Foreword

This series of booklets has been produced by the Department of the Environment to increase awareness of the value of our architectural heritage and to provide information on the basic principles and methods of conservation and restoration. The titles in the series are listed on the back of each booklet.

These texts are not intended to be comprehensive technical or legal guides. The main aim is to assist architects, builders, owners and others,in understanding the guiding principles of conservation and restoration. They will facilitate the identification of the most common problems encountered in heritage buildings,and indicate the best solutions. It should be appreciated that specialised aspects of conservation and restoration will require professional expertise and more detailed information.

The Department acknowledges,with appreciation,the efforts of the authors of the individual booklets,the Irish Georgian Society who coordinated their production,the Conservation Advisory Panel established under the Operational Programme for Local Urban and Rural Development and all others involved.

Summary of Conservation Principles

- Research prior to planning work
- Minimum intervention - repair rather than replace
- Respect the setting.

Summary of Conservation Procedure

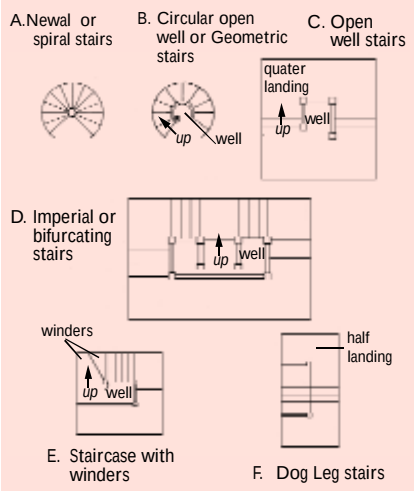
- Research and analyse history of building
- Survey building and identify original material
- Plan work according to conservation principles
- Use experts where necessary
- Record all work
- Install maintenance procedures.

Introduction

This booklet is intended as a brief guide to interior joinery in historic buildings,its identification and its conservation. Most older buildings retain a great deal of original interior joinery, such as doors,windows (see booklet *No. 3 Windows* in this series), shutters,staircases and panelling. Joinery detail varies from period to period so, as well as being decorative, it is a useful guide to the age of a building.

The removal of interior joinery, particularly doors,and the substitution of inappropriate modern replacements, ruins the proportions and historical 'feel'of the building,as well as detracting from its economic value.

This booklet also deals with historical fittings, such as chimneypieces and locks.



Different types of staircases

Brief Histor y

Staircases

During medieval times the enclosed winding stone stairs of the tower houses ser ved a defensive purpose but by the ear ly 1700s the need for such built-in defence was lessened, and the staircase had emerged as a feature of the house.

The timber newell staircase evolved directly from the winding tower house stairs. More space and the wish to make a feature of the staircase led to the design of the open well staircase. The dog leg staircase, so common in urban Georgian houses,usually had a half landing,while quarter space landings and circular or elliptical stairs with a continuous handrail are also found. The elaborate coiled end to the handrail and balusters was a decorative feature in the hall.

These timber stairs were for the most part made of pine and were always painted. The handrail might be of a higher quality wood, such as mahogany, often crafted with decorative oblique joins. Mahogany and oak would have been used only in the grander houses,and these would have been polished with beeswax.

Early 18th century staircases were generally of the closed string variety, i.e. with a facing panel over the tread ends and with balusters of equal length. As the century progressed, the open string staircase became more

common with the tread ends left open and often richly embellished. These decorative stair brackets should be retained.

Decorative stair bracket

Balusters in the early timber staircases were rather chunky but during the the late 18th century and early 19th century became more slender with refined detail. 'Twisted' balusters were popular giving the elegant corded or barley sugar effect. If there were three balusters to a tread,the middle one was sometimes given a different decorative treatment.

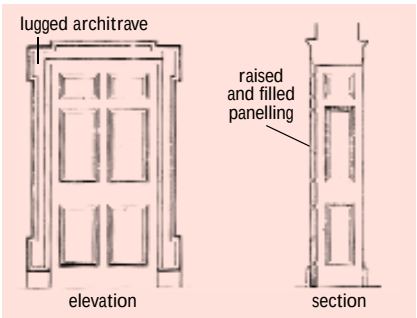
Doors

Most doors up to 1700 were of the ledged type, i.e. with vertical members held together by horizontals. However, by the early 18th century the panelled door was in use in most houses. Panels were either recessed or raised and,if raised, were fielded,i.e. with a chamfered edge. Flat panelling then became common and in the late 18th and early 19th centuries mouldings became more refined and sometimes a decorative bead moulding was applied to panels on interior doors. From the mid 19th century mouldings became heavier with a four panel door the most used type.

Architraves

Door (and window) architraves in general should be 1/6 of the width of door or window openings.

