

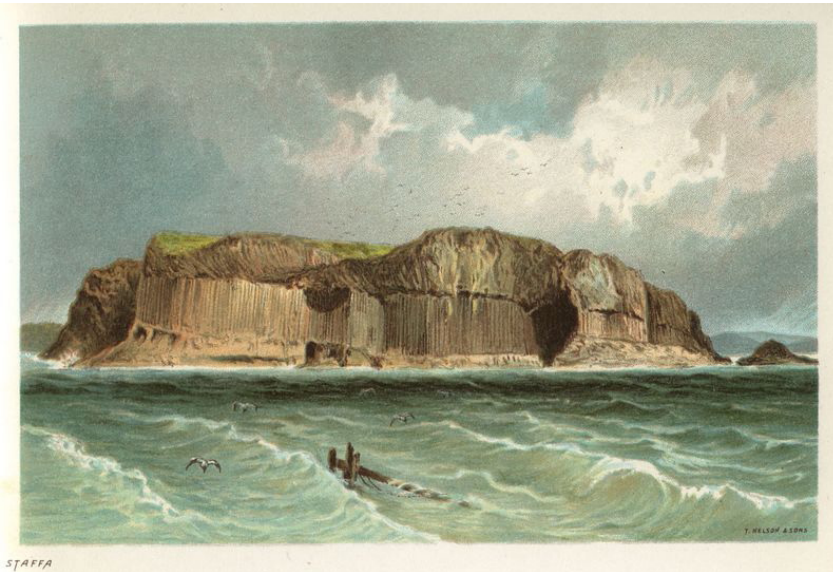
# Fingals Cave, Staffa

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## Abstract

Fingals Cave, the world's most famous basalt cave, is to be found on the island of Staffa in the Inner Hebrides, off the west coast of Scotland. The cave was "discovered" by Sir Joseph Banks in 1772. The circumstances of its "discovery"; prior history; earliest illustrations from 1772; the island's depiction on early maps and its promotion and as an object of scientific study and picturesque grandeur, particularly during Victorian times, are discussed. Many famous people are recorded as having visited the cave, including Queen Victoria and Felix Mendelssohn in 1829. In 2005 and 2006 the first detailed speleological investigation of the island and its caves was carried out and some of the findings are detailed.

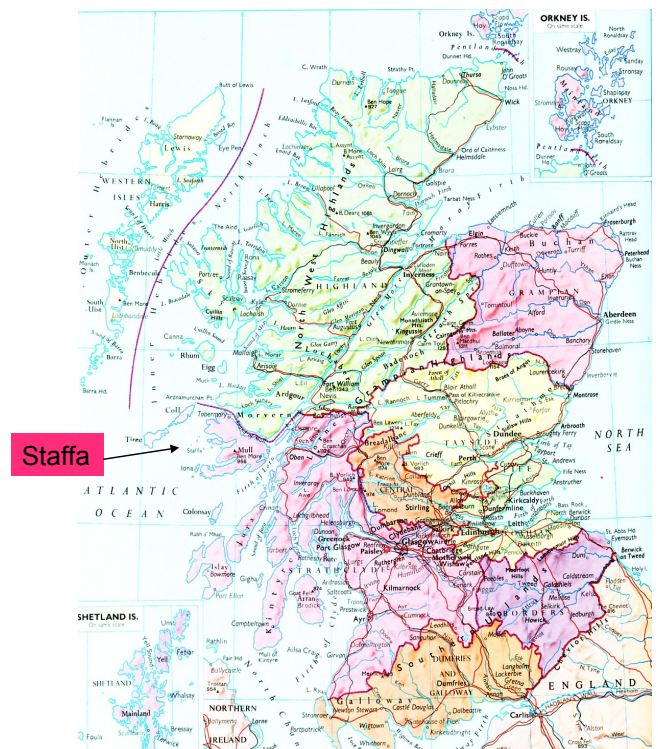


*The island of Staffa, showing Fingals Cave – Thomas Nelson & Sons, 1891*

## Introduction

Fingals Cave is on the island of Staffa, off the west coast of the Island of Mull, off the west coast of Scotland (Fig. 1). It is reached by sailing from Oban to Mull and then driving the 31 miles (50 km) down to Fionnphort and sailing out to Staffa. There are several boat operators who offer tourist sailings to Staffa throughout the summer months and usually, weather permitting, a landing is made and approximately an hour to an hour and a quarter can be spent on the island. This allows enough time to visit Fingals Cave and walk round the top of the island.

It is volcanic in origin with the famous columnar basalt lying over layers of compacted ash. This in turn is topped by subsequent lava flows which also show signs of formation of columns but these are broken, twisted and jumbled. Dr J. MacCulloch (1814) in Vol. II of the *Transactions of the Geological Society* refers to reports of a sandstone bed which can be seen at low water on the south western side of the island but he had not seen it himself. During the Grampian



*Fig. 1. Location of the island of Staffa.*

Speleological Group's recent exploration of the island some of the caves were dived and again there were no reports of sandstone being found. The island is thought once to be part of the neighbouring island of Mull and part of the volcanic region which extends from Skye and the Shiant Isles in the north to the Giants Causeway in County Antrim, Northern Ireland, to the south where similar basalt columns can be seen.

Staffa is a small island being just under  $\frac{3}{4}$  of a mile (1.25 km) long,  $\frac{1}{4}$  of a mile (420 m) wide,  $1\frac{1}{2}$  miles (2.5 km) in circumference, with an area of 71 acres (29 ha) and the highest point is 135 ft (50 m) above sea level. Apart from Fingals Cave there are a number of other well-known caves on the island, including Clamshell Cave, Goat Cave, Boat Cave, McKinnons Cave and Cormorants Cave, the last two of which are linked (Fig. 2).



Fig. 2. MacCulloch's map of Staffa (1814)

## Discovery

Martin Martin was born on Skye, probably in the late 1660s and was employed as a tutor or governor by two major landowning island families. As a Gaelic speaking islander with valuable social connections he proved to be a useful researcher and collector on behalf of the Royal Society. He published *A Late Voyage to St Kilda* in 1698 and *A Description of the Western Islands of Scotland* printed in London in 1703 [329pp.]. He visited and describes at least 24 islands, together with Orkney and Shetland which appear

possibly based on the writings of others, and produced *A New Map of the Western Isles of Scotland*. The most glaring omission in Martin's perambulations round the Hebridean Islands which included Mull and Iona, was not to visit nearby Staffa. If he had he would have surely reported Fingals and the other caves and history would be different.

