

REVIEW: BUILDING SCOTLAND

Eberhard Bort

Moses Jenkins (ed.), **Building Scotland: Celebrating Scotland's Traditional Building Materials**, Edinburgh: John Donald, in association with Historic Scotland, 2010, 196 + ix pp, hb, £25, ISBN: 978-0-859767101.

Malcolm Macnicol and Michael Devlin, **Red Sandstone Buildings of Edinburgh**, Edinburgh: Malcolm Macnicol, 2009, 128 pp, hb, £15, ISBN: 978-1-84107-453-5.

David Torrance, **Inside Edinburgh: Discovering the Classic Interiors of Edinburgh** (Photographs by Steven Richmond), Edinburgh: Birlinn, 2010, 224 pp, pb, £20, ISBN:978-1-84158-787-5.

It is not only the landscape, from the rolling hills of the Borders to the rugged mountains and glens of the Highlands, which determine our sense of place in Scotland. The built environment also contributes to our identity. And not only the castles and palaces but equally, as Alex Salmond writes in his Foreword to **Building Scotland**, 'the cottages, farmhouses and terraced tenements that make up our villages, towns and cities.' They are, as he says, 'a pivotal point of reference for understanding who we are today.' (p.vii)

While much has been written on the historic architecture of Scotland, very little attention has hitherto been paid to the materials used in the construction of these traditional buildings. **Building Scotland**, according to its editor Moses Jenkins, seeks to redress this deficiency. It presents, in fourteen chapters, 'fourteen of the most significant building materials of Scotland,' (p.ix) illustrated with more than a hundred specially commissioned photographs, to give not only the history of the materials, descriptions of their use and of the way these materials have been produced, but also a visual

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impression of the colours and textures of those materials in all their regional varieties – from timber and stone to iron and glass, from earth and clay to thatch and slate, plaster, paint and pantiles.

‘At the beginning of the twenty-first century,’ Geoffrey Stell contends, ‘wood is once again a building material of the present and the future, not just of Scotland’s past.’ (p.1) It can be traced back to the fourth century BC, as illustrated by the ‘careful and authentic reconstruction’ of a crannóg at Oakbank in Perthshire. (p.3) Historically, timber ‘was one of the most ubiquitous of all building materials,’ used for structures ‘both prestigious and humble.’ (p.5) While the Scottish countryside shows a distinct absence of timber-framed houses, in the towns, ‘as elsewhere in Europe, timber construction remained the norm for many centuries.’ (p.10) Many of these houses were torn down in the nineteenth-century improvements, and replaced with stone structures. But we still have painted ceilings – as in John Knox House in Edinburgh – and the hammer-beamed ceilings of Stirling Castle’s Great Hall and the old Scots Parliament. Stell could also have mentioned the important part of timber played in the arts and crafts architecture, as witnessed in Charles Rennie Mackintosh’s buildings, but also in Ramsay Gardens or Sir Robert Lorimer’s Thistle Chapel. Frank Gehry’s Maggie’s Centre in Dundee, Great Glen House, the new low-carbon headquarters of Scottish Natural Heritage in Inverness, and Enric Miralles’ magnificent ceiling of the Parliament’s debating chamber are proof of the modern renaissance of timber.

Sedimentary stones, such as sandstone, igneous rocks, such as granite, and metamorphic rocks, such as slates, have been building materials in Scotland from prehistoric times, from the megalithic stone circles to the drystone constructions of Skara Brae and the brochs, on to the Pictish and Celtic crosses, as can be seen from Lewis to Caithness, in Kilmartin Glen, Meikle and on Islay. The Border Abbeys, castles and fortified houses, cathedrals and churches, the sandstone buildings of Edinburgh and the quartz sparkle of Aberdeen, the granite city, all bear witness to the mason’s art and the popularity and durability of stone. As Ingal Maxwell notes:

Over the period of human habitation in Scotland, some 12,000 building stone quarry sources of different sizes and outputs are estimated to have been opened across the face of the country, with over 750 locations providing good-quality materials to satisfy the peak of masonry building that occurred during the mid-to-late nineteenth century. (p.18)

