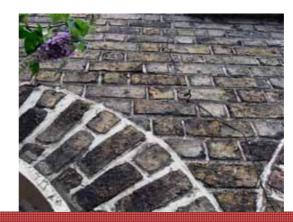
Sample Taken: Yes

Observations: stopping and ribbon similar mix

## Map References:

Present on Rocque Map 1756: No
Present on Ordnance Survey 6" Series (1838-1842): No
Present on Ordnance Survey 25" Series (1888-1913): Yes















Record No: 0015

Address of Building: 85 North King Street
Building Type: Terrace building

4 Storey

Date of Building: 18th Century

Façade orientation Reference: Front / South orientation

Brick Bond Flemish
Brick Type Handmade
Brick Colour buff
Joint Technique used Pointing

Joint style: Form of Bastard tuck

Colour Wash:

Original Finish:

Window Head Treatment:

Window Reveal Treatment:

Brick Condition:

None evident

undetermined

patent

Flat arch

patent

Good

Joint Condition: Weathered poor Other features : Granite parapet

Sample Taken: No

**Observations** Over painted

#### **Map References:**

Present on Rocque Map 1756: No
Present on Ordnance Survey 6" Series (1838-1842): Yes
Present on Ordnance Survey 25" Series (1888-1913): Yes





Record No: 0016

Address of Building: 81 North King Street
Building Type: Terrace building

4 Storey

Date of Building: 18th Century

Façade orientation Reference: Front / South orientation

Brick Bond Flemish
Brick Type Handmade
Brick Colour buff
Joint Technique used Pointing

Joint style: Weather wigging Colour Wash: None evident

Original Finish:

Window Head Treatment:

Window Reveal Treatment:

Brick Condition:

Soud

Joint Condition: fair

Other features : Granite parapet

Sample Taken: No

Observations: Modern repointing, ribbon deliberately flush to match weathered appearance of

wigging point..

**Map References:** 

Present on Rocque Map 1756:

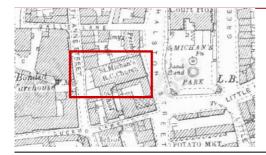
Present on Ordnance Survey 6" Series (1838-1842):

Yes

Present on Ordnance Survey 25" Series (1888-1913):

Yes





Record No: 0017

Address of Building: St Michan's Church

Building Type: RC Church

Date of Building: 1817

Façade orientation Reference: Front / North & south orientation

Brick Bond Flemish
Brick Type Handmade
Brick Colour buff
Joint Technique used Pointing

Joint style: Weather wigging
Colour Wash: undetermined
Original Finish: undetermined
Window Head Treatment: Flat arch
Window Reveal Treatment: brick
Brick Condition: Good
Joint Condition: fair

Other features : Granite parapet

Sample Taken: No

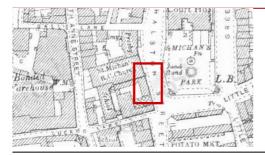
Observations: Brick on side wall s

## **Map References:**

Present on Rocque Map 1756: No
Present on Ordnance Survey 6" Series (1838-1842): Yes
Present on Ordnance Survey 25" Series (1888-1913): Yes

<sup>\*</sup> Building structure indicated on map not be the present building





Record No: 0018

Address of Building: St Michan's Church

Building Type: Detached

3storey over basement

Date of Building: 19th

Façade orientation Reference: Front / Eastorientation

Brick Bond Flemish
Brick Type Handmade
Brick Colour buff
Joint Technique used Pointing

Joint style: Cement pointed
Colour Wash: undetermined

Original Finish: No

Window Head Treatment: Flat arch
Window Reveal Treatment: feathered
Brick Condition: Good
Joint Condition: sound

Other features : Granite parapet

Sample Taken: No

Observations: trace of colour mortar on brick characteristic of wigging

## **Map References:**

Present on Rocque Map 1756: No
Present on Ordnance Survey 6" Series (1838-1842): Yes
Present on Ordnance Survey 25" Series (1888-1913): Yes

<sup>\*</sup> Building structure indicated on map not be the present building







Record No: 0019

Address of Building: 3 Henrietta street
Building Type: End of terrace

4 storey over basement

Date of Building: 18th (1755)

**Façade orientation Reference:** Front / South west orientation

Brick Bond Flemish
Brick Type Handmade
Brick Colour orange
Joint Technique used Pointing
Joint style: wigging
Colour Wash: yes

Original Finish:

Window Head Treatment: Flat arch
Window Reveal Treatment: feathered
Brick Condition: poor
Joint Condition: weathered
Other features: Granite parapet

Sample Taken: Yes

Observations: 335mm 4 course gauge

## **Map References:**

Present on Rocque Map 1756:

Present on Ordnance Survey 6" Series (1838-1842):

Present on Ordnance Survey 25" Series (1888-1913):

Yes

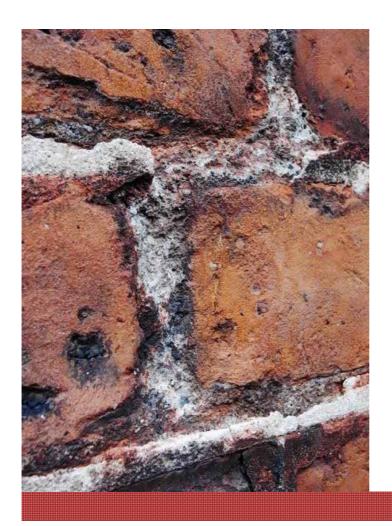


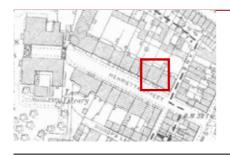












Record No: 0020

Address of Building: 4 Henrietta street

Building Type: Terrace

4 storey over basement

Date of Building: 18th

Façade orientation Reference: Front / South west orientation

Brick Bond Flemish
Brick Type Handmade
Brick Colour red/purple
Joint Technique used Pointing

Joint style: ruled (20th century)

Colour Wash: not evident

Original Finish: no

Window Head Treatment: gauged flat arch
Window Reveal Treatment: feathered
Brick Condition: good
Joint Condition: weathered
Other features: Granite parapet

Sample Taken: no

Observations : remnants of previous pointing characteristic of wigging

Recent pointing is cement based

4 bed gauge 310-315mm

## **Map References:**

Present on Rocque Map 1756:

Present on Ordnance Survey 6" Series (1838-1842):

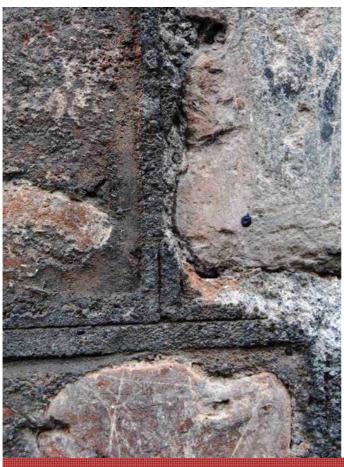
Present on Ordnance Survey 25" Series (1888-1913):

Yes

<sup>\*</sup> Building structure indicated on map not be the present building









Record No: 0021

Address of Building: 5 Henrietta street

Building Type: Terrace

4 storey over basement

Date of Building: 18th

Façade orientation Reference: Front / South west orientation

Brick Bond Flemish
Brick Type Handmade
Brick Colour red/orange
Joint Technique used Pointing

Joint style: wigging evident around later narrow window

Colour Wash: not evident

Original Finish: no

Window Head Treatment: gauged flat arch

Window Reveal Treatment: patent
Brick Condition: good
Joint Condition: weathered
Other features: Granite parapet

Sample Taken: no

Observations : remnants of previous pointing characteristic of wigging

Recent pointing is cement based

#### **Map References:**

Present on Rocque Map 1756:

Present on Ordnance Survey 6" Series (1838-1842):

Present on Ordnance Survey 25" Series (1888-1913):