One of the first mentions of the island is in Thomas Pennant's (1774) second "Tour in Scotland" when he "sailed past this interesting island" on 11<sup>th</sup> July 1772, but "due to sea conditions, did not land". However Joseph Banks (later Sir Joseph) (Fig. 3) did land on the island on 13<sup>th</sup> August 1772 and "discovered" Fingals Cave. He was en route to Iceland with a party which included Dr Uno von Troil when he had to take shelter in a storm. He accepted an invitation ashore and met a Mr Leach who told him that nearby was an island with pillars of rock like those of the Giant's Causeway. Banks visited the island the next day and declared Fingals "... one of the greatest natural curiosities in the world..." and he then set about publicising this natural wonder.



Fig. 3. Sir Joseph Banks, 'discoverer' of Fingals Cave.

Dr Samuel Johnson, with James Boswell, in 1773 reached Mull on 19<sup>th</sup> October during their "Journey to the Western Islands and A Tour to the Hebrides". Johnson wrote "We saw the island of Staffa at no very great distance, but could not land on it, the surge was so high off its rocky coast."

However the island, and therefore the cave, was undoubtedly already known to locals and other passing boats, not to mention the Vikings. The name *Staffa* dates from the Viking occupation of the West Coast of Scotland from about 890 to 1266 AD and is derived from the Old Norse words *Stafr* meaning pillar or post and *Ey* meaning island, hence *Pillar Isle*. When Banks first visited the island he found a house and signs of

habitation by a lone herdsman, probably seasonal. By 1782, according to the *Parochial Register*, the herdsman had acquired a wife and child, and by 1784 the island population reportedly consisted of sixteen people, probably in two families, but by 1798 it was no longer inhabited throughout the year but was certainly still used for grazing in the summer months.

### Putting Staffa on the Map

Nearly two centuries before Banks' "discovery" Timothy Pont, in the period between graduating from St Andrews University and being ordained as a Church of Scotland Minister in the Parish of Dunnet in Caithness, surveyed the whole of Scotland. His surveys consisted of compass traverses of the rivers and valleys and he recorded the vast number of place names associated with each area. This was a remarkable achievement considering he probably only worked during the summer months. His manuscript maps are not dated and only 36 sheets survived after his death some time between 1611 and 1614. Pont's original sheet covering Staffa has not survived so we do not know if he actually visited Staffa but his map showing Staffa was included in Joan Blaeu's *Atlas Novus*, published in Amsterdam in 1654 (Fig. 4).



Fig. 4. Timothy Pont's map of Mull, showing Staffa, published 1654.



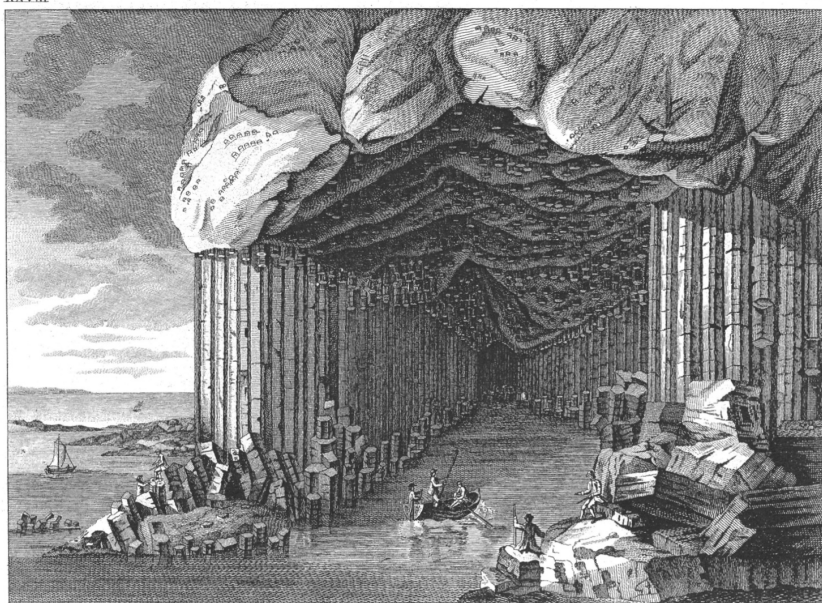
Fig. 5. Earliest illustration of Staffa, by John Frederick Miller, 1772

### The First Illustrations

There are a great many illustrations of Staffa and Fingals Cave, the earliest we know of being that of John Frederick Miller in 1772 (the same year as its "discovery") (Fig. 5). Thomas Pennant may have missed out on the "discovery" but in the account of his *Tour of Scotland* (part 1) (1774), he included engravings based on the sketches made by John Cleveley Jnr. (Fig. 6), who was part of Banks' party.

Other examples of engravings included are by Antonio di Bittio, c. 1780 (Fig. 7), two by F. Bertuch, 1798 (Figs 8, 9), T. Garnett in 1800 (Fig. 10), C. Horney (Fig. 11) also in 1800, Jean Claude Nattes in 1801 (Fig. 12) and two more of his from 1804 (Figs 13, 14), and Josiah Whimper in 1849 (Fig. 21).

William Daniell, a famous artist and engraver, commenced a tour around Great Britain in 1813 at Land's End and travelled clockwise round the coast. Initially he was accompanied by a companion, Richard Ayton, who was to provide the text to accompany his illustrations, but who dropped out in 1816 just after reaching



FINGAL'S CAVE IN STAFFA.

Fig. 6. Pennant's engraving from John Cleveley Jnr.'s sketches, published 1774 (image reversed).

