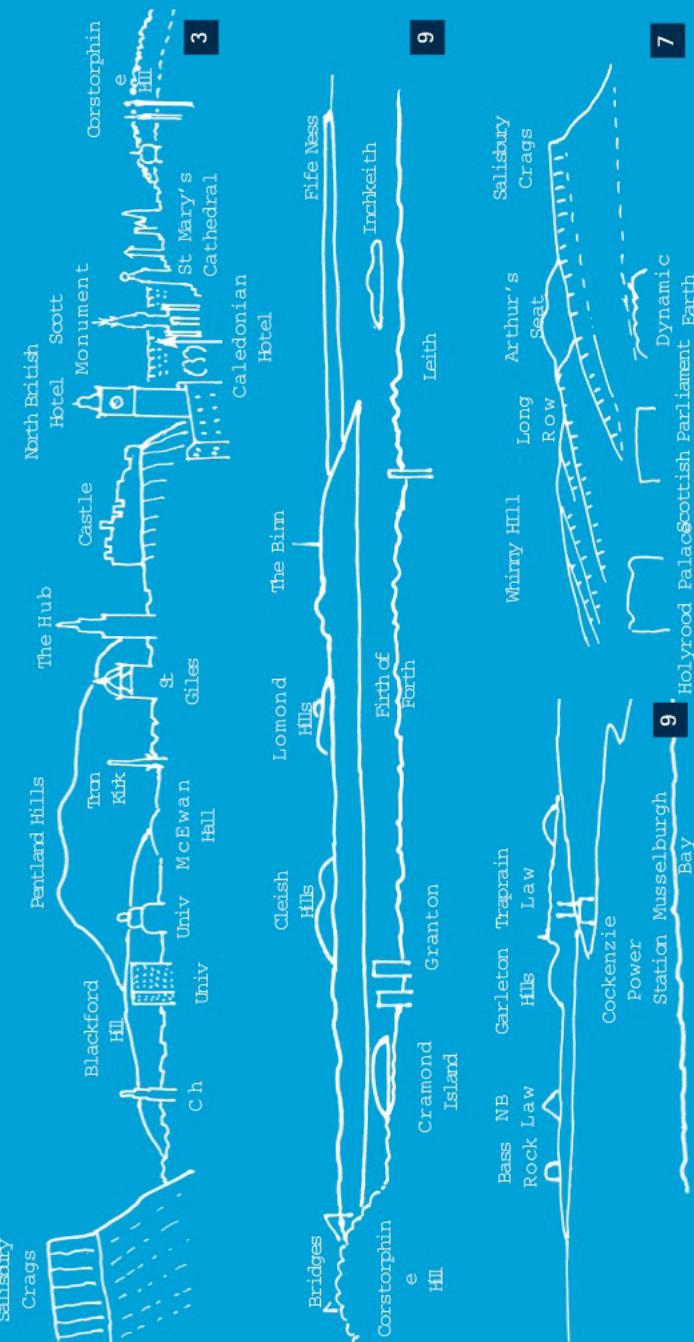


Panoramas



Calton Hill & East Edinburgh

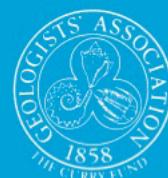
Calton Hill lies to the east of Princes Street. It is easily reached by bus or on foot, see map below.

A walk is described overleaf. The first ten localities describe the outcrops and buildings on Calton Hill itself, and give access to the panoramic views. Localities 11 to 36 describe many of the important buildings around the north, west and south of the hill, together with the geology of their building stones. The recommended route along paths and pavements is shown in blue on the diagram overleaf. Edinburgh traffic can be very busy, so TAKE CARE; cross where possible at traffic light controlled crossings. The tour starts at the east end of Waterloo Place, where the south-west entrance to the park leads up steps on to Calton Hill (Route Map locality 1).