Architraves in the early 18th century are usually of slender moulding and larger mid 18th century interiors have a distinctive lugged design with outward breaks at top and bottom. Late 18th century moulding is delicate and refined and then becomes progressively heavier during the 19th century.



Lugged door

Door Furniture

All historic door furniture, such as locks,door knobs,knockers,and number plates should be preserved and treasured. Original external doors and doorcases should not be

desecrated by numerous name plates and ugly intercom systems.

Locks

Due to the thinness of most early 18th century doors,surface mounted brass box locks had to be used; these were fitted with drop handles. As the century progressed and doors became thicker it was possible to fit the lock in the thickness of the door. These were still fitted with drop handles usually three in number, one on the outside of the door and two on the inside, one of which could be used to lock the door from the inside without the aid of a key. Door knobs first appeared in the late 18th century totally replacing the drop handle after 1800.

The front doors of the 18th and early 19th centuries often had splendid brass - bound, mahogany-cased box locks. The brass work was often finely engraved and quite often was moved to another house when the owner moved. Locks such as these are rare and important,and should be retained even if not in use. Old security chains and bolts should also be preserved.

Brass-bound mahogany box lock.

Number plates

Most early front door furniture was of cast iron and was fixed from behind,i.e. with no screws showing. Number plates of the early to mid-19th century were engraved on a piece of brass c. 50 mm square and fixed from behind. The use of individual numerals came later.

In the late 19th and early 20th centuries white enamelled numerals were often used, glued to the glass of the fanlight.

Bell pulls

In the 18th century bellpulls were often attached or mounted on basement area railings and connected via levers or wires to the servants' quarters in the basement. Later, bells were mounted directly on the wall beside the front door.

Shutters

Rudimentary timber shutters were used long before the advent of glass in window openings,to keep out the wind and rain. They remained as a form of protection and to retain warmth and to keep out draughts.

By the 18th century sash windows were always fitted with internal panelled shutters . The panel division usually corresponded with the pane pattern of the window. Eighteenth century window shutters were usually positioned at right angles to the window.

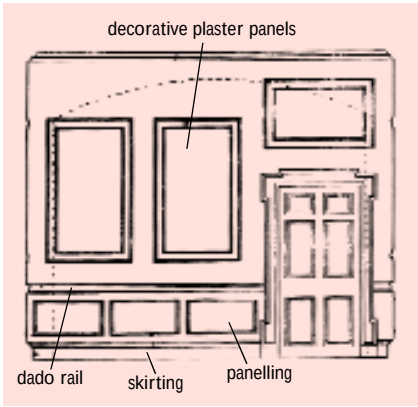
Later, shutters were splayed to allow more light in and to accommodate the increasing use of curtains.

Working shutter in bedroom

Shutters remain an excellent way to keep out draughts and keep heat in. Equipped with their iron closure bars,many of which survive, they are an effective security bar rier. Many shutters remain,a great number in working order, and should,of course, be retained.

Panelling and Dado Rails

It was common for the design of rooms in larger 18th century houses to be based on classical proportions. The skirting board and the dado rail corresponded to the base and pedestal,with the functional aspects that the skirting board protected the wall at ground level and the dado or chair rail prevented chairs being pushed into the wall. Chair rails were in general 825-900 mm from floor (measured to the top of mouldings). Chair rails or staircases should be in line with the handrail and have the same profile. Picture rails are a 19th century introduction.



Elevation of classically proprtioned room

Fully panelled rooms were very popular from the late 17th century to c.1750 and followed the same basic scheme derived from the classical orders of architecture, the dado representing the pedestal,the main wall,the area above the height of the columns,and the cornice representing the entablature.

There was usually one row of low panels below the chair rail with tall panels above.

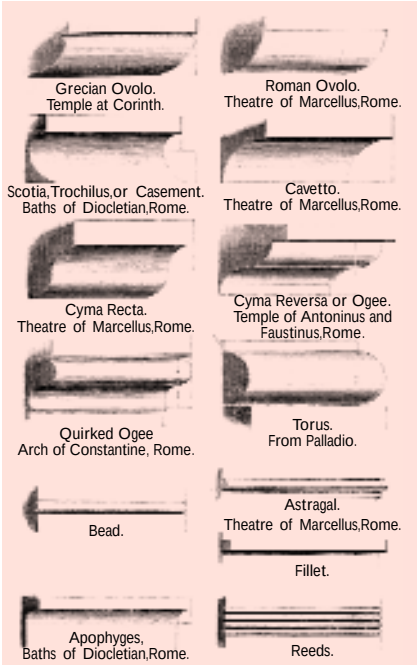
The chair rail was sometimes omitted,its place being taken by a row of very shallow panels. The earlier panelling had bolection mouldings where the moulding projected outwards from the framing,this was replaced in the 1720s by raised and fielded panelling which is the most common type found today. Most panelling was of softwood,always painted,although some of the earlier panelling was of oak.