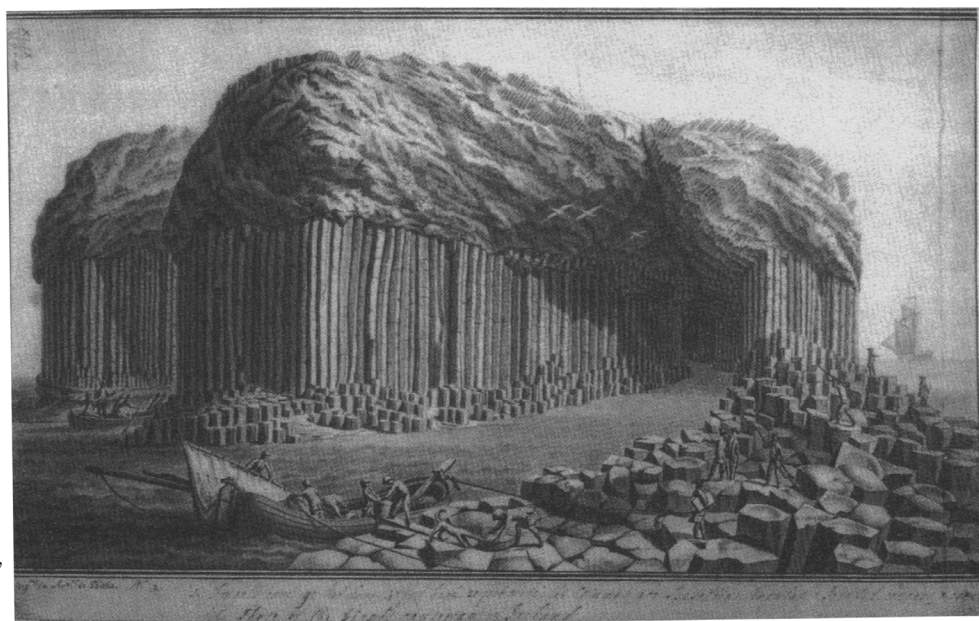


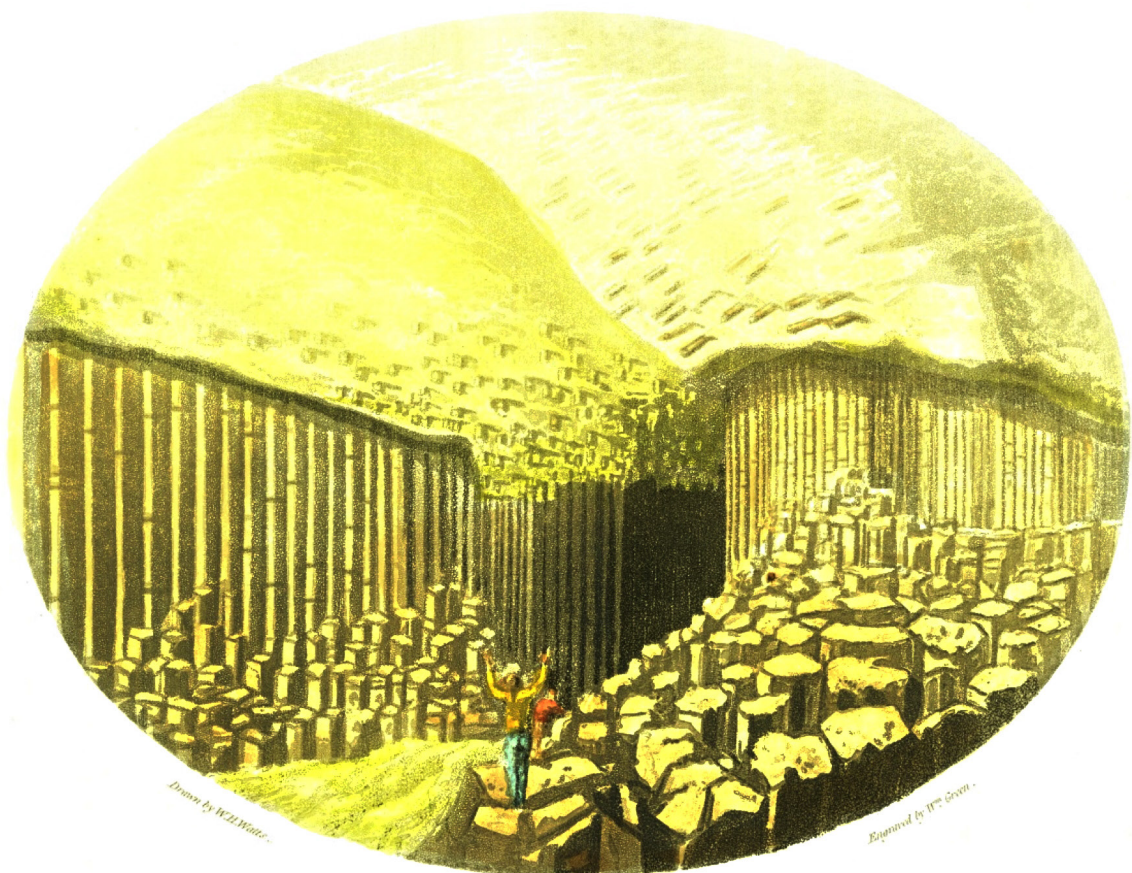
Fig. 7. Staffa engraving by Antonio di Bittio, ca. 1780



Fig. 8. "The Basalt island of Staffa" by F. Bertuch, 1798.



Fig. 9. Close-up illustration by F. Bertuch, 1798, showing Fingals Cave detail (image reversed, as Fig. 6?)



*Fingals Cave.*

Fig. 10. Fingals Cave by T. Garnett, 1800.



