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Sir James Hall of Dunglass

by David Dick OBE

David Dick was a committee member of the Society and had a keen interest in local history. His publications include 'Street Biographies of the Royal Burgh of Haddington' (1997). He was the first Principal of Stevenson College. He died in 2021 at the age of 91. A version of this article appeared in East Lothian Life.

The Society's Field Trip on 13th May 1995 took place at the idyllic hamlet of Dunglass on the border of East Lothian and Berwickshire, the site of Dunglass Castle and Dunglass Collegiate Church. Dunglass Castle '*was originally a strong fortress of the Earls of Home. After the attainder of Home in 1516, it appears to have been held by the Douglasses. When Somerset destroyed it in 1548, it was in the possession of Sir George Douglas, as brother of the Earl of Angus, who was afterwards slain at the battle of Pinkie. It was again built and enlarged. In 1603, James VI, on his way to London, took up his residence in it with his whole retinue, and he was again welcomed to it on his return in 1617, but it seems never to have been restored after its destruction in 1640, on which occasion the Earl of Haddington, and a number of gentlemen, suffered by the blowing up of the powder magazine.*' Dawson The explosion was attributed to an English servant who, incensed by an anti-English remark, stuck a red hot poker into a barrel of gunpowder to blow himself and all the occupants of the castle to death.

NATIONAL GALLERIES SCOTLAND

Sir James Hall of Dunglass, 1761 - 1832. Geologist, 1785, Angelica Kauffmann
Photography by Antonia Reeve

Old Dunglass House, built on the site of the castle, was the birthplace of the world's first experimental geologist, Sir James Hall in 1761. He was as much a chemist as a geologist but he was the first to show the igneous origin of

rock in his laboratory. In addition, he was a distinguished antiquarian, having published works on the origin, history and principles of Gothic architecture. He was undoubtedly one of the geniuses of the Scottish Enlightenment.

Old Dunglass House, © HES

James Hall was the eldest son of Sir John, 3rd Baronet of Dunglass, and Magdalen, daughter of Sir Robert Pringle. His ancestor, the 1st Baronet of Dunglass (created in 1687), Sir John Hall, was a wealthy merchant in Edinburgh and became Lord Provost in 1689 although he resigned the Lord Provostship prematurely. James was educated at Elin's Military Academy and Christ's College Cambridge after which he travelled in France and Switzerland. On his return, he attended the Natural Philosophy classes of John Robinson and the Chemistry classes of Dr Joseph Black at the University of Edinburgh.

His interest in geology seems to have been fostered by James Hutton at an early age. Sir James Hutton (1726-97) was the master and founder of modern geology who, with his *Theory of the Earth*, 1788, first formulated the igneous origin of many rocks. Hutton had come to Berwickshire in 1754 to study agriculture and chemistry having already graduated MD at Leyden. He had studied new farming methods in France and Norfolk and he brought the Suffolk plough from East Anglia to East Lothian. Hutton and Hall were neighbours and met often through their mutual love of enquiry.

James Hall was fifteen when he first met the forty year-old Hutton. Hall became fascinated with the study of rock formations and more particularly with Hutton's completely new theories of how these rocks had been formed. No one had conceived the idea that rocks could have been pushed up through the earth's crust in a molten state. Hall decided to try to prove Hutton's theory by

experiment but his old friend exclaimed that '*to judge of the great operations of the mineral kingdom from having kindled a fire and looked into the bottom of a crucible'* was simply not possible. Out of respect to his friend, Hall postponed publication of his findings until after Hutton's death in 1797. Hall had discovered *'that basalt and even bottle-glass when fused and very slowly cooled, became stony and crystalline, and not glassy; that carbonate of lime, when heated under pressure, was not burnt into quicklime, but became crystalline marble; and that the vertical position and convolutions of strata in the neighbourhood of granite have been produced by intrusion in a molten state causing lateral pressure.'* Boulger These, with many other observations, he presented to the Royal Society of Edinburgh. He was elected a Fellow of the Society in 1784 at the age of 23 and served as President from 1812 to 1820.

Sir James explained the formation of volcanic cores such as Vesuvius but he opposed Hutton and Playfair (1) in his explanation of the great boulders on Jura and at Costorphine, attributing them to *'a great sea-flood'.* We now know they are glacial in origin.

Hall's interests were not confined to geology. He was MP for the borough of St Michael in Cornwall, one of the 'rotten boroughs' swept away by the Reform Act of 1832. He presented a 27-page essay on *The Origin and Principles of Gothic Architecture* to the Royal Society. In 1813 he enlarged his essay in the 150-page *Origin, History and Principles of Gothic Architecture* explaining that it began with stone reproductions of simple wattle buildings; that crocketing was derived from sprouting buds on willow-staves and that cusps were derived from curling flakes of the bark of trees. He built a miniature Gothic cathedral in wattle-work to demonstrate his claims.

The willow cathedral.

He married Helen Douglas, daughter of the Earl of Selkirk. Robert Burns, during his tour of the Scottish Borders in 1787, wrote of Dunglass as '*the most sweet romantic place I ever saw'* and of his hosts Sir James and Lady Helen, *'a pleasant happy couple'.* Their family consisted of three sons and three daughters. Each of the sons attained distinction and appear in the Dictionary of National Biography whilst the daughters, as was the practice of the time, were given no opportunity to develop their talents. The eldest son, John, succeeded to the baronetcy as the 5th Baronet and achieved Fellowship of the Royal Society. The second son, Captain Basil Hall, served in the Royal Navy for twenty-one years and became known as a travel writer on Korea, Chile, Peru, Mexico and North America. He demonstrated one of his father's inventions to the Geological Society of London – a machine for regulating high temperatures. The third son, James, was an advocate and amateur painter of considerable skill who exhibited at the Royal Academy.

Hall died in 1832. In the beautiful Collegiate Church of Dunglass the memorial plaques of the Hall family are to be found on a transept wall. That to Sir James Hall is inscribed:

Sacred to the Memory of

Sir James Hall of Dunglass Bart.

President of the Royal Society of Edinburgh

A philosopher distinguished amongst

The eminent men of an enquiring age

Not less by the originality, boldness

And accuracy of his speculations

Than by

The ingenuity and resolute perseverance

With which he substantiated

Various important theoretical views in his

Favourite science of geology

By a series of brilliant and convincing

experimental researches

born 17th January 1761. Died 23d June 1832

A new House of Dunglass was built for Sir James in 1807 but nothing of it remains. It was demolished after a fire in 1947. It had been sadly misused during the 1939-45 war. When the Usher family bought the estate, a modern mansion was built on the site of the old house.

The house built for Sir James Hall in 1807.

In the grounds stands Dunglass Collegiate Church. It was developed from a chantry chapel dedicated to the Blessed Virgin. A charter of Alexander Home of 23rd November 1423 granted priests an acre of land. On 12th March 1443 Sir Alexander Home, son of the above, founded the chapel with the consent of the Bishop of St Andrews and on 2nd January 1450-1 the erection of the church was confirmed by Pope Nicholas V. In the 18th century it was turned into a stable. The west window was destroyed and the wall widened to admit the farmer's carts.

Dunglass Collegiate Church © HES

Notes

(1) John Playfair (1748-1819), Professor of Mathematics and Natural Philosophy of the University of Edinburgh, who strongly supported the Huttonian theory of Geology.

Sources

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