



example. A link between geology and our human ancestors is made in the Quaternary section, where there are boulders of Wiltshire Sarsen sandstone and igneous 'Bluestone' from the Mynydd Preseli district of Pembrokeshire — the two principal rock types found at Stonehenge.

Overlooking the Geological Walk, the facade of the James Hutton Building commemorates the work of the eighteenth-century geologist after whom the building is named. The facade is a stylised representation of Siccar Point on the Berwickshire coast — the locality most closely associated with Hutton, having provided him with convincing proof of his 'cyclic processes' theory.

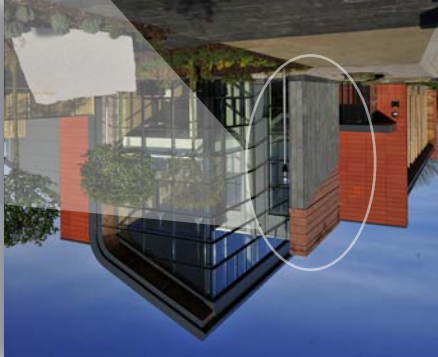
At Siccar Point, near-vertical Silurian wacke sandstones of the Gala Group are overlain with angular unconformity by Upper Devonian to lower Carboniferous rocks of the Stratheden and Inverclyde groups. Seaward-facing views of the outcrop, together with a field sketch made by Sir James Hall, who accompanied Hutton and John Playfair to the locality in 1788, formed the basis for the facade's design. The design was executed using lateral equivalents of the Siccar Point wacke sandstones exposed in Dumfriesshire and Middle Devonian sandstones from Easter Ross.



Large monolithic boulders (designated B1, B5, B7 and B13 overlaid) represent the four component countries of the UK and exemplify the three principal types of rock. The remaining feature boulders are not period specific but occupy approximately correct 'stratigraphical' positions. They expand the range of rock types and geological processes displayed and in some cases highlight the importance of geology to society and the economy. Sedimentary rocks of Jurassic age, associated with the UK's hydrocarbon reserves, are an



The paving is laid out in chronological order, beginning with rocks of Precambrian age. These are followed by a selection of rock types representing the eleven principal subdivisions of the Phanerozoic Eon. Most of the paving materials are commercially available and are chosen to showcase the UK's stone industry. The two exceptions

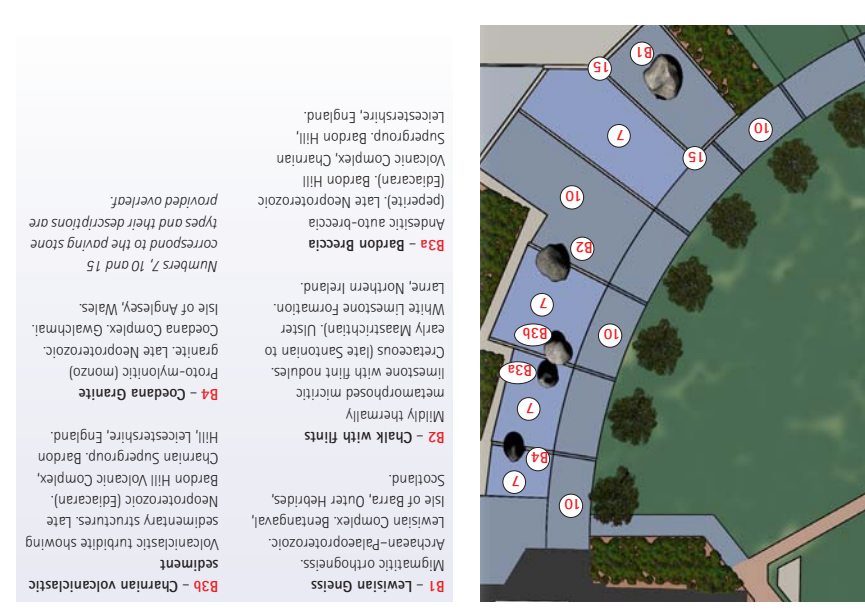


The Geological Walk is accessed via the Reception and Exhibition areas and comprises a substantial area of natural stone paving with feature boulders and several items of 'rock furniture'. The walk extends 130 metres from west to east across the site, linking the BGS Reception with the James Hutton and William Smith buildings. A metre-wide 'spine' of Carboniferous flagstone runs the length of the walk and bears numbered discs identifying the individual rock paving types listed in the key overlaid.