*Fig. 11. View of Staffa from the south – C. Horney, 1800.*



*Fig. 12. Jean Claude Nattes, 1801 – View looking out of Fingals Cave.*

*Fig. 13. Another view out of Fingals Cave by Jean Claude Nattes, 1804 in 'Scotia Depicta'.*

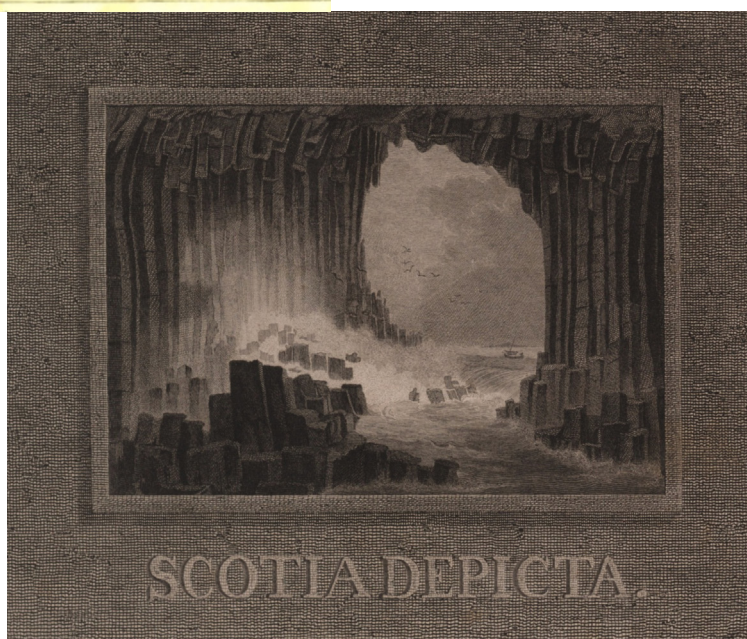




Fig. 14. *A view of tourists disembarking into Fingals Cave by Jean Claude Nattes, 1804.*

Scotland and thereafter Daniell provided his own text. He completed 577 water-colours and drawings of which 308 were published, along with accompanying text, in his eight volume *Voyage Round Great Britain* between 1814 and 1825. Staffa appears in Volume III published in 1818 and it is thought that he visited the island in the summer of 1817. All the aquatints were hand coloured by trade colourists from his notes. In 1818 due to anticipated demand from increasing tourism, a separate volume, *Illustrations of the Island of Staffa, in a Series of Views, accompanied by Topographical and Geological Descriptions* was published separately, with slightly revised text and amended sequence from that in Volume III of his "Voyage".

The nine aquatints of Staffa comprise:

*The Island of Staffa from the South West.*

*The Island of Staffa from the East.*

*View from the Island of Staffa.* (Fig. 15)

*Clamshell Cave. Iona in the distance.* (Fig. 16)

*Exterior of Fingals Cave, Staffa.* (Fig. 17)

*Entrance to Fingals Cave, Staffa.* (Fig. 18)

*In Fingals Cave, Staffa.* (Fig. 19)

*Staffa near Fingals Cave.*

*The Cormorants Cave, Staffa. (This is actually McKinnon's Cave).* (Fig. 20)



Fig. 15. *William Daniell – View from the island of Staffa, 1818*



Fig. 16. *William Daniell – Clamshell Cave; Iona in the distance, 1818.*



Fig. 17. William Daniell – Exterior of Fingals Cave



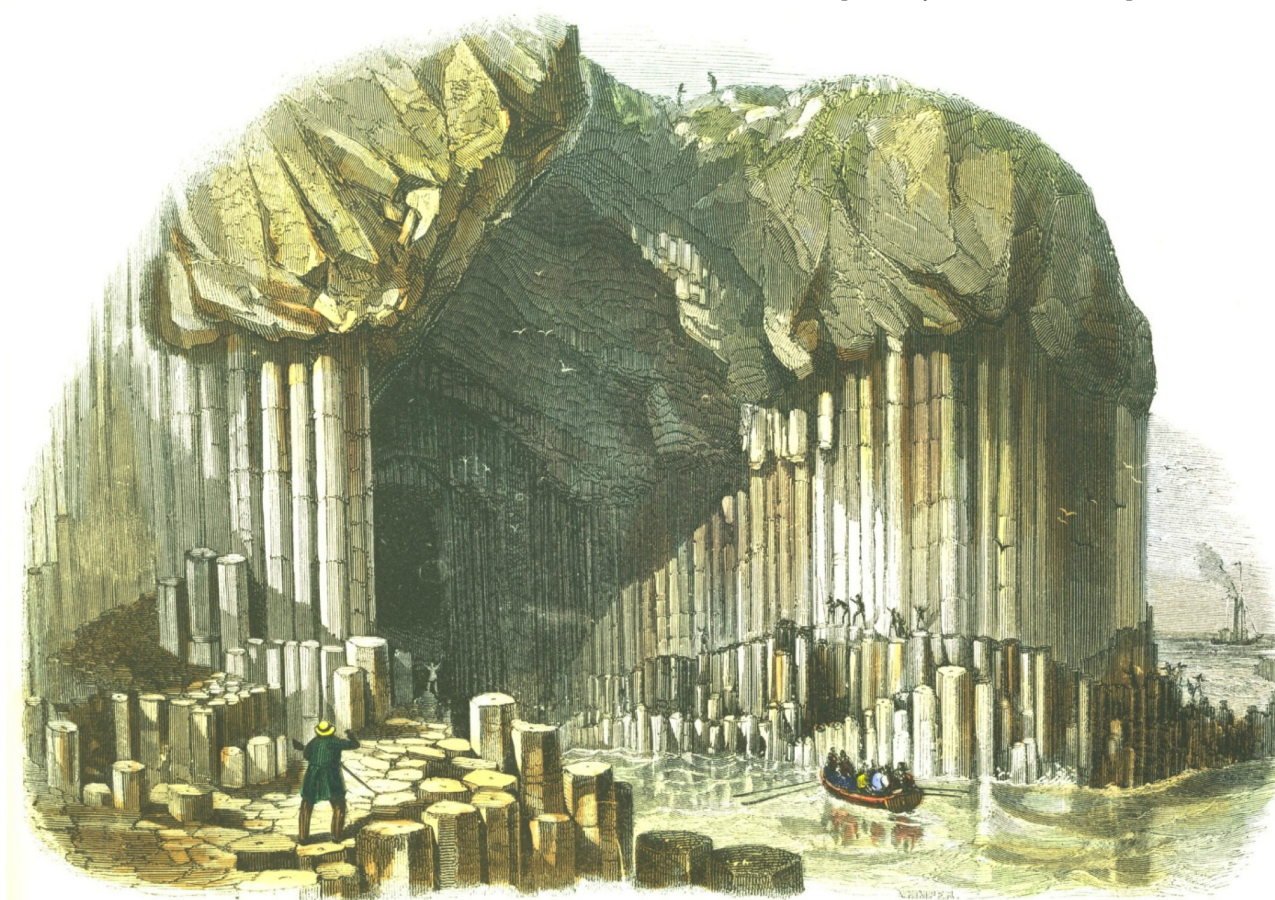
Fig. 18. William Daniell – Entrance to Fingals Cave



Fig. 19. William Daniell – In Fingals Cave, Staffa



Fig. 20. William Daniell – “Cormorants Cave”  
[actually McKinnons Cave]



FINGAL'S CAVE.