Survival of fully panelled walls is rare as it was removed to make way for more fashionable plasterwork and wallpaper. Panelling continued to be used in the area between dado rail and skirting, but from about 1840 chair rails went out of fashion and skirting boards grew taller.

Mouldings

Mouldings were originally used to decorate structural features like ceiling beams and chimney surrounds. In the 18th century the applied moulding developed and timber Georgian mouldings were substantial,such as the early bolection moulding.

Mouldings,whether they are carried out on panelling,doors/doorcases,window sashes/window cases,chimney pieces,skirting boards etc. can look very different and complex. In fact,all mouldings are based on two simple forms;the curved convex quadrant called the ovolo (which when concave is called the cavetto) and the right-angled flat faced fillet. The vast majority of mouldings used during the 18th and 19th centuries are based on ancient Roman and Grecian examples;Roman sources were mostly used in the 18th century and Grecian in the 19th century.



Types of moulding

Victorian buildings,dating from the later 19th century to the early 20th century, often have a dado moulding on the walls of halls, corridors,staircases,and bathrooms,generally placed about 1.2 metres from floor level.

Common Problems and Solutions

1. Damaged or missing elements

Damaged portions of wood and mouldings should be repaired by a competent joiner, and carefully matched to surviving detail.

Where detailing is entirely missing the design of new features may be sourced from an adjoining terrace house or from another similar building of a comparable scale and date. If it is necessary to design replacement mouldings,it is important to remember that the mouldings must be proportioned to the height and breadth of the room, i.e. a cornice designed for a room 4 m high will not be suitable for a room 2.6 m high. Similarly, the design for an architrave from a door 1.2 m wide will be inappropriate for a door 0.8 m wide.

Off-the-peg mouldings,architraves,skirtings, dado rails etc. that can be found in D.I.Y. shops and timber merchants are generally crude, historically inaccurate and therefore, totally unsuitable for use in the restoration of historic buildings.

2. Poor condition of paint

Where joinery is in need of refurbishment, paint should be removed using poultice or solvent methods,and if possible in situ. Some modern emulsion paints prevent wood from responding to changes in temperature and humidity,causing panels and joints to crack.

Stripping of old paint should be carried out only when detail is lost through overpainting. Previous paint shades. should be recorded if apparent. It is possible to identify original shades by paint analysis. Dipping in caustic baths should be avoided as it dissolves the natural oils of the wood and causes shrinkage of joints.

Stripping of lead based paints can be a health hazard and expert advice should be sought.

3. Sealed Shutters

In many cases window shutters have been painted or nailed shut. They should be carefully released into working condition as they improve security, conserve heat and protect contents of rooms from sunlight. When restoring shutters,take care to retain old hinges and security bars. Softwood shutters should be painted and not left in a stripped state.

4. Repair of panelling

It is rarely necessary to dismantle panelling and this should be avoided.

Never nail panels to framing as this prevents natural movement and can result in cracked panels.

Softwood panelling was always painted and should not be left in a natural or stripped state. Some earlier panelling was made of oak and this should not be painted.

5. Fire Safety Regulations

It should be possible to retain original doors with fire seal strips and door closures. In the case of new doors having to be fitted to comply with Fire Regulations,these should be made with the exact moulding profile and panel detail as the original.

Dos and Don'ts

Do

- aim at retaining as much joinery detail as possible.
- protect staircases,handrails and moulded detail from damage during building work.
- bring new heating systems into use gradually and with humidification,to avoid shrinkage of both old and new joinery, particularly where a building has been unoccupied for some time.
- restore joinery accurately.

Don't

- throw out any original joinery without being absolutely certain that it is beyond repair. External appearances can deceive.
- use blowtorches and hot-air guns in historic buildings because of the danger of fire.
- leave historic softwood interior joinery, including mouldings,in a natural or stripped condition;all such joinery should be painted.

CHIMNEY PIECES

Introduction

The chimneypiece, or fireplace, has always been the focal point of a room and was often of sophisticated design and finish. Because of this,surviving 18th and 19th century chimneypieces are much sought after, and are therefore, unfortunately, highly prized by thieves. Owners of buildings with original chimneypieces should be aware of this,and should put in place as much security as possible (see booklet *No. 16 Fire safety, security and maintenance*). All surviving chimneypieces should be carefully maintained and preserved if at all possible. This booklet aims at providing information about the different types of chimneypieces and grates, and their repair and maintenance.