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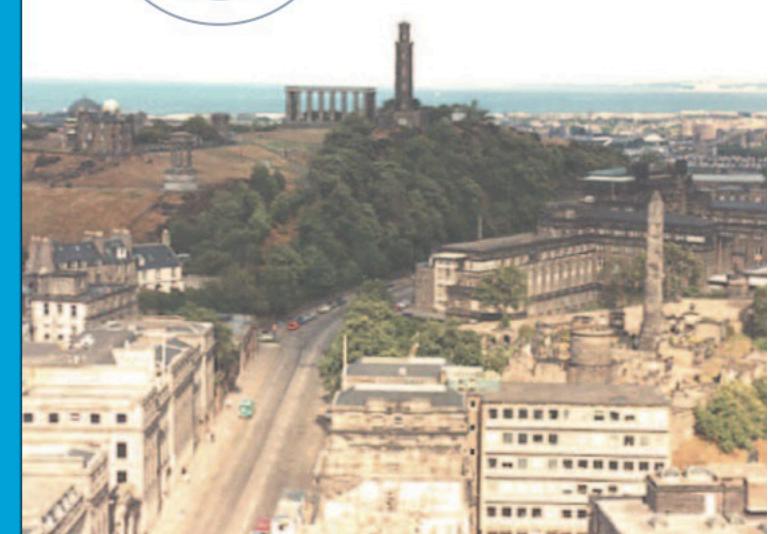
Leaflet compiled by Andrew McMillan, David Land and David McAdam, with contributions from John Fairhurst and Richard Gillanders. Photographs: Craigleath Quarry 1858 by W D Clark. Courtesy of Edinburgh City Libraries; 8 by R J Gillanders; 14 by Clark Stone Ltd; 28 by G Washington Wilson c.1860. Courtesy of University of Aberdeen; others by A A McMillan. Arthur's Seat Volcano drawing courtesy of Scottish Natural Heritage. The leaflet is published by the Lothian & Borders RIGS Group. Designed and produced by Derek Munn Design. Printed by MacKenzie and Storrie, Edinburgh. © Lothian & Borders RIGS Group 2003 www.edinburghgeolsoc.org/r_home.html Email: labrigs@bgs.ac.uk