Fig. 21. Josiah Whimper: Fingals Cave – from “Phenomena of Nature” 1849

In this volume on page 6, Daniell includes the following interesting historical anecdote about Fingals Cave:

“The roof of the cave, to a spectator far advanced within, excites both wonder and apprehension. It was mentioned by one of the boatmen, while the present view was taken, that the shooting parties, whom curiosity sometimes induces to extend their excursions to this spot, occasionally venture to discharge their pieces within it. The effect is described as awfully grand, but it must be attended with considerable peril, because the concussion occasioned by such an explosion cannot but tend to affect, perhaps to loosen, some of the ponderous fragments in this pendant ceiling, and these, if detached, might in their fall send the boat and its crew to the bottom. It was not stated that any accident of this kind ever took place.”

### Famous Visitors

After Sir Joseph Banks had “discovered” Fingals Cave many famous visitors made their way there having added it to their itinerary on their Grand Tour of Scotland. Barthelemy Faujas de Saint Fond, the French geologist visited the island in 1784 in the company of James Smithson then a geologist and mineralogist, who later funded the Smithsonian Institution in Washington, of which more later. They were accompanied by the artist William Thornton (Fig. 22).

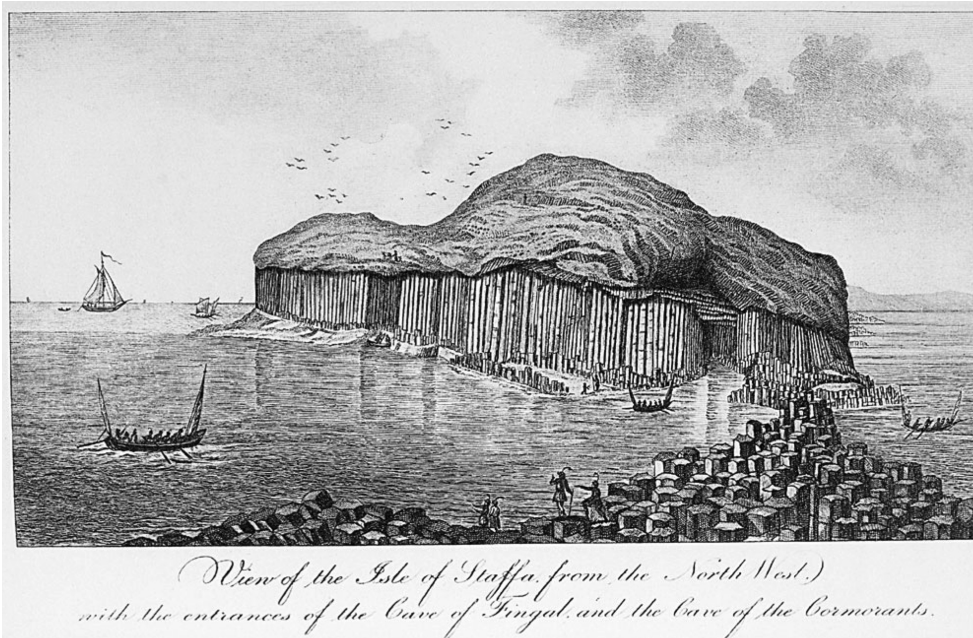


Fig. 22. View of the Isle of Staffa from the north-west, William Thornton, 1784

Sir Walter Scott made trips to the island in 1810 and 1814 and declared it to be “...one of the most extraordinary places I ever beheld.” He made all his knowledge of Scotland available to William Daniell as to where to go and what to see during his “Voyage”.

John Keats, the poet, visited in July 1818 and wrote

*On visiting Staffa*. William Wordsworth visited in 1835 and Alfred Lord Tennyson in 1853.

J.M.W. Turner, the painter, made the journey in 1830 as part of a commission from Sir Walter Scott to provide drawings to illustrate *The Lord of the Isles* and C.L.F. Panckoucke also visited by steamer in 1830 (Fig. 23).

One of the visitors who left a lasting legacy was Felix Mendelssohn (Fig. 24) who, aged 20, sailed with his companion, Klingemann, on 7<sup>th</sup> August 1829. Despite being violently seasick the opening bars of a piece of music came into his mind. He returned to Germany where he developed the sketch into an overture *The Lonely Island*. Later he rewrote this and it became *The Hebrides Overture (Fingals Cave) Opus 26*. Without doubt this is the best known piece of cave music in the world and it contributed to the increased popularity of the island and the cave. Staffa and the picturesque grandeur of Fingals Cave went on to become the object of scientific study, particularly in Victorian times.

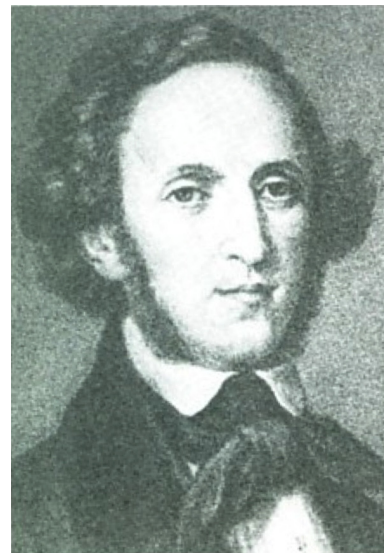


Fig. 24. Composer, Felix Mendelssohn

Jules Verne visited in 1859 and some years later he published *Le Rayon Vert* or *The Green Ray* in which the climax of the story takes place on Staffa. Robert Louis Stevenson visited the island more than once, including in 1885.