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Geological Walk

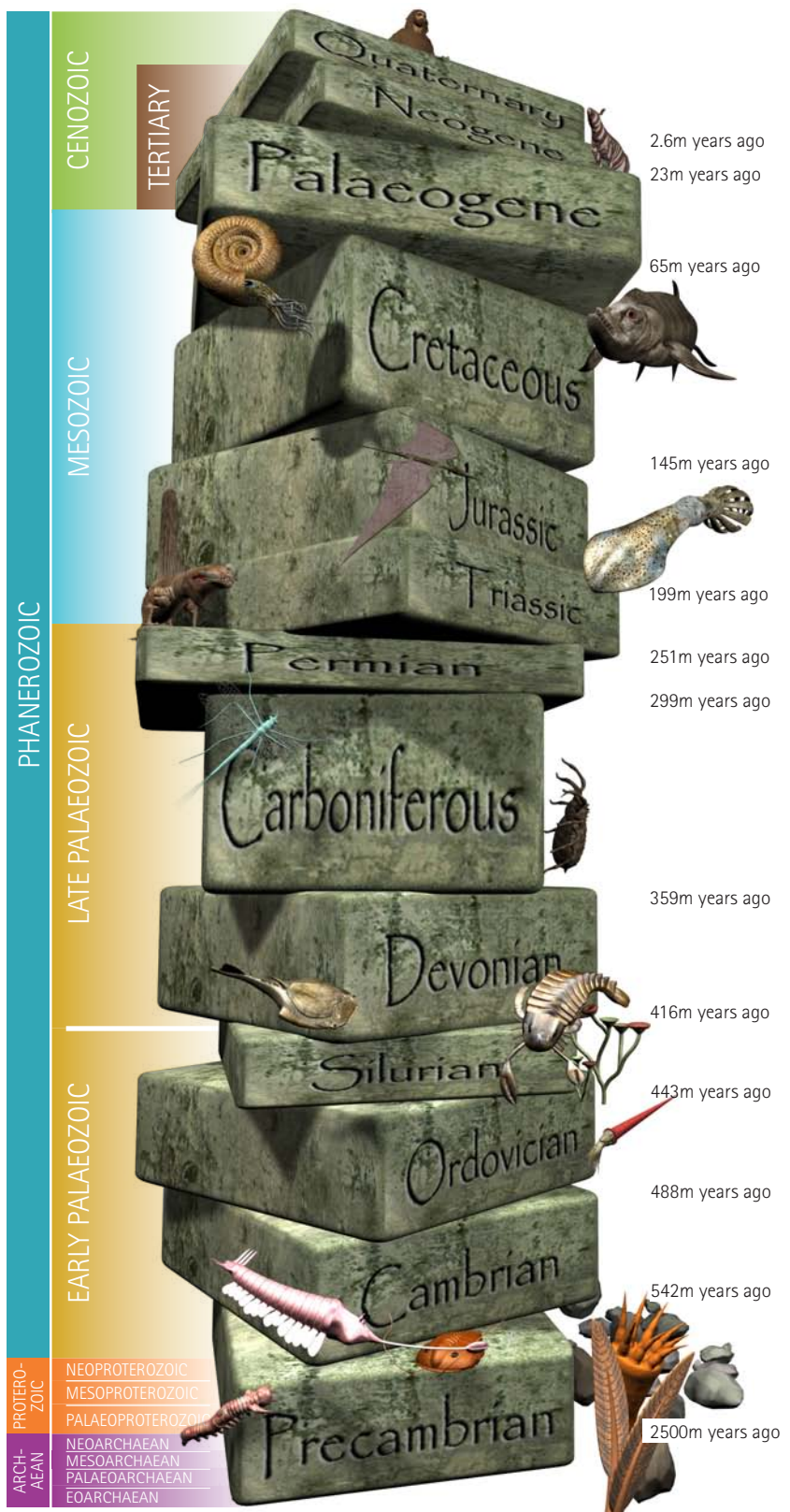


The Geological Walk celebrates the diverse geology of Britain and Northern Ireland though a display of impressive specimens and natural stone paving. It was opened in May 2012 as part of a major redevelopment of the BGS's Keyworth headquarters site. The display, covering almost 3 billion years of Earth history, includes many of the fascinating rocks that shape our landscape and are associated with our natural resources. This leaflet is your guide to the Geological Walk and other aspects of the new-look Keyworth site. Inside is a detailed map and key to all the rock types featured.

The approach to Reception

A broad path sweeps from the car park to Reception past five feature boulders representing the geology of Scotland, England, Wales and Northern Ireland as well as the three main rock types: igneous, sedimentary and metamorphic. The focal point of these boulders is a monolith of Lewisian Gneiss, the most ancient rock type in the British Isles.