Calton Hill



Geological Walk

Monuments in Stone



& Edinburgh's East End



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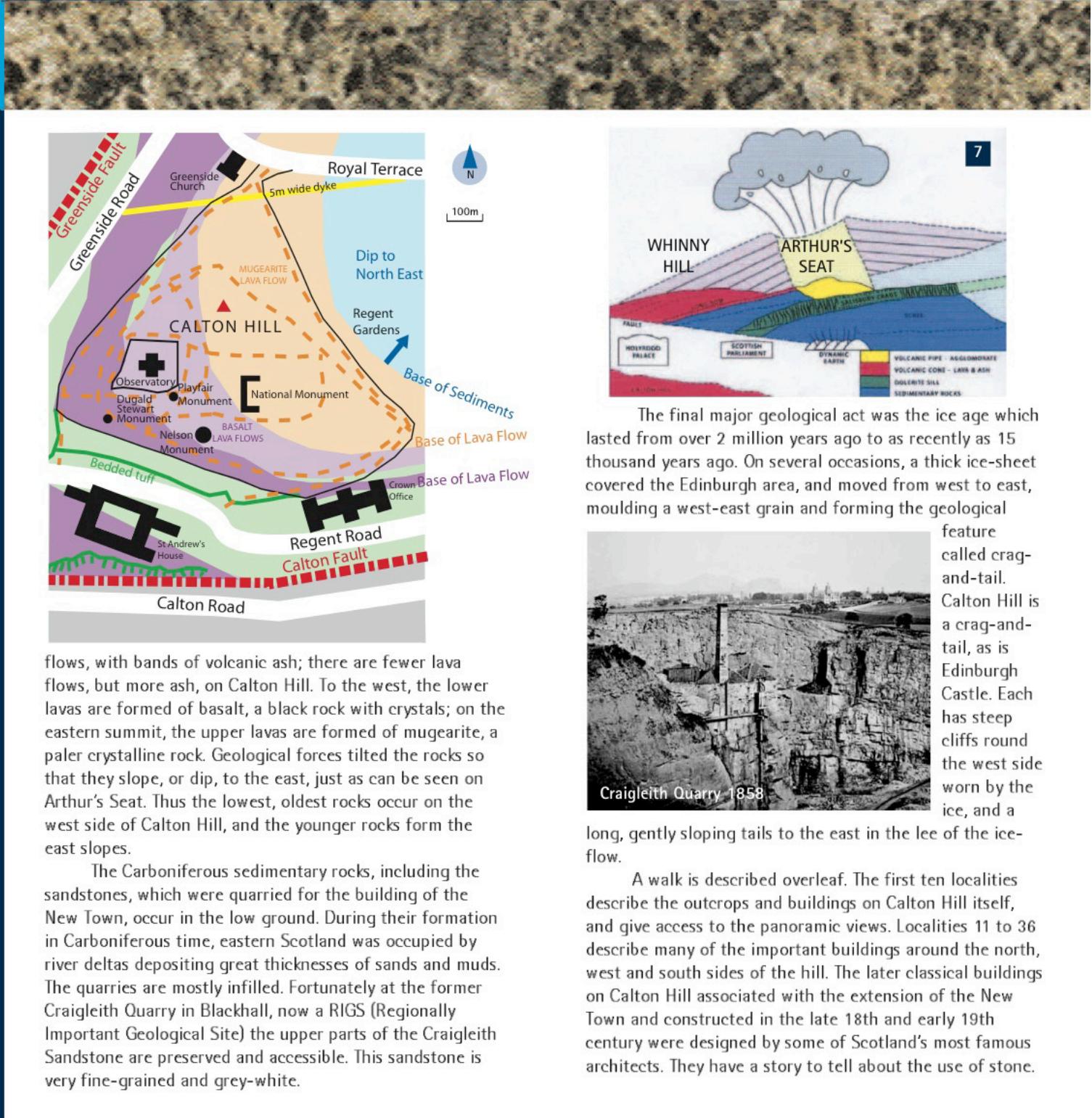
Calton Hill & Edinburgh's East End

Edinburgh's dramatic landscape owes much to the varied nature of the underlying geology, even though the rocks were formed some 300 to 350 million years ago, in the era known as the Carboniferous. The hard volcanic rocks stand up as hills, while the softer sedimentary rocks have been worn down to form the low ground. Erosion, especially by ice, has given the hills their sharp and ridged appearance. Calton Hill is typical and displays many of the features of Edinburgh's volcanic hills. In addition it is surmounted and surrounded by buildings of the Edinburgh New Town, now a World Heritage Site. Finally the short climb to the top is rewarded by one of the most spectacular panoramas in the Lothians.

Calton Hill is protected by Scottish Natural Heritage as a Site of Special Scientific Interest as part of the Arthur's Seat Volcano SSSI complex which also includes Edinburgh Castle Rock.

To the south, lies the Arthur's Seat Volcano (see drawing opposite). The top part of the tilted volcano has been lost, and only fragments are left. The double summit is the remnant of the two central vents where the molten rock, or magma, came to the surface. The ridges on Whinny Hill, to the left, are the remaining part of the cone built up by lava flows from many eruptions, with layers of volcanic ash, or tuff, thrown out during explosive episodes. Each rocky ridge is formed of one lava flow, each grassy hollow hides tuff. [Salisbury Crags is a quite different geological formation called a sill, formed where the molten rock did not reach the surface, but was squeezed between sedimentary layers.]