There were also Royal visitors: the King of Saxony visited in 1844 and Queen Victoria and Prince Albert sailed to Staffa in the Royal Yacht on 19<sup>th</sup> August 1847, Queen Victoria recording in her diary “...when we turned the corner to go into the renowned Fingals Cave the effect was splendid, like a great entrance into a vaulted hall...” (Fig. 25).

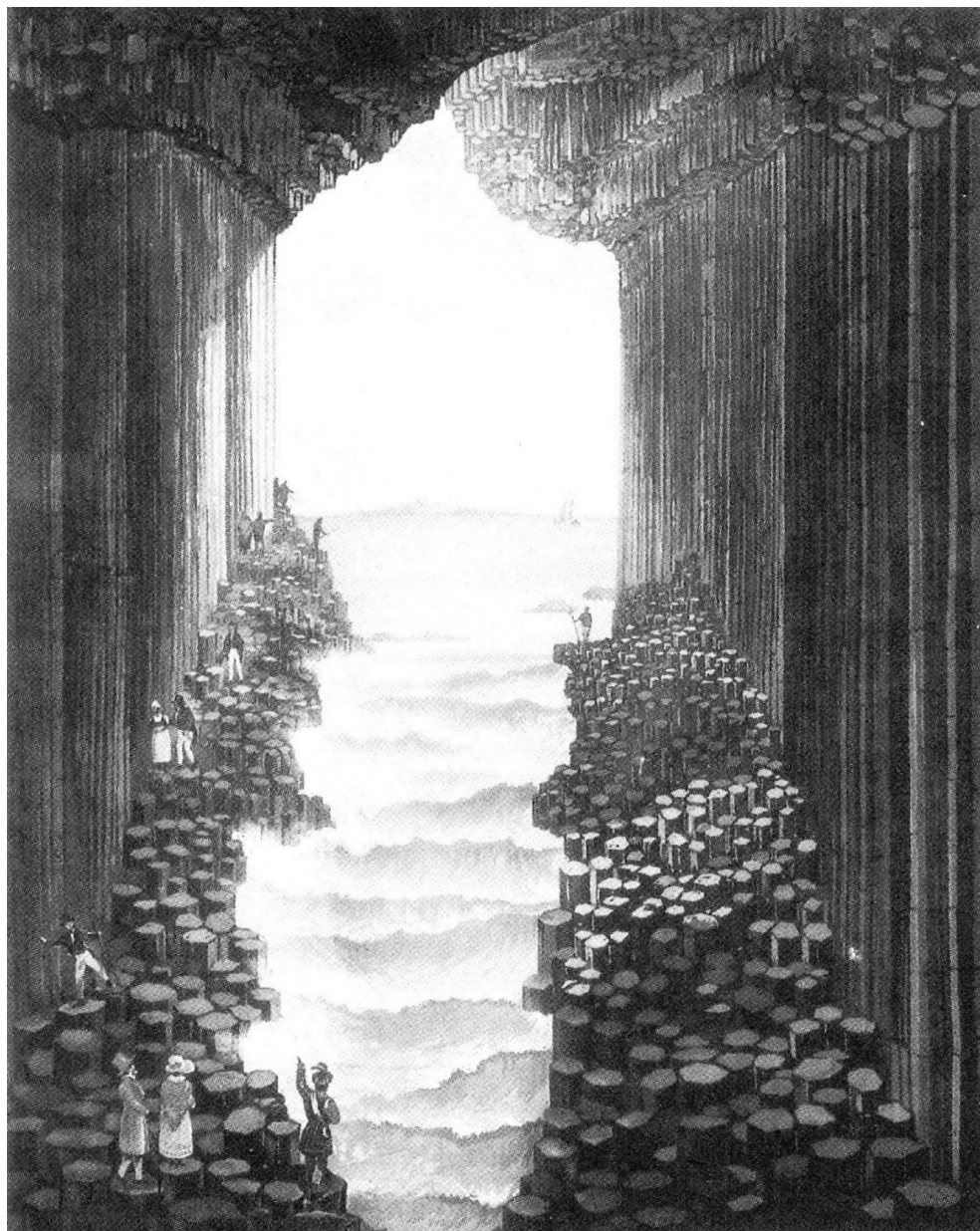


Fig. 23. Panckoucke: Interior of Fingals Cave with figures in foreground, from 'Voyage Pittoresque aux Îles Hebrides' Paris 1831.

The royal party visits Fingal's Cave.



Fig. 25. The royal party visits Fingals Cave.

Mass tourism (Fig. 26) began in the 1820s when a paddle steamer, based in Glasgow, started making weekly voyages with 300 passengers being put ashore in the ship's boats. At the height of the Victorian era a piper was employed to play in the depths of the cave to give additional "atmosphere". In 1935 an 800-passenger turbine steamer landed passengers on calm days by ferrying them in launches. The landings ceased in 1967 due to the time it took and the anxiety about rock falls.

On 29<sup>th</sup> August 1884, two tourists were washed off the narrow causeway in Fingals Cave, by heavy seas which caught them unawares, and drowned. They happened to be at the lowest point of the causeway with their backs to the cave entrance when a large wave swept their feet from under them, and they slipped under the lower guide rope and over the edge of the causeway. At that time there were no life-saving appliances in the cave, and the tourists

had been landed from the paddle steamer *Chevalier* at the North end of Staffa. Consequently there was no boat at hand; otherwise they might have been rescued. They were Scotland's first recorded caving fatalities.