History

In earliest times the hearth was in the centre of the main living appartment and generally the smoke escaped through a hole in the roof,as in Bunratty Castle, Co. Clare.

The next development was the stone fireplace recessed in a wall,surmounted by a projecting stone hood tapering back to the main wall. As the recess for the fireplace deepened,the projecting hood became unnecessary and it was this type of wall fireplace that was introduced into great halls in the 15th century. Decoration was confined to the jambs and lintels.

In the very early 18th century most chimneypieces were very plain flat slab surrounds most often of slate or polished Kilkenny limestone.

From circa 1720 - 1770 chimneypieces were more ornate, being decorated with swags, masks,console brackets etc.,often taken from engravings of designs by James Gibbs,William Kent,Isaac Ware or Abraham Swan. Chimneypieces in the grandest reception rooms were often of pure white statuary marble from Carrara in Italy. Polished Kilkenny limestone was also used in reception rooms and,sometimes, Portland stone in entrance halls,as in the photograph below. The use of Kilkenny limestone in dining rooms was still common in the mid 19th century. In the early to middle 18th century there were quite often corner chimneypieces, in halls as well as in other rooms.
Under the influence of Robert Adam, chimneypieces became lighter in design, decorated with neo-classical motifs - such as urns,swags,paterae, fluting,and figurative plaques executed mainly in white marble, sometimes inlaid with coloured marble or scagliola. Bedroom chimneypieces were often of wood with carved or applied decoration of pewter or gesso - these were always painted.

In the early 19th century, chimneypieces became lower and plainer. Cast iron fireplaces first appeared during the Victorian period. At first their use was confined to bedrooms,basements and service areas; marble was still the preferred choice for reception rooms.

Portland stone chimneypiece in entrance hall c.1748.

Detail of decorative chimneypiece c. 1780.

Many chimneypieces of an early date still exist with Victorian inserts,quite often tiled,

and many have later additions of mantelshelves. Cast iron remained in use until the 1940s when tiled fireplaces became popular.

Fire grates

The earlier grates consisted of a free standing basket on legs,backed by an iron plate or fireback. Decoration was confined to the front of the grate. This type was usually called a stove grate and they became increasingly elaborate from about 1750.

The hob grate, which appeared circa 1720 (but only in domestic quarters) became increasingly popular, gradually replacing the stove grate. It was not free standing but was built into the fireplace and was comprised of a basket flanked by flat topped hobs on which kettles or pots could be kept warm.

Cast iron hob grate c.1780.

Various metals were used in the manufacture of grates. In the earlier Georgian period grates were made of cast iron with steel fire bars;brass was often used for the ornamental embellishments, such as finials and the pierced apron below the basket.

In the late 18th century very fine brass register grates were made in Dublin by firms such as Binns or Clarke, having beautifully engraved brass surrounds in the neo-classical style. Polished steel was also used.

Heartstones

In the 18th,19th and early 20th centuries hearthstones were usually of black slate or white marble, always laid level with the floor and not raised above it. When tiled hearthstones came into use, in the 20th century they were usually laid level with the floor, and it is only since the 1930s that the hearth was raised above the level of the floor.

Common Problems and Solutions

1. Chipped and stained marble

Marble chimneypieces may be chipped or stained. Repairs to marble chimneypieces require specialist attention.

2. Damage to wooden chimneypieces

Damaged portions should be carefully replaced to match the original moulding or design. A competent joiner will be able to do this, but he should be given precise instructions.

Wooden chimneypieces may need refurbishment. Special care should be taken when stripping wood chimneypieces,as the decoration may, in fact,be made of composition or gesso and not carved wood, and may dissolve or be damaged by stripping with an inappropriate solvent.

3. Missing carved centre panels
As these are easily removed by thieves many chimney pieces are lacking this decorative element. If the original design is known from photographs or the existence of a similar panel,a new one can be carved to replace the missing panel.

4. Rusty iron grates
Grates can become rusty and should be cleaned with a wire brush and white spirit (never water). Never use water on polished steel grates.

Maintenance
Wooden chimneys may be stripped,with care (see above) and repainted.

Iron grates can be blackened using blacklead, or the metal can be painted using Manders' black ebony paint,thinned. It is not advisable to use gloss paint.

Replacement
When buying replacement period chimneypieces or grates from antique shops or salvage yards,reputable firms should be able to supply a proper provenance. It should be emphasised again that chimneypieces and grates are vulnerable to theft.

New and beautiful chimneypieces can be created for restoration purposes;the one designed,after careful research, for the saloon in Newman House in Dublin is an excellent example.

Detail of marble chimneypiece showing carved centre panel

Dos and Don'ts

Do
- check that decoration on chimneypiece is not gesso prior to stripping.

Don't
- use water to clean metal grates.

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