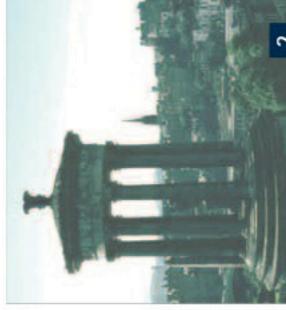
Calton Hill is a fragment of the cone of the Arthur's Seat Volcano, displaced by a geological fracture, the Calton Fault, to the south, and bounded to the west, by the Greenside Fault. On Arthur's Seat there are 12 lava



A walk amongst monuments of stone

1 Start at Calton Hill Steps where you can see the rocks which form Calton Hill: coarse-grained bedded tuff is overlain by basalt lava.

2 Climb steps to Dugald Stewart Monument (built 1831, designed by William Playfair) of yellowish-grey sandstone from Humbie, West Lothian.



3 Townscape panorama towards Edinburgh Castle.



16 The former Scottish Equitable Assurance Building (1899, J M Dick Peddie and George Washington Browne; reconstructed 1982, Michael Laird) of pink Doddington sandstone, Wooler; slumped bedding structures low down on SE corner.

17 North side of St Andrew Square note contrasting styles of rubble work. Nos 21, 22 (1770-72) of coursed rubble, probably local stone from Bearford's Parks; ashlar facing of ground floor dates from 1845-48; No 21 has Doric porch (1840), probably of Binny stone; No 22 Corinthian porch (1854) stonework around lower windows also looks like Binny stone (c1840).

18 Monument to Henry Dundas, Viscount Melville:- Column (1821) of Cullaloo sandstone, Fife; Statue (1828) by Robert Forest.

19 In Thistle Street the Standard Life Extension Phase One (1964, Michael Laird & Partners) is constructed of

4 Old City Observatory House (1776, James Craig), earliest building on Calton Hill, of local volcanic materials in rubble work which can be matched with the lava exposed on W side of Observatory; note the oblong white crystals and rounded gas bubbles. The rubble walls contrast with dressed sandstone masonry of the observatory extension and adjacent New Observatory (William Playfair, 1818).

5 Playfair's Monument (1826, William Playfair) to his uncle Prof Joanni Playfair, built of sandstone from Craigleith Quarry, west Edinburgh.

6 The Nelson Monument, in the shape of an inverted telescope, (c.1816, Robert Burn) of Craigleith Sandstone.

7 Panorama of the Arthur's Seat Volcano. Cliff below formed by two lava flows.

8 Unfinished National Monument (1826, C R Cockerell and William Playfair) 12 columns each of 13 pieces surmounted by impressive architrave of Craigleith Sandstone with wispy bedding of mica flakes.

9 NE part of New Observatory (1895, Robert Morham) octagonal building with copper dome, sandstone from Binny Quarry, West Lothian. Panorama across Firth of Forth.

10 Note two glacial features here: glacial erratics, large boulders carried and dumped by the ice sheet, ring the turning area, and the Triangulation point on glacially smoothed pavement of mugearite lava showing typical closely spaced joints.

11 Take path downhill to Royal Terrace, passing the 'stiff gothic' Greenside Church (1830, James Gillespie Graham). Royal Terrace Gardens were extensively quarried for stone prior to 1820s. Continue along the upper part of Leith Walk and along Queen Street.

12 St Mary's Roman Catholic Cathedral (1813, James Gillespie Graham) repaired with fine greenish grey sandstone from Woodkirk, Morley, Yorkshire.

13 St Paul's and St George's Episcopal Church (1816, Archibald Elliot) of fine-grained sandstone from Redhall, Edinburgh.

14 Paton Building refaced with warm coloured Triassic sandstone from Clashach near Elgin; as in Museum of Scotland, Chambers Street.

15 National Portrait Gallery (1890, R. Rowand Anderson), reputedly first use in city of gaudy New Red Sandstone (Permo-Triassic); red sandstone from Moat, near Longtown, Cumbria, with recent repairs from Corsehill, Annan; granite pillars on first floor windows at side and front.