### Some Early Geological Investigations

Bartelemy Faujas de Saint Fond was the first to recognise the volcanic nature of the basaltic columns of Fingals Cave in 1874. He studied law at Grenoble and became an *avocat*. Although he had a wide general scientific knowledge he was first and foremost a geologist. In 1778 he established his reputation with a treatise on the volcanic nature of hills. It was the account by Joseph Banks of Staffa that Thomas Pennant had included in his *Tour of Scotland* that stimulated him to set out for Scotland. Towards the end of August 1784, with William Thornton, a

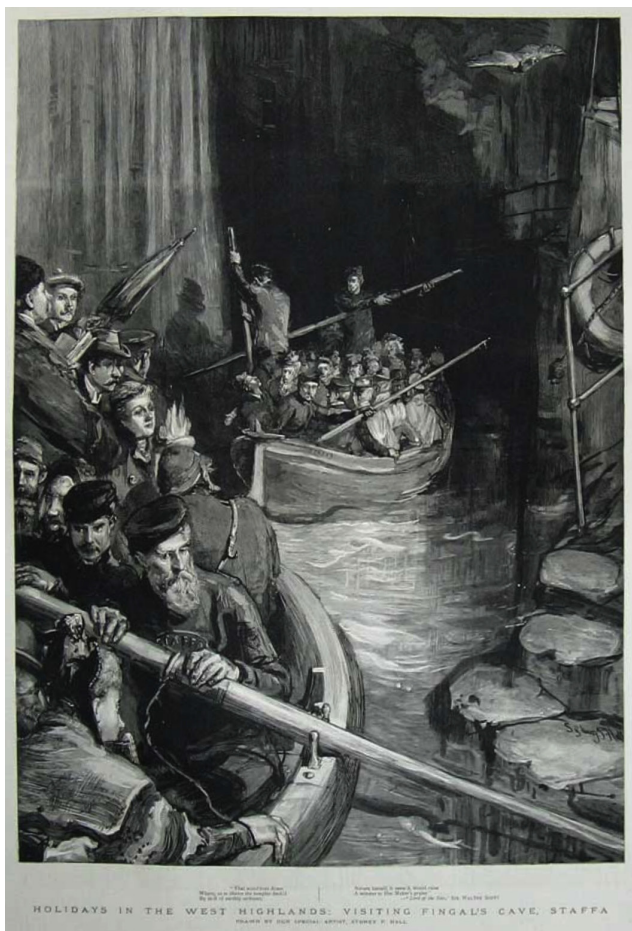


Fig. 26. Mass tourism at Fingals Cave - from *The Graphic*, 1892

wealthy American (who drew the illustrations for Faujas' account) and two others, left London in three post-chaises. In late September Faujas landed on Staffa and with local guides visited Fingals Cave. To avoid slipping he took off his shoes and made his way barefooted to the back of the cave, measuring as he went and not forgetting to break off geological specimens. He conscientiously measured the length and breadth of the cave, its height from sea level, the depth of the sea inside the cave and the roof thickness. All measurements were taken with a piece of thread-tape, painted and waxed, divided into French *toises*, feet and inches, and rolling up into a leather case which he had specially made in London.

"I have seen many ancient volcanoes; I have described and made known some superb basaltic causeways and fine caverns in the midst of lavas; but I have never found anything which comes near this one, or can be compared to it, for the admirable regularity of the columns, the height of the arch, the situation, the forms, the gracefulness of this production of nature, and resemblance to the master-pieces of art: although art has had no place here."

Faujas' book with engravings was published in Paris in 1797 and in London in 1799. The delay in publishing was due to losing all his geological specimens which

sank in the Channel, together with the outbreak of the French Revolution!

Although there had been various descriptions of Staffa published by naturalists and tourists, including Saint Fond detailed above, the first geological account was by John MacCulloch MD, FLS, Chemist to the Ordnance, Lecturer on Chemistry at the Royal Military Academy at Woolwich, and Vice President of the Geological Society of London. He was born in 1773 and was one of the outstanding geologists of his day. After a brief spell as a practising physician, he became Chemist to the Board of Ordnance, and in this capacity, and later as Geologist to the Trigonometrical Survey, he undertook a series of geological surveys in Scotland which gave him a detailed knowledge of Scottish geology. He wrote "On Staffa" in the Geological Society's Transactions, Volume 2, published in 1814. Of the 24 papers in that volume, nine are by him. From his paper on Staffa:

"It is superfluous to attempt a description of the great cave. The language of wonder has already been exhausted on it, and that of simple description must fail in an attempt where hyperbole has done its utmost. I may however remark, that its dimensions appear to have been over-rated, in consequence of the mode of measurement adopted, and that the drawings of it which have been engraved, give it an aspect of geometrical regularity which it is far from possessing. Its superiority in point of effect to the greatest efforts of architecture, might admit of dispute if there were any disputing about feelings. .... Large fissures are seen above this cave, with an incipient detachment of considerable masses, threatening a ruin which is perhaps not far distant. Beyond this there is still another cave which appears to pass through the promontory in which it lies, but equally or even more difficult of access, and still involved in uncertainty. Many other caves of less note are to be seen in various parts of the cliff around the island, into which the sea breaks with a noise resembling that of heavy and distant ordnance."

He was undoubtedly a man of talent and he wrote many papers published by the Geological Society. He died in 1835.

William Daniell in 1816 quotes extensively from MacCulloch, whose work he describes as "a very able paper". He even includes a resume of the theories to date as to the mode of formation of columnar basalt and adds his own views:

"Respecting the formation of these masses, it may not be uninteresting to cite the hypotheses which have been proposed, without, however, presuming to decide as to their merits, or to enter into the general

discussion of a question which belongs to philosophers alone. M. Desmarests, an eminent mineralogist, is said to have been one of the first who considered basaltes as a volcanic production, and gave it as his opinion that they were produced by currents of volcanic lava. From all the circumstances which he had observed in the course of an extensive tour, he concluded that basaltic columns were formed by the gradual refrigeration of a mass of fluid lava during its slow and retarded progress over the subjacent soil. In the year 1776, Ferber declared, that from every examination of volcanic productions in which he had been engaged, he had been led to the same conclusion. Mr Raspe, in the same year, gave it as his opinion that prismatic basaltes should be looked upon as currents of lava, cooled by sea-water, or cooled of themselves under ground. It was likewise the opinion of Buffon that when a current of lava arrived at the margin of the sea, the water, by its immensity, by the resistance of its cold, and by its power of arresting and extinguishing fire, soon consolidates the torrent of burning matter, which can proceed no farther, but rises up, accumulates new strata, and forms a perpendicular wall. Here it will be asked, by what law of nature could this consolidation of a river of liquid fire assume the characteristics of crystallization. Aggregates of basaltes are in this instance, as well as in that of the Giant's Causeway, and many others, found near the sea, but they occur also in situations at a remote distance from it, where such a process of refrigeration could not take place. The difficulty arising from this consideration has been disposed of, by concluding that basaltic prisms have been formed by lava, or a matter similar to it, in fusion in the bowels of the earth, and left to cool slowly. The matter, when cooled and indurated, is supposed to have contracted or split into several parts. 'A mass of lava' says Dr Garnett, 'in the interior parts of the earth, cooling gradually, contracts and forms these pillars; they seem to have been produced exactly in the same way as prisms of starch, to which they bear a strong resemblance. As the water evaporates or escapes, the prisms of starch are formed by the contraction of the mass; and as the caloric escapes from a mass of fluid lava, prisms of basaltes are produced.' This author, therefore, deems it probable that the island of Staffa is a small relic of a subterraneous collection of pillars, which have been laid bare by the violence of the sea, or perhaps by some of the adjacent parts giving way. He justifies this supposition from the general appearance of the island, which is that of having sloped gradually to the water's edge, until the disruption of its sides was effected by the continual beating of the Atlantic. The pillars, he observes, are not confined to the exterior surface of the island, which would have been the case had they been formed of lava cooled by flowing into