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The quarries from Caithness and Angus provided the paving stones and stone roofing slates for urbanising Scotland. 'Caithness flagstone paving has found use throughout Scotland and as far afield as mainland Europe, India and South America.' (p.28)

For at least 2,000 years, clay bricks have been in use in Scotland, but their heyday was the age of industrialisation so that they are still 'a significant part of our built heritage.' (p.31) Brickworks flourished wherever clay deposits were to hand and where there was a demand for bricks, from Terally in Wigtownshire to Brora in Sutherland and Garabost in Lewis. 'In 1802,' writes Moses Jenkins, '714 million bricks were manufactured in Scotland, but by 1840 this had jumped to 1,725 million.' (p.40) One of the finest examples of brickwork in Scotland is Templeton's Carpet Factory in Glasgow. Supposedly modelled on the Doge's Palace in Venice, 'it uses an array of polychromatic glazed bricks made by the Cleghorn Company of Glasgow to create a truly beautiful building.' (p.40)

While stone is often perceived as the principal building material in Scotland, this tends to overlook earthen building materials. 'Earth, perceived as a material used as a necessity born of poverty, should be looked on as a wonderful, eminently sustainable material,' (p.45) is how Chris McGregor opens his chapter. Sometimes entire buildings would be constructed of turf or peat, but often earth would be used in combination with stone, or 'as an undercloak to most thatched roofs in Scotland.' (p.47) Earthen floors and mudwalls, often in combination with vegetable materials to improve waterproofing, and protected by lime finishes, preceded the age of brickwork. Even earlier than that was clay construction in Scotland, which was used as a waterproofing device for chambered tombs, and also as sealing material in the Neolithic houses of Skara Brae. Clay has been widely used for floors, and as mortar and insulating material for bridges and other buildings. 'The last major earth structure to be built in Scotland,' according to Bruce Walker, 'was probably the Megget dam, which provides Edinburgh with its drinking water and was constructed in the 1950s.' (p.64)

For over 2,000 years, a crucial component in masonry construction has been lime 'in all its guises as a foundation, construction and finishing material.' (p.67). But, as Roz Artis-Young demonstrates, 'lime mortars developed not only as the core building medium, but also into sophisticated plaster finishes for internal or external use.' (p.67) She finds a 'strong link between masonry and lime' which 'has shaped the built environment of Scotland.' (p.75)

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The mortar between the masonry units, the surface finishes on the outside of our traditionally harled and rendered walls, the plaster on internal walls and ceilings, and the lime-harled colour of our townscapes all relied on lime. Lime has been used throughout Scotland. Even on St Kilda, the least accessible and most remote area of Scotland which was abandoned by its population in the 1930s, the hamlets are of 'stane and lime'. (p.75)

Some of Scotland's finest plaster work is linked to the architects of the seventeenth and eighteenth centuries, when there was a first 'flowering of fine plaster decoration in castles, palaces and townhouses' (p.79) after the Union of Crowns in 1603, with plasterers from England and the continent bringing their skills to Scotland, culminating in Sir William Bruce's designs for Holyrood Palace and Thirlestane, and then William Adam (Hopetoun House near Edinburgh, Dun in Angus and Duff in Banff) and Robert Adam, whose refined neoclassical style shines in Culzean Castle or at Mellerstain. While the nineteenth century saw the introduction of mass produced decorative plaster features, Gordon Urquhart finds that the Arts and Crafts movement, and particularly Sir Robert Lorimer, 'ignored the soulless stylistic and technical developments of recent generations in favour of a revival of the handmade artistry of seventeenth-century Scottish plasterwork.' (p.87)

Often, this plasterwork was painted, as were wooden ceilings and masonry, for decorative purposes, but also as a means of protection, sealing building materials from the weather. One of the prime examples of the decorative use of paints comes, according to Michael Pearce, with the designs of Charles Rennie Mackintosh which 'incorporated Celtic influences, Art Nouveau, and Viennese Jugendstil into a distinctive Scottish product.' (p.103)