Introduction



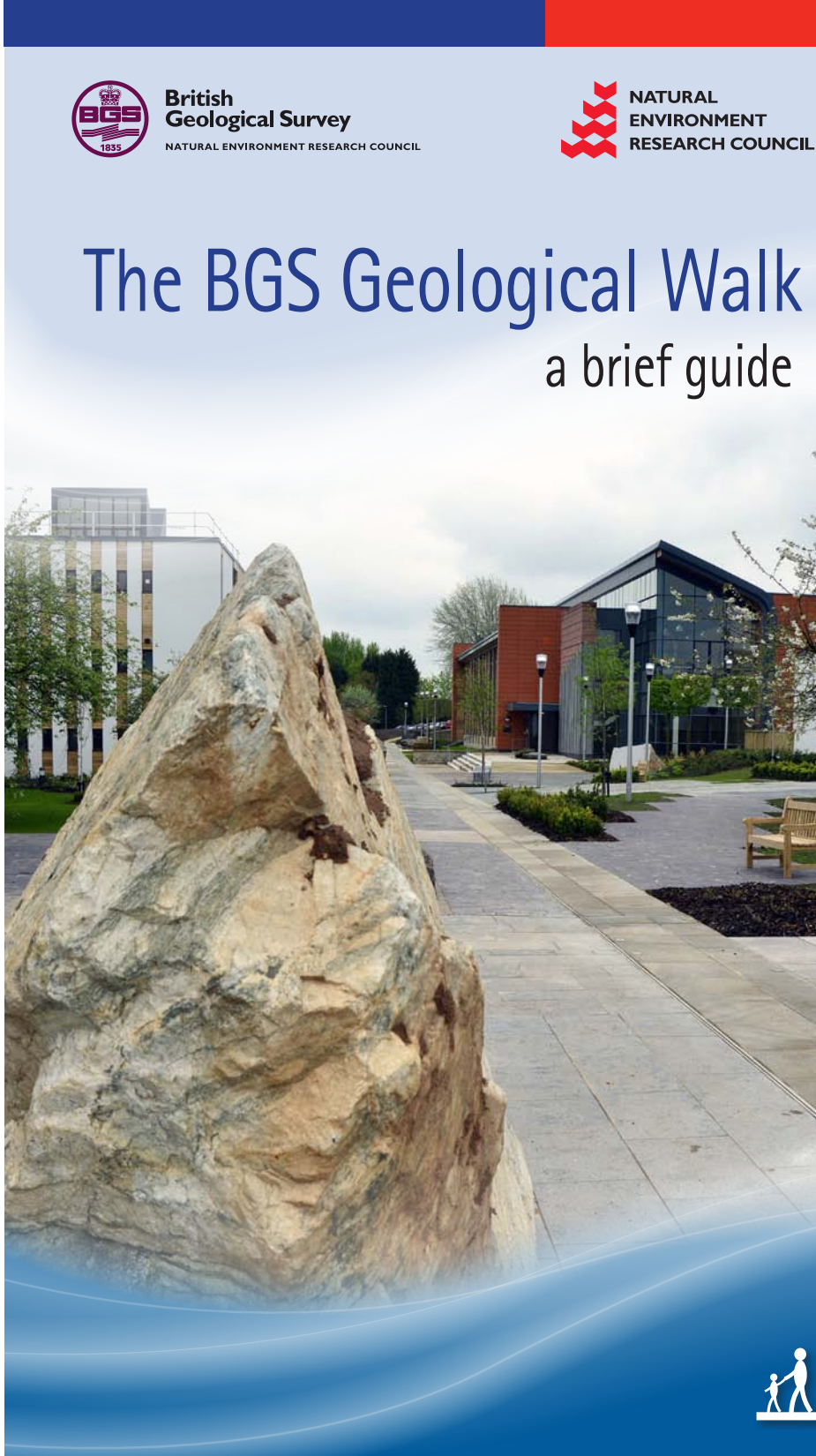
Acknowledgments

The BGS gratefully acknowledges the collaborative support of CED Ltd in realising its geological landscaping plans. CED Ltd, in close consultation with the BGS, supplied all the natural stone paving which features in the approach to Reception and the Geological Walk, and some of the feature boulders located within both areas. The following are also thanked for their kind donations and enthusiastic support of the project:

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- Bardon Aggregates (Aggregate Industries)
- CEMEX UK
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- Kier Construction (Kier Group)
- Midland Quarry Products
- Staffordshire Stone (UK) Ltd
- Tarmac Limited and Tarmac Building Products Limited
- The Western Isles Council

For more information please contact:

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'Timeline spine' – Carboniferous flagstone - Namurian, Yeadonian
Scout Moor Quarry, Edenfield, Lancashire, England

- 38 – Beach pebbles.** Quaternary (Holocene)
Moray, NE Scotland
- 39 – Sliced glacial boulders and cobbles.** Quaternary (Pleistocene)
Various sources in Northern Scotland and Northern Ireland