22 The Standard Life building (1962, Gordon & Dey), 19 St Andrew Square, has superb entrance columns of polished larvikite, a blue syenite from Norway. The sandstone cladding is from Springwell, Gateshead and Wellfield, West Yorkshire.

16 The adjacent building, No.13 George Street, with grey granite columns, was designed for the Royal Insurance Company (1898, W. Hamilton Beattie).

23 Columns and portico of St Andrew's and St George's Church (1785, Major Andrew Fraser) of Craigleith Sandstone, wispy with oxidised inclusions. Main building is polished ashlar front and dressed circular body, reputedly of Redhall stone but looks like Craigleith.

24 The Corinthian Portico of the Dome (formerly Royal Bank of Scotland, 1847, David Rhind) is of Binny Sandstone.

25 Former Guardian Royal Exchange building (1940, Leslie Grahame Thomson) of grey Creelton Granite over polished black gabbro.

26 Former Scottish Widows building (1962, Basil Spence, Glover & Ferguson), 9 -10 St Andrew Square, has Carboniferous Derby Dene limestone (with crinoids & brachiopod fossils) over black Bon Accord gabbro.

27 Charles Jenner's Workshop (1902) of bright red sandstone from Gatehousebridge, Thornhill, Dumfriesshire. Jenner's Store, which fronts on to Princes Street, of very pale orange sandstone from Cragg, Bellingham, Northumberland.

28 The Scott Monument (1846, George Meikle Kemp) of Binny sandstone. Recent indentations of Clashach and Binny stone.



29 The Royal Bank of Scotland Dundas Mansion (1777-74, Sir William Chambers for Sir Laurence Dundas) of sandstone from Redhall; NB cross-laminations on right side. Morgan House (north pavilion to Dundas mansion) (1769, Robert Adam) is of Craigleith.

30 Register House (Robert Adam's masterpiece, started 1774) mainly of Craigleith; northern extension (1834) possibly Binny Sandstone; later extensions (1882) of Longannet. In front, the Iron Duke (Duke of Wellington) by Sir John Steell, in bronze on Peterhead granite.

31 Balmoral Hotel (1902, W. Hamilton Beattie) of Prudham Sandstone from Fourstones, Hexham, Northumberland.

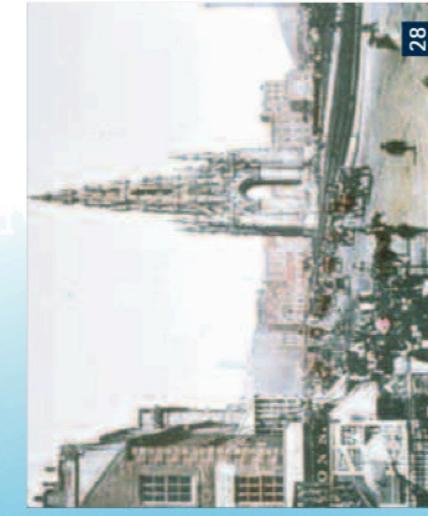
32 The former General Post Office (1866, Robert Matheson) of Binny Sandstone. The rear (seen from Regent Bridge) of Doddington Sandstone from Wooller, Northumberland.

33 Regent Bridge (1815, Archibald Elliot), top of Craigleith Sandstone; below of sandstone from the Craigmillar quarries, south Edinburgh.

34 Old Calton Burying Ground, monuments display varying weathering. Governor's House of Calton Gaol (1817, Archibald Elliot), of sandstone from Hermand, West Lothian.

35 St Andrew's House (1934-39, Thomas Tait) of sandstone from Darney, Northumberland.

36 The former Royal High School (1829, Thomas Hamilton) of Craigleith Sandstone. This building used for the Scottish Assembly, considered for the Scottish Parliament, now destined as museum of early photography.



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