Yes





Record No: 0022

Address of Building: 6 Henrietta street

Building Type: Terrace

4 storey over basement

Date of Building: 18th

Façade orientation Reference: Front / South west orientation

Brick Bond Flemish
Brick Type Handmade
Brick Colour red/orange
Joint Technique used Pointing
Joint style: ruled

Colour Wash: not evident

Original Finish: no

Window Head Treatment: gauged flat arch

Window Reveal Treatment : feather

Brick Condition : good

Joint Condition: weathered

Other features : Granite parapet

Sample Taken: no

Observations: cementious repoint

4 course gauge 310mm

**Map References:** 

Present on Rocque Map 1756:

Present on Ordnance Survey 6" Series (1838-1842):

Present on Ordnance Survey 25" Series (1888-1913):

Yes





Record No: 0023

Address of Building: 7 Henrietta street

Building Type: Terrace

4 storey over basement

Date of Building: 18th

Façade orientation Reference: Front / South west orientation

Brick Bond Flemish
Brick Type Handmade
Brick Colour orange
Joint Technique used jointing
Joint style: bastard
Colour Wash: not evident

Original Finish: no

Window Head Treatment: gauged flat arch

Window Reveal Treatment : feather

Brick Condition : good

Joint Condition: weathered

Other features : Granite parapet

Sample Taken: no

Observations : cementious repointing

4 course gauge 310mm

**Map References:** 

Present on Rocque Map 1756:

Present on Ordnance Survey 6" Series (1838-1842):

Present on Ordnance Survey 25" Series (1888-1913):

Yes





Record No: 0024

Address of Building: 8 Henrietta street

Building Type: Terrace

4 storey over basement

Date of Building: 18th

Façade orientation Reference: Front / South west orientation

Brick Bond Flemish
Brick Type Handmade
Brick Colour Reddish/orange

Joint Technique used pointing
Joint style: ruled
Colour Wash: not evident

Original Finish: no

Window Head Treatment: gauged cambered flat arch

Window Reveal Treatment : patent
Brick Condition : good
Joint Condition: sound

Other features : Granite parapet

Sample Taken: no

Observations : cementious repointing

#### **Map References:**

Present on Rocque Map 1756:

Present on Ordnance Survey 6" Series (1838-1842):

Present on Ordnance Survey 25" Series (1888-1913):

Yes





## Record No: 0025

Address of Building: 11 Henrietta street

Building Type: Terrace

4 storey over basement

Date of Building: 18th

Façade orientation Reference: Front / South west orientation

**Brick Bond** Flemish **Brick Type** Handmade **Brick Colour** purple Joint Technique used pointing Joint style: wigging **Colour Wash:** No Original Finish: No **Window Head Treatment:** flat arch Window Reveal Treatment: feathered **Brick Condition:** good **Joint Condition:** weathered Other features: Granite parapet

Sample Taken: no

Observations : Recent repointing used proprietary pointing mortar

#### **Map References:**

Present on Rocque Map 1756:

Present on Ordnance Survey 6" Series (1838-1842):

Present on Ordnance Survey 25" Series (1888-1913):

Yes



<sup>\*</sup> Building structure indicated on map not be the present building



Record No: 0026

Address of Building: 12 Henrietta street

Building Type: Terrace

3 storey over basement

Date of Building: 18th

Façade orientation Reference: Front / North East orientation

Brick Bond Flemish
Brick Type Handmade
Brick Colour Reddish/orange

Joint Technique used pointing
Joint style: wigging
Colour Wash: yes
Original Finish: no
Window Head Treatment: flat arch
Window Reveal Treatment: feathered
Brick Condition: good

Joint Condition: weathered
Other features : Granite parapet

Sample Taken: no

**Observations**: 4 bed gauge 310mm

#### **Map References:**

Present on Rocque Map 1756:

Present on Ordnance Survey 6" Series (1838-1842):

Present on Ordnance Survey 25" Series (1888-1913):

Yes









Record No: 0027

Address of Building: 13 Henrietta street

Building Type: Terrace

4 storey over basement

Date of Building: 18th

Façade orientation Reference: Front / South west orientation

Brick Bond Flemish
Brick Type Handmade
Brick Colour Reddish/orange

Joint Technique used pointing

**Joint style:** weathered tuck

Colour Wash:

Original Finish:

Window Head Treatment:

Window Reveal Treatment:

Brick Condition:

good

Joint Condition:

sound

Other features : Granite parapet

Sample Taken: no

Observations: pointing complete 2010, wigging evident on façade prior to renewal works

#### **Map References:**

Present on Rocque Map 1756:

Present on Ordnance Survey 6" Series (1838-1842):

Present on Ordnance Survey 25" Series (1888-1913):

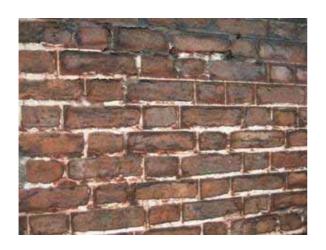
Yes



<sup>\*</sup> Building structure indicated on map not be the present building











Record No: 0028

Address of Building: 14 Henrietta street

Building Type: Terrace

4 storey over basement

Date of Building: 18th

Façade orientation Reference: Front / South west orientation

**Brick Bond** Flemish **Brick Type** Handmade **Brick Colour** purple Joint Technique used pointing Joint style: wigging **Colour Wash:** yes Original Finish: Yes **Window Head Treatment:** flat arch **Window Reveal Treatment:** feathered **Brick Condition:** good **Joint Condition:** weathered Other features: Granite parapet

Sample Taken: no

Observations: 4 course gauge 318mm

#### **Map References:**

Present on Rocque Map 1756:

Present on Ordnance Survey 6" Series (1838-1842):

Present on Ordnance Survey 25" Series (1888-1913):

Yes











Record No: 0029

Address of Building: 15Henrietta street

Building Type: Terrace

4 storey over basement

Date of Building: 18th

Façade orientation Reference: Front / South west orientation

**Brick Bond** Flemish **Brick Type** Handmade **Brick Colour** purple Joint Technique used pointing Joint style: wigging **Colour Wash:** no Original Finish: no **Window Head Treatment:** flat arch **Window Reveal Treatment:** feathered **Brick Condition:** good **Joint Condition:** sound

Other features : Granite parapet

Sample Taken: no

Observations: 2009 wigging pointing renewal

#### **Map References:**

Present on Rocque Map 1756:

Present on Ordnance Survey 6" Series (1838-1842):

Present on Ordnance Survey 25" Series (1888-1913):

Yes







Record No: 0030

Address of Building: 43/44Dominick street

Building Type: End of Terrace

4 storey

Date of Building: 18th

Façade orientation Reference: Front / North east orientation

Brick Bond Flemish
Brick Type Handmade

Brick Colour Red/orange/purple range

Joint Technique used jointing Joint style: Cut and rule **Colour Wash:** not evident Original Finish: probable **Window Head Treatment:** flat arch **Window Reveal Treatment:** feathered **Brick Condition:** good **Joint Condition:** weathered Other features: Granite parapet

Sample Taken: no

Observations: pointing renewal to nr 43

44 demolished

#### **Map References:**

Present on Rocque Map 1756: No
Present on Ordnance Survey 6" Series (1838-1842): Yes
Present on Ordnance Survey 25" Series (1888-1913): Yes











Record No: 0031

Address of Building: 41 Parnell Square North

Building Type: Terrace

4 storey over basement

Date of Building: 18th

Façade orientation Reference: Front / North east orientation

Brick Bond Flemish
Brick Type Handmade
Brick Colour Red/orange
Joint Technique used pointing
Joint style: wigging
Colour Wash: not evident
Original Finish: probable

Window Head Treatment: flat arch gauged
Window Reveal Treatment: feathered
Brick Condition: good
Joint Condition: patent

