OUR STONE-BUILT HERITAGE

NORTHERN IRELAND

NATURAL STONE database
Geology
An attractive sandstone showing a huge variety of colours, hues and textures, Scrabo stone has been quarried for building since at least Anglo Norman times.

A sedimentary rock formed in a hot arid climate when Northern Ireland was part of the Pangaea supercontinent and located at latitudes similar to the Sahara today. The stone is rich in iron oxides giving the distinctive colours and loaded with clays allowing this material to be worked with relative ease.

Building Stone
The boom period for Scrabo stone was the nineteenth century when Robert Corry, the son of a successful timber merchant, recognised the commercial potential of the quarry and leased part of the hill form the Marquis of Londonderry in 1826.

The opening of the Newtownards section of the Belfast and County Down Railway in 1850 further promoted the widespread use of Scrabo stone for railway stations and bridges throughout Northern Ireland. Many of these were designed by local architect, Charles Lanyon who was a prolific user of Scrabo stone for bridges, buildings and monuments.

Conservation
Conserving Scrabo stone buildings is the current challenge.

Scrabo shows particularly low durability in polluted maritime environments where salts from pollution (gypsum) and seawater (halite) penetrate deep in to the stone (up to 8 cm) and cause severe decay through scaling and flaking of stone surfaces.

This clay-rich stone deteriorates rapidly in the presence of hard cement and must be bedded and pointed with soft lime mortars to prevent accelerated decay.

“I know of no sandstone in the north of Ireland so well fitted for architectural purpose of an ornamental character” Edward Hull (1872)
ANTRIM BASALT

Geology & Use
Erupted 60 Million Years Ago from a magmatic source now beneath Iceland, Antrim Basalt was a popular building stone throughout Northern Ireland. Used largely for rubble stonework in association with sandstone dressings, occasionally this brittle material was trimmed, dressed and shaped for quoin stones and simple window surrounds on more prestigious buildings.

St. McNissi’s College, Garron Tower
Built in 1848 as the summer residence for the Countess of Londonderry, it forms a large L-shaped, two-storey building with octagonal towers and square turrets. It is built from basalt, quarried from Craig Clughan Quarry near Glenarm. Scrabo sandstone was used for the more intricate carved stonework and lime mortar was made on-site using a purpose-built kiln.

The Gaol was built in 1845-6, to a design by Sir Charles Lanyon, the leading architect of his day. The Crumlin Road frontage is dominated by the formidable basalt prison walls, punctuated by the Governor’s House and Gatehouse, set behind decorative cast iron railings on a plinth wall. The gatehouse is constructed of large basalt ashlar blocks with tooled surfaces and chamfered edges interlocked with ‘ginger” Glasgow sandstone quoins with deep reticulated surfaces.

Gatehouse, Crumlin Road Gaol

Decay of basalt stonework, Crumlin Road Gatehouse
Probably our most well known imported building stone, Portland Limestone is a Jurassic limestone (150 Million years old) from Dorset along the south coast of England. The stone is used on many of the prestigious buildings throughout Northern Ireland. White to cream in colour, Portland is composed of microscopic ooliths (calcium carbonate spheres) and shell fragments that have been cemented together.

**Portland Limestone Types**

The limestone is subdivided into: Portland Roach, Whitbed and Base beds. The Roach bed contains many shells and fossils, is rough textured and is used for feature work, sea defence and rough walling. The Whit and Base beds are very similar, both containing very little shell or fossil remains and are of the fine texture suitable for high quality building stone.

**Soiling & Decay**

This stone is particularly susceptible to solution by acidified rainfall. Over time this can lead to surface loss, especially on decorative features. Re-deposition of dissolved limestone as gypsum, together with pollution particles can lead to unsightly soiling in areas sheltered from excessive rainwash.