- 36 – Basalt setts.** Tertiary (Palaeogene; c. 60 Ma)
Craigall Quarry, Kilrea, Co. Londonderry, Northern Ireland

- 33 – Purbeck Limestone.** Cretaceous (Berriasian)
Blacklands Quarry, Langton Matravers, Dorset, England

- 34 – Reclaimed 'ironstone' setts.** Cretaceous (Aptian to Albian)
Reigate area, Surrey, England

- 35 – Knapped flints.** Cretaceous (Coniacian to Campanian)
Essex, England

- 32 – Blue Lias limestone.** Latest Triassic to Early Jurassic (Rhaetian to Sinemurian)
Tout Quarry, Charlton Adam, Somerton, Somerset, England

- 30 – Clashach Sandstone.** Late Permian–Early Triassic
Clashach Quarry, Hopeman, Elgin, Moray, Scotland

- 31 – Spynie Sandstone.** Triassic (Late)
Spynie Quarry, Hill of Spynie, Elgin, Moray, Scotland

- 27 – Cornish granite.** Permian (early)
De Lank (Hantergantick) Quarry, St Brevard, Cornwall, England

- 28 – Locharbriggs Sandstone.** Permian (early)
Knowehead Quarry, Locharbriggs, Dumfries, SW Scotland

- 19 – Pennant Sandstone** (self-faced). Carboniferous (Bolsovian to Westphalian D)
Gwrhyd (Rhiwfawr) Quarry, Rhiwfawr, Swansea, Wales

- 20 – Pennant Sandstone** (riven). Carboniferous (Westphalian D)
Bwlch Ffos Quarry, Neath, West Glamorgan, Wales