Other features : Granite parapet

Sample Taken: no

Observations: 4 bed gauge 310mm

Good quality

#### **Map References:**

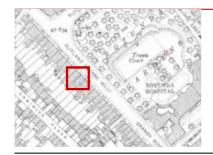
Present on Rocque Map 1756: No
Present on Ordnance Survey 6" Series (1838-1842): Yes
Present on Ordnance Survey 25" Series (1888-1913): Yes











Record No: 0032

Address of Building: 37 Parnell Square West

Building Type: Terrace

4 storey over basement

Date of Building: 18th

Façade orientation Reference: Front / North east orientation

**Brick Bond** Flemish **Brick Type** Handmade **Brick Colour** Red/orange Joint Technique used pointing Joint style: wigging **Colour Wash:** undetermined Original Finish: probable **Window Head Treatment:** flat arch **Window Reveal Treatment:** patent **Brick Condition:** good **Joint Condition:** weathered Other features: Granite parapet

Sample Taken: no

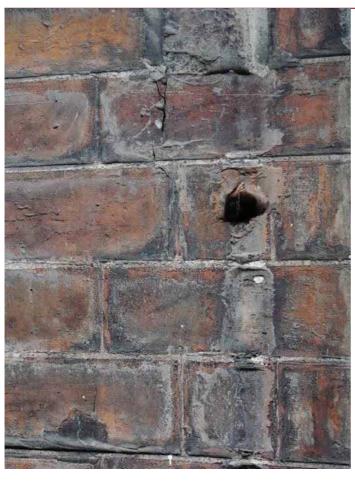
Observations: 4 bed gauge 310mm

Good quality

#### **Map References:**

Present on Rocque Map 1756: No
Present on Ordnance Survey 6" Series (1838-1842): Yes
Present on Ordnance Survey 25" Series (1888-1913): Yes









Record No: 0033

Address of Building: 28 Parnell Square North

Building Type: Terrace

4 storey over basement, corner building

Date of Building: 18th

Façade orientation Reference: Front / North east orientation

**Brick Bond** Flemish **Brick Type** Handmade **Brick Colour** Red/orange Joint Technique used pointing Joint style: not evident **Original Finish:** probable **Window Head Treatment:** flat arch Window Reveal Treatment: patent good **Brick Condition:** Joint Condition: weathered Granite parapet Other features:

Sample Taken: no

Observations : pointing renewal in cement

### **Map References:**

Present on Rocque Map 1756:

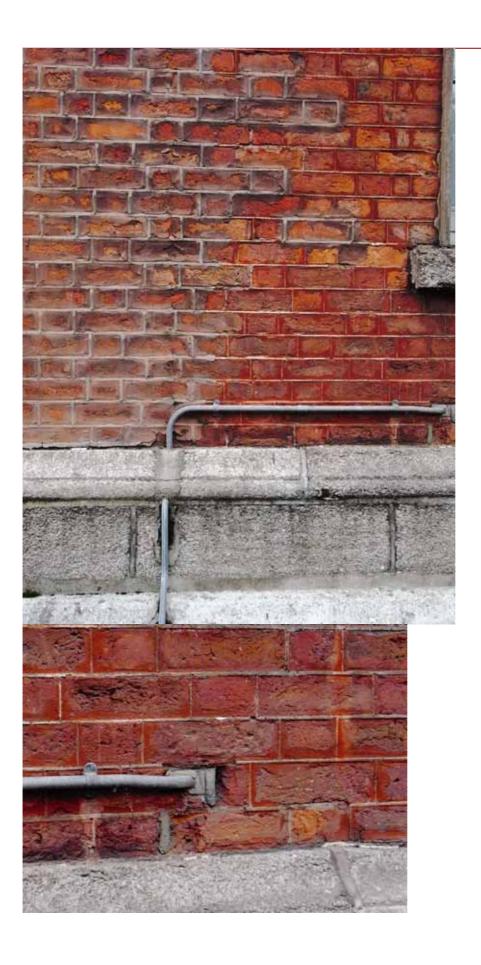
Present on Ordnance Survey 6" Series (1838-1842):

Present on Ordnance Survey 25" Series (1888-1913):

Yes









Record No: 0034

Address of Building: 18 Parnell Square North

Building Type: Terrace

4 storey over basement, corner building

Date of Building: 18th

Façade orientation Reference: Front / North east orientation

**Brick Bond** Flemish **Brick Type** Handmade **Brick Colour** Red/orange Joint Technique used pointing Joint style: not evident **Original Finish:** probable **Window Head Treatment:** flat arch Window Reveal Treatment: patent good **Brick Condition:** Joint Condition: weathered Granite parapet Other features:

Sample Taken: no

Observations : pointing renewal in cement

### **Map References:**

Present on Rocque Map 1756:

Present on Ordnance Survey 6" Series (1838-1842):

Present on Ordnance Survey 25" Series (1888-1913):

Yes





# Appendix B

# **Historic Research Appendices**

The following appendices relate to section 5.2.

# Christine Casey. 'Books and builders: a bibliographical approach to Irish 18th-century architecture', PhD, 1991)

Chapter 5, part 2, pp 179–89, 'Measuring literature'. i.e. QS-ing.

179. a succession of cheap measuring manuals were published in Dublin in the 18th century. The barrack board scandal of the 1740s, revolved around issue of measuring, see. Thomas Eyre, *A reply to the commissioners and others upon the condition of Dublin Barracks* Dublin 1760. Samuel Fuler, Dublin's earliest specialist in mathematical and architectural literature stocked several Eglish measurers as well as publishing reprints from London eds.

Appendix 1 – works pertaining to architecture, building and engineering in Ireland, 1700-1780. Pp. 243–57.

[books picked out that may have some relevance to brickwork in general]

- Batty Langley, The builder's vade-mecum: or a complete key to the five orders of columns in architecture (Dublin: Samuel Fuller, 1729); NLI ...
- William Hawney, *The complete measurer or the whle art of measuring* (Dublin: Samuel Fuller, 1730); e.g. NLI [Nothing in this on pointing]
- Anon. The carpenters plain and exact rule (Dublin: James Hoey, 1738); no copy known
- Tho. Everard, Stereometry Or, the art of gauging, made easy by the help of a sliding-rule (Dublin: I. Jackson, 1739). NLI.
- John Aheron, A general treatise of architecture (Dublin: John Butler, 1754). NLI.
- Francis Price, *The builder's guide, or the carpenter's plain and exact rule ...* (Dublin: James Hoey, c.1756). No copy known.; c.1765 ed. NLI; TCD. (Dublin: Peter Hoey, 1778), Cambridge Univ. Libr.
- F.P. Builder *The builder's guide shewing the qualities, quantities, proportions and rates of value of materials relating to building* (Dublin: james Hoey etc., 1758); Huntington Lib
- Batty & Thomas Langley, *The builder's jewel: or the youth's instructor and workman's remembrancer* (Dublin: James Williams, 1766); Avery; Dublin 1768, TCD.
- William Hawney, *The complete measurer; or the whole art of measuring* (Dublin: I. Jackson, 1767); NLI; (Cork 1768), NLI.
- Francis Price, *The British carpenter; or a treatise on carpentry* (Dublin: James Williams, 1768); NLI.
- Philip Levi Hodgson, A set of tables of solid and superficial measure (Dublin: T. Ewing, 1774). Bodleian Library.
- James Anderson A practical treatise on Chimneys (Dublin James Williams 1777). British Library. J. Loriot, A practical essay on a cement and artificial stone justly supposed to be that of the Greeks and Romans, lately rediscovered by Monsier Loriot (Dulbin: James Williams, 1776). The Library, Leinster House. British Library.

#### **Bibliography**

[titles perhaps useful re brick and wigging etc.]

Eileen Harris, 'Batty Langley: a tutor to freemasons 1696-1751' *Burlington Magazine* xviii (May-Aug 1977), 327-35.

Idem, British architectural books and writers 1556-785, Cambridge, 1990

Patrick Judge, 'The state of architecture in Ireland, 1716' *Irish Arts Review*, iii, 4 (Winter 1986), 63–3.