The same Arts and Crafts movement also brought with it a 'resurgence of wrought-iron' (p.117), highlighting, in David Mitchell's words, that:

In the nineteenth and twentieth centuries Scotland was a world leader in the design and manufacture of ironwork for buildings, which was shipped across the world in large volumes to places such as South America, Australia, South Africa and India. (p.105)

Sadly, only a few remnants of this glorious Scottish ironworking industry remain. 'Cheap imports, the absence of training opportunities, and ever-tighter environmental controls now make it increasingly difficult for this sector to survive.' (p.117) But we have numerous examples of exquisite ironwork, from the gates and railings at Traquair House in the Borders, dating from 1698, to

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the frames of the industrial buildings of Scottish mills, like New Lanark, the gates of Glasgow's Necropolis, or John Kibble's Palace, since 1873 one of the star attractions of Glasgow's Botanical Gardens at Kelvingrove.

The earliest record of lead used for pipes goes back to Roman times; in the middle ages, this 'attractive, durable and workable material' became a favourite for roofing. But until the industrial revolution it remained, due to the high cost involved in extraction, transportation and application, 'restricted to high-status buildings such as churches, mansion houses and public buildings.' (p.119) Lead tended to be reused and was often stolen, which limits the number of examples of early leadwork still in existence in Scotland. But, as Roger Curtis points out, the roofs of St John's Church in Perth and King's College Chapel in Aberdeen still bear witness of leadwork dating back to the early sixteenth century.

Glass has an 'interrupted history' in Scotland's timeline of building materials. It was introduced in Roman times, but then glass only turns up again in any significant quantity during the 'great cathedral building phase of the twelfth century onwards.' (p.127) With the move away from predominantly defensive structures, greater emphasis was laid on glazing from the sixteenth century onwards, a trend that would 'reach its height,' says Robin Murdoch, 'in the eighteenth and nineteenth centuries with the building of the great country houses.' (p.130). And what would Georgian houses look like without the typical fan lights above their doors? Coloured or stained glass windows went out of fashion in Scotland's churches when John Knox's Reformation augured in 'an altogether more austere style.' (p.135) Another impediment to the use of glass was the window tax (on the number of windows), introduced in 1695, and only fully abolished in 1851.

Developed in the fifteenth and sixteenth centuries in the Low Countries, the clay pantile roof is

most commonly, but not exclusively, associated with the towns and countryside of [Scotland's] east, where its warm orange or red sits comfortably with local sandstone or limewashed harl and brings welcome colour to flat landscapes and grey coasts. (p.143)

It is traditionally thought that tiles crossed the North Sea as ballast in ships that had exported coal, salt and wool to the continental ports but, as Stuart Eydman argues, evidence in support of that theory is lacking. And soon pantiles would be produced in Britain as well. Eydman explains its success story in Scotland:

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The pantile gives a roof that is made from a standard, mass-produced product, is quick to lay, is economic in terms of tiles per square metre, is lighter than one of slate, and is more durable and fireproof than thatch. It also has its own attractive aesthetic qualities. (p.144)

These aesthetic qualities can still be seen in the East Neuk of Fife, in the harbour towns of Pittenweem or Anstruther, or in the historic Fife village of Culross.

The burghs of the east coast enjoyed a construction boom during the seventeenth century which saw the building of many new houses and the improvement of others. These included elegant residencies and lodgings for the nobility, lairds, sea captains and merchants, as well as many more modest houses and cottages, with their distinctive rubble stonework, lime harl, crowstepped gables and open forestairs. (p.149)

While pantiles are currently enjoying a new lease of life, the thatched roof is now 'an endangered species in Scotland.' (p.157) Supplanted by corrugated iron, slates and pantiles, the demise of thatched houses has, as Tim Holden writes, 'dramatically changed the character of Scottish settlements.' (p.157) He describes the various vernacular traditions of thatching, responding 'to the environment, local materials, economic circumstances and available technologies,' (p.168) and charts the decline which, in rural areas, lasted well into the twentieth century.