- 21 – Rough Rock.** Carboniferous (Yeadonian)
Crosland Hill Quarry complex, Huddersfield, England

- 22 – Midgley Grit.** Carboniferous (Marsdenian)
Naylor Hill Quarry, Haworth, Keithley, West Yorkshire, England

- 23 – Baycliff Limestone.** Carboniferous (Asbian)
Baycliff (Haggs) Quarry, Baycliff, Cumbria, England

- 24 – Pennant Sandstone** (sawn). Carboniferous (Westphalian D)
Great Berry Quarry, Brierley, Gloucestershire, England

- 25 – Elland Flags** (self-faced). Carboniferous (Langsettian/Westphalian A)
Bolton Woods Quarry, Bradford, West Yorkshire, England

- 26 – Elland Flags** (riven). Carboniferous (Langsettian/Westphalian A)
Bolton Woods Quarry, Bradford, West Yorkshire, England

- 15 – Caithness Flagstone.** Devonian (Eifelian to Givetian)
Thurso, Caithness, Scotland

- 16 – Lower Old Red Sandstone.** Devonian (late Lochkovian to Emsian)
Callow (Hill) Quarry, Buckholt, Herefordshire, England

- 13 – Cumbrian Slate** (dark grey). Silurian (Ludlow, Gorstian)
Kirkby Slate Quarries, Kirkby-in-Furness, Cumbria

- 9 – Welsh Slate** (dark grey). Ordovician (Arenig to Caradoc)
Manod (Cwt-y-Bugail) Quarry, Blaenau Ffestiniog, Wales

- 10 – Cumbrian Slate** ('green'). Ordovician (Caradoc)
Coniston, Cumbria, England

- 11 – Avochie Granite.** Ordovician (c. 470 Ma)
Avochie Quarry, Rothiemay, Moray, Scotland

- 12 – Reclaimed Aberdeen Granite setts.** Ordovician (c. 470 Ma)
(?)Rubislaw Quarries, Aberdeen, Scotland

- 7 – Welsh Slate** ('heather'). Early Cambrian
Bethesda, Gwynedd, Wales

- 8 – Cambrian quartzite.** Early Cambrian
Laid, Portnanton, Loch Eriboll, Scotland

- 1 – Lewisian Gneiss.** Archaean
Lochinver, Sutherland, Scotland

- 2 – Meta-anorthosite** ('white'). Palaeoproterozoic
Lingreabhagh (Lingarabay), South Harris, Outer Hebrides, Scotland

- 3 – Meta-anorthosite** ('pink'). Palaeoproterozoic
Lingreabhagh (Lingarabay), South Harris, Outer Hebrides, Scotland

- 37 – Mourne Granite.** Tertiary (Palaeogene; c. 56 Ma)
Thomas's Mountain Quarry, Newcastle, Co. Down, Northern Ireland

- 29 – Cornish granite.** Permian (early)
Trannack Quarry, Helston, Cornwall, England

- 30 – Clashach Sandstone.** Late Permian–Early Triassic
Clashach Quarry, Hopeman, Elgin, Moray, Scotland

- 17 – Ashburton Marble.** Devonian (Eifelian to Givetian)
Linhay Hill, Ashburton, Devon, England

- 18 – Delabole Slate.** Devonian (Famennian)
Delabole Quarry, Delabole, St Teath, Cornwall, England

- 14 – Reclaimed Peterhead Granite setts.** Silurian (late)
Peterhead area (possibly Stirling Hill Quarries), Aberdeenshire, Scotland

- 4 – Torridonian sandstone.** Late Mesoproterozoic to early Neoproterozoic
Loch Kishorn, Applecross, Wester Ross, Scotland

- 5 – Dalradian metasediment.** Neoproterozoic
Deeside, Aberdeenshire, Scotland

- 6 – Augen granite.** Neoproterozoic
Various glaciofluvial sources in Easter Ross, Scotland