Alistair Rowan, 'Batty Langley's Gothic', in Henderson, G. & Roberson, G. eds *Studies in memory of David Talbot Rice* (Edinburgh 1975), 197-215.

# Arthur Gibney. 'Studies in eighteenth-century building history', (PhD, Department of History of Art, Trinity College, 1997)

### Chapter 7 The introduction of brickwork pp 191–222.

191. Royal Hospital – brick and stone. 1680.

192. 17th-century [early 18th-century] examples of use of brick in classical buildings: College Rubrics (c.1700); Tailors Hall (1704) and Molyneux House (1706) and e.g. Uniacke House (1703) at Youghal, Palace Anne (1714) co. Cork and Mount Ivers Court (1733) in Co. Clare. 'Bricks had been used for building houses in Dublin city from the first half of the 17th century and they became strongly identified with speculative terraced housing of the 18th century estates in Dublin, and coastal cities such as Drogheda, Derry, Limerick and Belfast.'

193. Mountjoy Fort, Co. Tyrone (1601–05) built (unusually for its time) almost entirely in brickwork, and may be the result of the involvement of the Dutch engineer Levan de Rose. (Loeber *Biog Dict*, 23).

194. Dublin, the Earl of Cork, 'paid for digging earth to make bricks to rebuild his "decaied house that was Sir Geoffrey Fenton's in Castle Street in Dublin".' (Rev. A.B. Grosart, *The Lismore Papers,* first series, III, London 1886-8, p. 87).

Jigginstown, Kildare, Thomas Wentworth, 1636. Attributed to John Allen, an English bricklayer who received training in Holland. (Loeber *Dict*), the quality of the bricks identical to ones being used contemporaneously in Amsterdam. Bricks in Jigginstown, likely to have been imported from Holland.

195. Little enough effect on 17th-century building technology in Ireland.

Most frequently quoted authority on 17th-century building practices in Ireland is Gerard Boate,

Natural History of Ireland, London 1652. First describes their use in combination with stone.

196. brick wainscoting. Boate was unimpressed with the quality of the brick being made in Ireland. Boate describes making of brick in huge quantities, 200-300k in one firing, but of which 2/3 were discarded as of poor quality.

197. High use of brick in 17th century supported by the Settlement Commission's surveys of Irish property holdings, following the restoration (1660).

e.g. a survey made in 1661 a mortgage taken in April 1644 on the 'great brick house in Copper Alley', by Sir Adam Loftus. Leases of substantial brick houses in St Stephen's Green, George's Lane and Cork Hill, are recorded in 1661. Leases of several brick houses on both the north and south sides of Kevin Street are recorded in 1665. Brick houses were part of the streetscape of Thomas Street, Rosemary Lane; Merchant's Quay and Schoolhouse Lane, in1667. A considerable number of houses built in the new suburb of Oxmantown in 1660s used brick masonry. (Nat. Archives, Settlement Survey, Lodge Transcripts, vol. vii, 13, 22, 100, 367, 399, 400, mss. 2448 17 1A53 52; vol. xii, 48, 187, 210, 226, 252, 333, 355, mss 2448 18 (1a 53 53)).

Earlier use of brick suggested by the presence of brick and timber houses in Francis Street and Patrick's Street (Nat. Archives, Settlement Survey, Lodge Transcripts vol. xii, 49, 261, mss 2448 18 (1a 53 53)). Recorded in 1666-7.

198. Poor quality of the bricks in Ireland accounts for why so rarely used as facing in country houses

in the earlier period, and fine quality brick to be seen at Beaulieu, Co. Louth, Mount levers Court, co. Clare, or the terraces of Henrietta Street, were mostly imported into Ireland from other countries with traditional skills in brickmaking [true re Henrietta Street?].

198–9. '18th-century customs records describe the importation of large quantities of bricks from Holland and England. These bricks were usually moulded to conform with dimensions (of 9 inches x 4½ inches x 2¼ inches) laid down by English statutes (Richard Neave, the city and country purchaser and builder's dictionary London 1726, 44.) and they were frequently used as ballast in ships calling to Irish ports for cargoes of local produce. [no refs here for the customs records, or the point that usually used as ballast]. Some early 18th-century buildings (such as Marsh's Library) used dressings of bright red rubbed bricks which probably originated in the brickfields of the Thames Valley.

Wilkinson claimed that the bricks used to face many of Dublin's 18th-century terraced houses came from the port of Bridgewater (George Wilkinson *Practical geology and ancient architecture of Ireland* London 1845, 131) on the Bristol Channel. The surveyor-general Arthur Dobbs, in a letter to his brother in 1754 (Pub Rec Office N. Irl. Letter from Dobbs to Richard Dobbs, mss, D.162/69) recommended the importation of "strong bricks" from Liverpool for use on his house near Carrickfergus. The customs archives of the port of Zieriksee, which serviced the Dutch province of Zeeland, record many cargoes of bricks exported to Irish towns (such as Dublin and Cork) during the middle decades of the 18th century. (Information from Erik van der Doe, Zieriksee, Holland).

'These facing bricks were described as stock bricks by 18th-century building artisans, a name derived from a Dutch word describing the "stock" or wooden mould that shaped the unburnt brick.' Imported stock brick used as facings, local brick as linings to compound walls, partitions and general structural work. These usually described as placebricks.

200. Industrial brickmaking in Ireland not till end of 18th century, but instead usually made by unskilled labourers on or near building sites, e.g. Old Brick Field behind Moore Street on Rocque, and shown as filled-in in Scalé's revision of 1773.

In Dublin, Robert Arthur and Henry Lee (described as brick-burners) supplied bricks for Burgh's repairs to the old Parliament House [Chichester House, College Green] from 1700 to 1708. Arthur also supplied bricks for the building of Tailors Hall in 1704. (Brit. Lib. Egmont papers, mss. Add. 46951B f 107, Add. 46964B f 80, 130).

201. John Reilly employed 'for his good judgment in brickearth' on Steevens's Hospital (TCD, Steevens's Hosp accounts, mss, 1/6).

Robert Ball's accounts record the purchase of "Donoly's bricks" in 1753, for use by himself and other speculative developers on Sackville Mall. (NAI, Robert Ball's accounts, business records Dublin, mss Dub. 43). His account of payment to "Miles and his gang" (of labourers) for making bricks (ibid) indicate that he was also engaged in brickmaking on his own account. [see Robert Robinson's house surviving on the top of Upper O'Connell Street].

201–2. use of brick lining in Eyrecourt, Co. Galway, but note the 'massive oak structural frame embedded within its walls, continuous oak lintel courses on the masonry linings and timber ties forming diagonal braces at the corner junctions of the main walls.'

203. system of building houses with oak structural frames – cage houses – not uncommon in Irish cities in medieval era. And persisted in plantation towns in Ulster well into 18th century. Eyrecourt different ... a hybrid of English carpentry tradition interposed onto local masonry tradition.

204. Robinson used brick linings in the rebuilding of Dublin Castle in 1685. His design for Marsh's library in 1703 used facing bricks, place bricks and flat arches made with rubbed brick voussoirs which may have been imported from the London area.

205. Burgh's Old Library, follows Robinson's example (Kilmainham) in masonry exterior, with interior brick linings. However, the lining by bricklayer (Francis Quinn [see St Luke's building accounts]) (his TCD accounts, TCD mss, Mun. 02/37/65, P2/44/24) and examination of the bricks show them to be an unusually thick lining at 14 inches, and facing brick, probably imported.

206. Lower budget on Steevens' hosp in 1720s forced Burgh to build walls entirely of stone. In the Old Library the window opes were crowned by brick arches rather than timber lintels, which refinements gave certain structural advantages, including daring wide windows, a very high ope to solid ratio on the façade. The two major solid wall partitions separating the main library from the end pavilions, were formed using high quality facing brick, a practice followed by later builders of Regent House and the adjoining buildings enclosing Front Square (1750s) also with bonded brick membranes behind their granite facades.