Neil Grieve sings the praises of one of the replacements for thatch: 'Good Scottish slating has every right to be considered a craft rather than a trade.' (p.171) It is a craft that reaches back to the fifteenth century: 'In combination with stone, harl, limewash, slabs, cobbles and setts, slate replaced the old timber tradition in building and contributed to a new national aesthetic.' (p.173) It is, Grieve concludes, a craft that 'evolved over a long period of time, and is a wonderful example of a traditional building skill, which looks superb and brings real individuality to many of Scotland's buildings.' (p.181)

Each chapter in **Building Scotland** champions its specific building material. The tone is celebratory throughout, which perhaps explains that asbestos is not given a chapter in the book, nor is concrete. Some of the contributors, like Stuart Eydman and David Mitchell, excel at contextualising their particular materials, as it is often the 'teamwork' of materials that produces remarkable ensembles, perhaps best illustrated in the architectural and design philosophy of the Arts and Crafts movement or, indeed, in the 'syncopations and

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surprises', as Edwin Morgan put it, of Enric Miralles' new Scottish Parliament building, bringing 'together slate and stainless steel, black granite / and grey granite, seasoned oak and sycamore, concrete / blond and smooth as silk.'¹ A concluding chapter, drawing the time line and the complementary use of building materials together, would have rounded off this very impressive work, which is elevated by the superb photography of Sam Sills into a visual feast.

Equally easy on the eye, and clearly a labour of love, is **Red Sandstone Buildings of Edinburgh**, a homage to the 'redheads among the blondes' – the relatively new 'romantic intrusions' of the red sandstone buildings into the cityscape of Scotland's capital: from the 'pertinent asymmetries' and 'elegant appeal' of the churches 'ringing the city' at Colinton, Craiglockhart, Polwarth, Greenbank, Cluny, Morningside, Gorgie, Bristo, Restalrig, Inverleith, Comely Bank and Dean 'to the secular, the implacable fortifications of the Caledonian Hotel and the King's Theatre protect[ing] the western approach from mischievous Glaswegian incursions' and, closer to the centre, 'the palatial Gothic of the Scottish National Portrait Gallery' with its 'figurines, lofting parapets and pinnacles' and 'the Dean Village in its historic gorge.' (p.5)

In the informative introduction, we learn about the quarries in the Dumfries and Annan regions that supplied the Triassic and Permian red sandstone, reaching their climax in the late nineteenth century. 'It is estimated,' the authors write,

that at the height of this industry, 20,000 tonnes of the 'new', post-Carboniferous red sandstone were transported annually from these Solway sites by sea, canal and, importantly for Edinburgh, by the new railway system. (p.6)

Progressively, in the twentieth century, sandstone gave way to brick and concrete, but the material that has given us the Grand Canyon and Uluru still shines in the architecture – 'some remarkable, some mundane' (p.9) – of Edinburgh, magnificently captured in Mike Devlin's photography.

While these two books are mainly preoccupied with the external aspects of our buildings, David Torrance, in **Inside Edinburgh**, shows us some of Edinburgh's classic interiors. It is a journey of discovery, looking behind the

¹ Edwin Morgan. 'Open the Doors', *The Book of Lives*, Manchester: Carcanet, 2007.

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façades of shops, restaurants, hotels, clubs and societies, public houses, domestic dwellings, banks, schools, colleges, government and civic buildings and churches.

The superb photographs by Steven Richmond give us a glimpse of buildings, mostly of the Victorian period, emphasising 'lesser-known spaces, or at least those unfamiliar to residents of Edinburgh.' (p.13), ranging in age from Pinkie House in Musselburgh and The Witchery to the National Library of Scotland, and from buildings by famous architects like Robert Adam and William Playfair to those by 'little-known or even unidentified designers.' (p.14).

Torrance quotes the architectural historian Charles Kean: 'Architecture, towns and building are some of man's most expensive activities and have always been powerfully symbolic.' They 'reveal much about the priorities, culture, politics and living conditions of the past.' (p.14). Reading these books, and revelling in their glorious photography, opens eyes; splendidly produced, they help us to look afresh and with more understanding at Scotland's – and Edinburgh's – built environment.

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