Brickwork as linings to masonry also in Edward Lovett Pearce's parliament house of the 1730s, Leinster House (1740s), Charlemont House (1759) and the Provost's House (1760s), also in St Patrick's Hospital in 1749, and in state buildings in Dublin castle of 1750s and 1760s.

208–11. Use of place bricks in the interior of houses in the country from 1730s to 50s, 'not just as lining membranes, but as dressings, vaults and cores for plaster mouldings.'

212. intimate connection between brick linings and floor support systems, confirmed by the hundreds of classical churches built entirely with stone linings, because they required no suspended timber floors. 'Where floor supports were required, as in the case of the gallery in St Mark's Church Dublin, a brick partition provided this support.'

Use of facing bricks in facades of 18th-century buildings. (see e.g. Maurice Craig typescript, Dub Corp Archives, typescript, Roll of freemen of the city of Dublin), in which he points out e.g. that brick facades were 'with a few exceptions, confined to buildings in the vicinity of coastal towns and cities.' [ballast theory again].

213. Bricks in use in TCD as early as 1637 (TCD mss. John Tallis's accounts, MUN. P2/1/16), and in 1640 a contract with bricklayers James Browne and Robert Pavior to building lodgings for the Provost (TCD mss James Brown and Robert Pavior's accounts, Mun. P2/1/24), probably brick facades, no mention of stone masonry in the agreement.

1672, Richard Mills, (TCD mss Richard Mills accounts, Mu. P2/27) a member of the newly founded bricklayer's guild, (1670) was engaged on a building in the college designed by John Lucas. 1695-70, a range of buildings around a courtyard, of which the Rubrics survive, and photos of these gone ranges too (does not name where exactly), TCD, mss Bursar's accounts, Mun P2/3/6.

'We know very little about the materials and constructional methods of the urban houses built by the first leaseholders of the Aungier and Meath estates in the expansion of the city of the 1670s and 1680s. Some light has been thrown on this period by a recent discovery of a surviving four-bay house of the mid 1680s at number 21 Aungier Street [Dublin Civic Trust]. This house was built with brick facades under the more recently applied plaster rendering with a combination of timber and brick structural supports. This method was commonly used in speculative house construction in London, and it may be typical of larger houses built in the late 17th century in Dublin. A lease for a

site in York Street (among the Abercorn papers) stipulated that the lessee must build a brick house of two storeys, with a cellar and garret within three years of 1677. (Pub Rec Office N. Irel. Abercorn papers, Lease from Reading to Neave, mss 10, D623/B/C/5.).

214. 'Photographic records of some of the gabled houses in the Meath estate in areas such as Poole Street and Braithwaite Street clearly indicate a construction of local limestone rubble and plaster rendering. These houses are among the earliest terraced buildings built on the estate on foot of leases issued in 1683. Later versions, built at the turn of he century in Weaver's Square, Chamber street and the adjoining area have brick facades, string courses of brickwork and vestigial refs to classical motifs in the doorcases. Then houses in Ward's Hill and Sweeney's Lane had curvilinear gables with brick pediments. This type spread for terrace developments to all parts of the city and to cork and limerick.

214-5. Conspicuous interesting in bricks and classical ornamentation in institutional buildings and large mansions from the end of the 18th century. Robinson in Dublin Castle in 1680s and in 1703 a brick library for Abp Marsh. Perhaps the first instance in Dublin of gauged arches with rubbed brick voussoirs.

Richard Mills linked to Tailors' Hall 1704, and Molyneux House [dem.], 1706 (Loeber, 72). Langford House in Mary Street and the Ward mansion in Ward's Hill, both dating from the early 1700s had brick facades and stone dressings. [as did Boulter's House on Henrietta Street, c. 1725]. Burgh continued Robinson's use of bricks over stone arches in his extension to the upper yard at Dublin Castle in 1712.

Most 18th-century provincial buildings with brick facades in the vicinities of seaports or navigable rivers. Ballast from England and the Dutch coast. No citations. Local bricks unsuitable for facing bricks.

#### 216.

William Robinson, Platten Hall, Co. Meath, 1698, facing bricks, transported up the Boyne from Drogheda.

Early use of Dutch facing bricks was Uniacke House in Youghal, built according to local tradition by A Dutchman called Leuventhen in 1706. (no ref.)

Palace Anne built at Ballineen in co. Cork in 1714, brick facing,

Beaulieu, 1722 appearance, has rendered walls, but it has a unique use of rubbed brick reveals at door and window opes, a moulded brick entablature and moulded brick sills. Rubbed bricks were uncommon in Ireland but moulded bricks were also used on the house in the bailey at Askeaton Castle which was rendered externally and on Jigginstown Palace.

Brick facings and gauged brick also in Southwell Charity in Downpatrick, with suggested building date pre-1730s. Moulded voussoirs to form undulating arches at window soffits, a feature Craig points out was common in south-eastern England. (Classic Irish houses of the middle size, 16). Another example of undulating arches in Yeomanstown House in co. Kildare, but these and the house's brick façade are now covered in plaster.

Haystown House, near Rush, co. Dublin, also of this early period, another brick house recently plastered. Unusual use of brick pilasters and rustications of the pavilion in Clonmannon House in Kildare co.

Brick used by John Rothery on the façade of Mount levers Court in co. Clare in 1730s, pale pink, reputed to have been imported from Holland as ballast.

218. Fashion for brick from the fashionable faubourgs [sic] of London Covent garden, Bloomsbury

and Soho.

'Many of the influential people involved in building early classical buildings arrived in Ireland (like Robinson and Mills) in the great wave of immigrants who settled there between 1670 and the 1700s. The use of brick facades, tuck pointing, gauged brickwork and undulating arches were, like timber structures, timber bracketed eaves cornices, timber pedimented door cases and internal timber cornices, part of an imported tradition which became diluted and mutated with time. By the 1730s many of these features of the early colonial introit had disappeared, or like floor and roof structures, became rationalised in terms of local traditions and regional preferences.'

A second generation of classical buildings with brick facades commenced just prior to the 1730s with designs of Edward Lovett Pearce and the introduction of Palladian architecture into Ireland. E.g. Bellamont Forest at Cootehill, Co. Cavan, and the episcopal palace at Cashel, Co. Tipperary. These owe nothing to the former eclecticism, but 'are highly focused expressions of stylistic ideals which were also being explored during this period by the foremost architects in England.'

219. Generally, country houses, far from navigable rivers avoided the use of stock brick facades, confining themselves usually to rubble masonry structures, rendered, and limited use of cut-stone details. The question is whether Edward Lovett Pearce transported imported brick to Bellamont, as had been done at Jigginstown, or whether the brick here had been manufactured locally 'to unusually rigorous standards'.

219–20. The facing bricks on Cashel, appear to have been manufactured locally, according to the building accounts (Bishop's Palace, Cashel: PRONI, letter from Hearn to Archbishop of Cashel, mss. D562, 0562/458), place bricks were purchased at 9s per 1,000, and stock (facing) bricks at £1 per 1,000. Presentation of the figures, and the relative cost, suggest that £1 could not have paid for their importation and transportation from the coast.

220. The cost of place bricks in Dublin was about 13s. per 1,000 in Dublin over the first half of the 18th century, but no comparative information for the cost of stock bricks. Records for 1760s in Dublin show cost of place bricks at 18s to£1 per 1,000 and imported stock bricks at £1 18s per 1,000 (TCD mss. Richard Plummer's accounts, MUN P2/144/10). The facing bricks at Cashel were obviously made locally.

No building accounts survive for Bellamont, but examination on site shows the same quality and type of brick as lining bricks inside – and their profligate use in the basement as such – as those used for facing outside. This could only be justified by the joint ownership of the building and the brick production.

221. Made by the Earl of Bellamont on his own lands, but the quality control must have been overseen by Pearce.

'Pearce's deep interest in bricks as a locally produced building component is manifest in his introduction of a parliamentary act to regulate their manufacture in Ireland in 1729 [3 Geo. II, c.13, 'An act to prevent unlawful combinations of workmen, artificers and labourers employed in the several trades and manufactures of this kingdom and for the better payment of their wages; as also to prevent abuses in making of Bricks and to ascertain their dimensions']. The act stressed the need for bricks which could support more than their own weight, and reduce the dependence on the purchase of bricks from Holland. It also attempted to control the dimensions of bricks by stipulating that a brick should not be less than 9 ½ inches long, 4 ½ inches wide and 2 ¾ inches deep.'

Use of brick by others after Pearce's death in 1731 was not extensive, confined mostly to Palladian houses. Woodlands near Santry, Co. Dublin (of the early 1730s) has been attributed to Pearce's own hand. Francis Bindon built brick façades at Clermont House in Co. Wicklow in 1730 and on Newhall in Co. Clare in 1751. Cassels [Richard Castle] faced Dollardstown House in Co. Meath with bricks in 1735 and Ballyhaise in Co. Cavan in 1740s.

222. In the 1760s brick façades used on two late Palladian houses, Davis Ducart's Kilshannig House in Co. Cork, and Newberry House, Co. Kildare, which has been attributed to Nathaniel Clements.

Pearce's efforts to have locally produced brick used in Irish houses not very successful after his death, perhaps, and the navigation issues as described by Boate, still prevalent in the 18th century, for the most part. But widespread use of brick facings in Dublin and the principal Irish cities, 'show that its beauty and durability were well appreciated.'

#### IAA PKS 0217, 1884

'Bill of measurement of Dwelling House No. 78 Stephen's Green, Dublin, for E.C. Guiness Esq. D.. Mr. H. Sharpe, Builder, JF. Fuller Esq. Architect'

The following quantities – with some references to pointing or related – appear in various places, not all listed below, but a sample.

These works appear after a good deal of demolition of walls listed, so suggesting possibility of new works, rather than conservation to old. But later movement of basement doorway suggests instead that something if not a good deal retained & altered instead.

22	ff Sup.r	4 1/2" Red brick spandril filling and add for pointing	8d		1 4	8
1 2/3	yds Sup.r	Pointing to red brick with black mortar and raking out joints	1/		1	8
13		Joints of white firebrick kitchen breast, raked out & flat pointed	1/		1 3	
195		Exra for picked stock facing pointing	8	6	1 0	
186		Red brick facing and pointing with cement (extra on brick)	2/	1 8	1 2	0
63		Extra for red brick facing and pointing to chimney shafts	2/2	6	1 6	6
3 ½		Red brick facing and pointing to chimney shafts	2/		7	0
4	yds Sup.r.	Extra for white firebrick facing & pointing	3/9		1 5	0
203		facing of white glazed firebrick flat pointed with mortar (as extra over cube of brickwork not deducted) every 5th course headers	18/	1 8 2	1 4	0
28	ff lin.l	Extra on red facing for check er angle of chimney shafts 4 ½ x 4 ½	5d		1 1	8
53		Raking cutting and waste on red facing to Carges [sic?] & skew-backs	nil			-
15		Rough cutting on brick to gables	1d		1	3
42		Levelling old wall for raising on	1 ½		5	3

### IAA PKS 0727, 1892

'Bill of quantities for a house proposed to be built at Brookfield Terrace Donnybrook for Captain Molloy; Thos. Drew Esq. FRIBA, Architect. Dec.r 1892. Patterson Kempster Surveyors, 11 Leinster Street, Dublin.'

Unpriced estimate

472	Yds cube	Stock Brickwork in walls well hearted and bonded and filled with mortar		
458	Yds sup.r [?]	Facing of selected Belfast, Kingscourt or Ruabon pressed facing brick. Price as <u>extra</u> over cube of stock brick work not deducted. The joints flat pointed as the work proceeds		
63	Ft "	Extra labor to carefully guaged red brick flat external arches including all cutting to skewbacks & fitting over arches (measured on face & soffits)		
		The following strings &c. are all included in the c of the Brickwork and are to be priced as <a href="extra">extra</a> over the red brick facing		
		[various listed, moulded, and angle courses etc. Interesting list, not here germane]		

# IAA PKS B02/14 pp 227-31, 1863

'Estmate of Works required to be done at No. 81 Middle Abbey Street, in consequence of injuries caused by the alterations of the adjoining premises (30 March 1863) ...'

		Front wall &c.				
24	yards cube	Brickwork of front wall to be taken down and rebuilt, supplying new bricks as may be necessary [hence re-using bricks, and repointing]				
548	feet super.	Tuck pointing	1 ½ d	3	8	6

### IAA PKS 1230, 1897

Restoration of Aldborough House, 1897

'Bill of Quantities for General restoration &c. and New Worship & Packing R.m at Aldborough House, Dublin. Robt. Cockhrane Surveyor, November 1897. Slevin & Clayton Surveyors, 15 & 16 Dame Street, Dublin.'

All works here either internal, or to roofs and other external aspects, all except the façades either in stone or brick [that I can find].

Superficial			
Lineal			

#### Some references to bricks in 18th-century Dublin newspapers

#### Pue's Occurrences 1705, 19th June

The marble manufactory is entirely removed from Big Sheep-street to the middle of new brick house in Wood-street [etc].

#### Dublin Gazette 1741, 15th-19 December

The same day died [Friday] in the same street, at her husband's house, Mrs. Hammond, Wife of Mr. Hammond his Majesties Bricklayer, and on Saturday evening she was decently interred at St Mary's Church.

#### Dublin Courant 1722, 17th March

This is to give notice, that there is a lot of ground to be let, on the southside in Great Britain street, alias Ballybough-lane, fronting to the north 635 foot, 200 foot deep, upon the said ground is a good bed of clay, enough to make some hundred thousand bricks and also rich veins of sand and under it may by dug some thousands loads of paving stones. The ground is very profitable to build upon, and it has the Four Courts entirely separated by the street from the rest of the ground and the two ends and the back of the ground is enclosed by a stone wall. Whoever has the mind to take any of the said ground, shall have it for 2s 2d a foot, a time allowed for the building and finishing one house there, if finished in that time, they shall pay no ground rent till the house is inhabited, but if the house be not finished in that time which is allowed the for building, they shall pay ground rent from the time they took the ground; or if any body has a mind for the whole, the lease will be disposed of.

George Felster

#### DUBLIN JOURNAL 1729, 15th-18 November

To be let, a large new Brick-house most part wainscotted, with brass locks, grates [etc]. On the south-side of Stephen's-green, near Angle-street, enquire of James Whitthorne, Watchmaker, at the Thompion's Head and Golden-Ball in Skinners-row.

#### DUBLIN JOURNAL 1755, 25th-28 January

To be sold by Public cant, at Dick's Coffee-house, on the 10th of February by the adminsitratrix of Edward Graham, Bricklayer, deceased, the interest of leases on lots of ground in Fredrick-street; the first of them is a lease from William Wilde to the said Graham, of 22 feet on the east-side of the street, about 120 feet deep, for 999 years from the 25th day of March at 5 pounds 10 shillings six pence per annum on which ground a very handsome house is built and set in lease at the yearly rent of 46 pounds unto James May Esq who laid upwards of 60 pounds improving the same. The second is a lease from the said Willed at 22 feet adjoining the said other lot and of the same depth, for 199 years, from the same time, at the like rent of 5 pounds 10 shillings 6 pence, on the ground there is a very handsome house built, at the present outlet, with 3 marble and 3 stone chimney pieces, and covering to 4 chimney. The third is also a lease with the said Wilde, of 22 feet of ground on the west side of the said street, extending backwards to stable-lane for 999 years at 5 pounds 10 shillings 6 pence per annum, on which ground there is a very handsome house built, with iron pallisadoes to the front, with 3 very fine stucco ceilings and cornish, and two marble and 3 stone chimney pieces and covering stones. The leases may be seen in the hands of Benjamin Johnson public notary in Castle-street.

Death: Wednesday at Hamstead Mr. Edward Byrne an eminent Bricklayer of eminent character.

## DUBLIN JOURNAL 1758, 26th-30 September

The builder's companion and workman's general assistant, demonstrating, after the most easy and practical method, all the principle Rules of Architecture from the Plan to ornamental Finish; being

not only useful but necessary to all masons, bricklayer, plaisterers, carpenters, joiners and others, concerned in the several branches of building etc. The whole engraved on 77 copper-plates from the designs of William Pain. Price sewed 13 shillings bound 16 shillings 3 pence.

N.B. Also sold at James Rudd at the Apollo in Dame-street Over's ornamental architecture in gothic, Chinese and modern taste.

#### DUBLIN JOURNAL 1759, 27th-30 January

Henry Burnett and Henry Nicholls, who understand the entire management and the manner of making of bricks in all it branches, and who served the Right Hon the Earl of Kildare in that station for seven years past, being brought to this kingdom for that purpose by his lordship, are willing to engage with an nobleman or gentleman on reasonable terms to carry out that business, or making tiles for roofing houses.

To be heard of at the house of Thomas Reilly, at the sign of St Patricks in Fleet-street.

#### DUBLIN JOURNAL 1760, 18th-22 November

Last week the corporation of Bricklayers and Plaisterers presented in a silver box, the Freedom of their Corporation to John Smyth, Architect.

#### DUBLIN JOURNAL 1764, 26th-29 May

To be let, at the entrance of the new Street, lately opened on Miltown-road, called Northumber-land-street, two commodious, new houses in a most delightful situation, commending a fine prospect of the sea and mountains; also several lots of ground for the building on in the said street, with a large depth of ground in the rear for gardens and as an encouragement for the building Tenants the proprietors propose to give each lot two years free rent and the third year half-rent, and the fourth to commence at the rent agreed on; the tenant may likewise be furnished with bricks at 5 shillings each per thousand less than the common price in Dublin. Esquire at Mr. Thomas Chaytol in Aungier-street.

# DUBLIN JOURNAL 1766, 19th-23 August

Notice is hereby given to Carpenter, Bricklayers, Stonecutters etc that an hospital for the reception of soldiers children is to be built with all expedition, in his Majesty's park the Phoenix and that proposal from Tradesmen in these several branches will be received by William Chaigneau Esq., Treasurer at his house in William-street.

#### DUBLIN JOURNAL 1767, 17th-21 March

Marriage: Mr. Isaac Bull, Watchmaker, in Chancery-lane to Miss Rebecca Brown.

To all Bricklayers, Masons, Stone-cutters, Carpenters, Joiners, etc. This is to inform them that a new town is immediately to be built near the old town of Westport in Mayo, according to the plans and elevation already fixed upon, consisting of a large and elegant market house, situated in the center of an Octagon Area of 200ft and to enclosed with 12 large well furnished slated houses, together with 3 areas for streets of 30 slated houses and several very large streets for a great number of thatched houses and cabins. Proposals to the Hon. Peter Brown Kelly, Westport.

#### DUBLIN JOURNAL 1768, 14th-17 May

#### From the Society of Artist

As the society intends proceeding immediately after the close of their present Exhibition, in the erecting a front to their building in William-street. Proposals in writing will be received from Stone-cutters, Brick-layers, and Carpenters, directed to Mr. [Jonathan] Fisher in Great Ship-street where the Plan and elevation may be seen.

#### DUBLIN JOURNAL 1768, 23rd-25 August

The committee appointed by the act Assembly for building a new Market House in Oxmantown-green, give notice that they are ready to receive proposals for the building the same: all persons willing to contract for the Masonry, Carpentry, Brickwork, Slating, Plummers work, Glazing, Plastering, Ironwork are desired to send their proposals to the town clerk's office, at the Tholfel. The Plans and elevation for the building may be seen at Thomas Ivory's office Architect, in Park place.

#### DUBLIN JOURNAL 1772, 10th-12 September

Michael Martin, Bricklayer and Chimney-doctor, return to his most sincere thanks to the nobility, gentry and public in general, for their kindness in recommending them to there friends. Any commands of country letters (post paid) directed to him at his lodging at Mr. Graham's Great Britain-street.

#### DUBLIN JOURNAL 1772, 12th-14 November

Death: Mr. John Reid of Bolton-street, an eminent Bricklayer and Builder.

Francis Reid and his son John Reid of Bolton-street. takes this early opportunity of informing their friends and the public, that they intend carrying on the Bricklaying Business, in the same extensive manner as their late father John Reid [etc].

#### DUBLIN JOURNAL 1773, 10th-12 June

Late Alderman Kings Sale. To be sold by Auction by Henry Dobson, Upholder, on Tuesday the 22nd of June, the household furniture about 1500 ounces of plate, a gold watch by the famed Tompion of London, with a gold chain, and glasses, house linen, two hogsheads of choice claret, etc, of Alderman Robert King, deceased, in his late dwelling house in Bolton-street, also the late interest in the lease of said house, which is in good repair with a large yard, a new built coach house and stables for 4 horses, and a excellent wine vault that will contain several ton in wood, with 14 brick bins for bottled wine; 77 years of the term unexpired, at the small rent of 24l per annum,. N.B. The lease will be sold at one o'clock on Tuesday aforesaid. Particulars of the furniture, plate etc in hand bills.

#### DUBLIN JOURNAL 1773, 18th-21 September

Whereas the overseers of building the Jail of Newgate in the Little-green, intend forthwith to begin there work, they hereby give notice that such person as are desirous of being employed as rough masons and bricklayers are requested to enquire for any particulars relative to the said work, of Mr. Thomas Cooley in Anglesea-street, where Plans, Elevations, Sections, [etc] may be seen.

#### DUBLIN JOURNAL 1776, 28th-1 July

Just published agreeable to Irish standards and in the most concise and satisfactory method. Price 2s 2 d. sewed in marble. The Complete Measurer, adapted to Timber and building, containing the customs and prices of the several artificers works, such as carpenters, bricklayers, stone-cutters, slaters, glaziers, smiths, plummers, painters, plasterers, and stucco-men. — Naval measures both in England and Ireland with many usual improvements. Sold by P.L. Hodgson Measurer No. 5 Poolbeg-street., who thinks himself happy in the general approbation and countenance his four last editions of the measurer had met with, which induces him to offer a firth to the public.

Mr. Hodgson embraces this opportunity of returning his sincere thanks to the noblemen, gentlemen and merchants, etc, who have thought proper for near these thirty years past to honour him with their commands and pay leave to aquaint them that he continues to practice in that business Dublin, June 24th 1776.

DUBLIN JOURNAL 1784, 8th-10 April

Death: In Abbey street, Mr. John Semple Senior, Bricklayer.

DUBLIN JOURNAL 1786, 20th-22 June

Free-stones to be sold, at Maryport Quarry, Cumberland and shipped at the follow prices. Flags faced at one shilling and eight pence per yard square; Flags rough at one shilling and 3 pence yard square; riggings wrought at ten pence per yard running measure; door and window jambs, chimney mantelpieces and jambs and step for stairs at two pence per foot running measure-block of any size at six shilling per solid yard; also tombstones of any size - likewise Claybricks at 15 shillings and 6 pence per thousand. Any orders left at No 19 Hawkins-street.

#### DUBLIN JOURNAL 1790, 30th-2 November

Bricks are now preparing and will be ready for sale early in the next season, both place brick and grey stock of superior quality: they will come into the town from Fingall [etc].

N,B. Application to be made to Mr. Francis Sandy Jr No 14 Peter-street.

# <u>Susan Roundtree.</u> 'A history of clay brick as a building material in Ireland', (M.Litt, Department of the History of Art, Trinity College, 1999)

- 10. Jigginstown, mostly locally crafted brick, but: 'The bricks that are of exceptional quality at Jigginstown are the small red and yellow bricks used decoratively for bases, string-courses, corbels, window dressings and panelled firebacks. These bricks are uniform in size, 7 x 3 ½ x 1 ½ inches, and are shaped very precisely to complex mouldings designs. They are laid with fine mortar joints, demonstrating an early use of the technique of "cut and rubbed", or gauged brickwork. The term is used to describe brickwork where a superior finish in the details of an important brickwork elevation is required, like moulded reveals, arches, string-courses and other forms of ornamentation.' Bricks specially prepared, known as "cutters" or "rubbers". They can be cut, filed or carved like cheese, yet their surfaces become hard from weathering.
- 11. Seem never to have been manufactured in Ireland, and very limited amount of gauged brickwork in Irish buildings. Jigginstown a precocious and rare example in Ireland, first seen in England, using imported Dutch brick, in Dutch House, (Kew Palace), in 1631.
- 46. buildings in Ireland of stone walls, but externally lined with bricks: e.g. Mountjoy Castle (c.1602) and Eyrecourt (c.1660)

use of brick as dry lining.

And e.g. Powerscourt, the cut-stone granite a facing to an essentially brick building.

Some country houses with external walls of brick, include e.g. Arch Hall, Wilkinstown, Co. Meath, c.1730

47. brick also used for party walls, fireplaces and chimney structures, and for paving floors, e.g. in the basement at Jigginstown.

Brick bonds. English and Flemish bond.

48. Treatment of window and door opes. From the 17th century, in otherwise stone buildings, bricks used for chimneys and for door and window opes.

Articles of agreement, 1672, TCD, Richard Mylls, bricklayer, 16 chimneys and windows of bricks (7 – see below).

John Semple, 1758, details of his public offices, 'specifies that all the doors and chimneys are to have 9" brick arches "or discharging arches turned over or in them, as is usual, in the most lasting, and substantial buildings".' (8)

Use of brick dressings in otherwise rendered stone walls at e.g. Royal Hospital Kilmainham (9); Beaulieu in Co. Louth, Kildrought House, c.1719, Celbridge and in 67 Main Street, c.1737, Leixlip, Co. Kildare.

49. 18th-century window heads of brick, flat or square arches, commonly, bricks often prepared to voussoir shape, with very thin joints, so-called 'rubbed and gauged' windows, in e.g. Marsh's Library in Dublin, at Clermont (Wicklow) c.1730, and in Henrietta Street. Bricks perhaps imported specially.

However the lack of home-produced bricks suitable for gauged work, may have contributed to the way opes constructed in Ireland. Very few examples of curved or undulating lintels, or semicircular window arches constructed of brick in Ireland (n.10). Flat arches predominate. Window reveals, likewise rarely executed in gauged work in Ireland, and the development of the patent reveal, later in the 18th century, probably to conceal the rough quality of the brickwork.

50-1. Brick vaulting. ...

51-4. Façade brickwork & Decoration.

51. elaborate façade brick decoration in Ireland is rare, as necessitated gauged or rubbed brickwork, hence the popularity of mixed stone and brick facades in Ireland, i.e. stone for the detail work.

<u>Rubbed and</u> gauged brickwork developed in England in the 17th century when bricks were warped and uneven and had to be laid in thick mortar joints.

Solution to build with special bricks known as 'cutters' or 'rubbers', 'that could be cut, filed or carved, and so laid with very narrow lime putty joints.'

Rubbed and gauged brickwork, rare in Ireland in the 18th century, except in window lintels.

52. A few documentary sources for cutting and rubbing bricks survive in 18th century bricklaying accounts. TCD, William Caldbeck, 1710, 'Rubeing Cutting and Setting the brick Pearses in the Provests Garding' (16)

Another for 'Running of Rub'd and gaug'd Arches over the upper windows' in the west building in Library square to be found in Gilbert Plummer's 1754 acc for bricklayer's work. (17) Mostly, as at Jigginstown, and Beaulieu, with imported brick, but also to be seen at 67 Main Street, Leixlip, and at the gazebo in Leixlip Castle. Local bricks, moulded rather than rubbed to shape and consequently the joints in the work are not as fine as the extremely thin lime putty joints found, for example at Beaulieu.

Colour of bricks, subject to changing fashion. Firing affects the colour, but the type of clay the main determinant. Before canals developed in late 18th century, and good transport, bricks had strong regional flavour.

Despite the decline in taste for the red fiery brick in London after the 1730s, e.g. as alluded to by Ware in his *Complete Body of Architecture* (1756), in Ireland, and certainly in Dublin, red remained fashionable throughout the 18th century.

Red stock bricks specified e.g. for houses in Mountjoy Square in 1792 (19), despite the availability of grey local bricks in the city at the time (20).

53. jointing also subject to changes in fashion.

Tuck pointing developed to give the illusion of rubbed and gauged brickwork. 'It was achieved by using coloured pointing or stopping to blind out the joint and then inserting a narrow 'tuck' of fine white lime putty into the coloured joint.

The brick façade usually colour washed before pointing. (n. 21 – Ian Lumley, 13 Henrietta Street, believes his is one of the earliest examples of the technique surviving un re-pointed in the city.) But seeing as rubbed and gauged was so rare here, there was prob less motivation to try to recreate it here, so tuck pointing less popular here.

Instead more bastard tuck or wigging, in conjunction with the colouring of facades, and recently regained popularity, e.g. in South Frederick Street, Aungier St, North Great George's Street and Merrion Street.

Wigging is easier and cheaper than tuck, 'the joint made with uncoloured lime mortar finished with a thin slightly proud centre. Both the bricks and the joint are then carefully colour washed (or 'wigged') leaving the raised centre line of the joint uncoloured to resemble the tuck in true tuck pointing. Very pop in Dublin esp in the 19th century. However, from a general examination of 18th-century pointing in Dublin, the more usual joints appear to have been finished flush, occasionally ruled with a trowel edge or jointing tool, described as "joints jointed" (e.g. Bellamont Forest or

Oldtown), or ruled with a coin edge, described as "penny round". (19th-century bastard tuck pointing or wigging in Ranelagh or recently executed tuck pointing at Mountpleasant Square).

Colour washing of facades, long history, recorded at Hampton Palace [Court?] as early as 1536 (23). Good examples of red washes in Waterloo Road, and in Mountpleasant Square in Ranelagh. Colour obtained by mixing Venetian red (ferric oxide used as a pigment) and Spanish brown with water.

54. these colours had no setting qualities, and traditionally mixed with white copperas [sic] dissolved in warm water. Other ingredients included stale beer, and lime to brighten the colour and alum was sometimes used as a fixative.

In the later 19th century with the advent of machine-made bricks, red continued as the most popular colour.

Pp 54-60. The use of brick in gardens & estate buildings ...

Pp 60–2. The use of brick in vernacular buildings ...

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#### Chapter 4 notes – references

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- 6. NAI, Brian Bolger Papers, stone and bricklayers work done for Edward Archdale Esq. At his new buildings in Mountjoy Square, by Nicholas Arthurs, 13 Sep 1792
- 7. TCD, MUN/P/2/1/27, Articles of agreement, bricklayers and masons work for new building adjoining the colledge to the design of Thomas Lucas (carpenter), 19 April 1672
- 8. Kings Ins, J. Semple, *Publick Offices*, 'Some notes, explaining the nature and intent of the following design', 25 Jan 1758, p. 8.
- 10. No. 9 Henrietta Street is a rare example of an 18th-century townhouse in Dublin with slightly curved brick window lintels.
- 16. TCD, MUN/P/2/22/1
- 17. TCD, MUN/P/2/104
- 18. D. Cruikshank & P. Wyld, London: the art of Georgian building London 1975.
- 19. see n.6 above
- 20. *Dublin Journal*, 2 Nov. 1790, 'Bricks are now preparing and will be ready for sale in the next season, both place Brick and grey stock of a superior quality: they will come into the town from Fingall ...'

# Appendix C

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TO BE COMPLETED.