the sea; they extend into the great cave as far as it has been explored, and probably the whole island consists of them."

Much later that century, in the 1880s, some unconventional alternative geological theories were put forward. F. Cope Whitehouse, a well-known American Egyptologist, at a meeting of the British Archaeological Association (BAA) in 1881, states he consulted some members privately about a paper he proposed to read before the British Association for the Advancement of Science. In the BAA Proceedings June 1886, pp.247-250 he observes that four pictures of Fingals Cave in geological works written by distinguished authors do not bear the slightest resemblance to each other or the object. After criticising each in turn he puts forward a doubt as to whether the seven holes [caves!] on all sides of the island can have been made by the sea. If not sea-caves are they artificial? And if made by man, by what race? He suggests the Society should discuss and decide such a question.

It would appear this unconventional view may have come to the attention of the United States National Museum under the direction of The Smithsonian Institution, Washington, DC as in April 1887 they asked Prof. J.P. MacLean who was intending to examine Fingals Cave to consider "It seems incredible that any one should suppose these caves to be the work of man". Prof. MacLean duly reported later in 1887 but had found nothing to support that the caves were the work of man.

Meanwhile Cope Whitehouse, who had visited Staffa in 1885, developed the subject of discovery, visits and engravings at considerable length in the *Scottish Geographical Magazine*, October 1887. He then goes on to consider the erosive power of Atlantic breakers, including observations as to the force during the construction of the Skerryvore Lighthouse in 1843/44 and concludes that it is inconceivable that the edges of the entrance to Boat Cave have been exposed to the constant lashing of the Atlantic. He then goes on to consider the major caves in turn and sets down 39 reasons why the caves are not worn by the sea, and concluded that the caves may have been excavated by the Phoenicians to harbour their galleys.

### **Recent Exploration**

The island of Staffa was in private ownership, part of the Ulva Estate and owned by the McQuarrie family until the early 19<sup>th</sup> century after which it changed hands several times in the next 150 years. It was designated a Site of Special Scientific Interest (SSSI) in 1973 and in 1986 it was gifted to the National Trust for Scotland by the then owner, John Elliot Jnr., of New

York, as an imaginative way to celebrate the birthday of his wife who was declared Steward of Staffa for her lifetime. The island became a National Nature Reserve in September 2001, courtesy of Scottish Natural Heritage. Access to the island is restricted to outside the seabird breeding season.

Surprisingly no detailed examination had ever been made of the various sea caves round the coast although Donald MacCulloch, who wrote four guidebooks to the island between 1927 and 1975, listed eight caves.

The Grampian Speleological Group put forward to The National Trust for Scotland and Scottish Natural Heritage a proposal to survey and photograph five sea caves and examine some of the columnar detail around Fingals Cave. Permission was granted for 5 days camping on the island in the summers of 2005 and 2006. The first party consisted of Bob Mehew, the late Tony Jarratt, Vern Freeman, Tony Boycott, Duncan Butler and John Crae and the second Bob Mehew, Tony Boycott, Duncan Butler, John Crae, Lucas Goehring, a Canadian PhD student, and Martin and I joined them for three days on our way home from a visit to Iceland. The island is very busy during the day between 10.00 am and 4.00 pm when the various tourist boats have landed their passengers, but once they leave in the late afternoon it is extremely peaceful sitting out in the heather in the evening sunshine.



Fig. 27. The Grampian Speleological Group party on the Staffa jetty, 2006.

During the first visit the main caves were located, photographed and surveyed although not all of the lesser caves were named and surveyed until the second visit. All features were noted, including rock shelters and natural rock arches. Access to the caves was not always easy as not all were accessible round the shoreline even at low tide, so a number of methods were used including swimming, boating and even setting up a 'tyrolean' across the entrance to Fingals Cave (Fig. 28). Life jackets were added to personal caving kit and other useful equipment included an



Fig. 28. J-Rat using the Tyrolean traverse across the mouth of Fingals Cave.

extending sectional metal ladder to move more easily up and down some of the sea cliffs and to reach the upper levels of McKinnon's Cave where normal climbing methods had been ruled out due to excessive amounts of seabird guano on the ledges (Fig. 29).



Fig. 29. Looking at the upper levels of McKinnons Cave.

Apart from the well-known caves, Fingals, McKinnons, Cormorants, Clamshell, Boat Cave, Horse Cave, Gunnar Mor (Fig. 30a, b) and Gunshot Cave, a further 7 caves and 8 rock shelters, a couple of short passages and a natural rock arch were noted and surveyed (Fig. 31). Many of the basalt columns were also measured and photographed, leading to the production in 2006 by the Grampian of a 2CD set: *The Sea Caves of Staffa: A Baseline Report V1a*.

It was a great privilege to be invited to join the second visit to the island and an experience to be long remembered. The scenery on and from the island is magnificent (Figs 32, 33), the campsite chosen was idyllic. There is a freshwater spring which is usable with care and this would have allowed previous occupation of the island.



Fig. 30a, b. Gunnar Mor, Staffa – might this be Scotland's only lava tube cave?

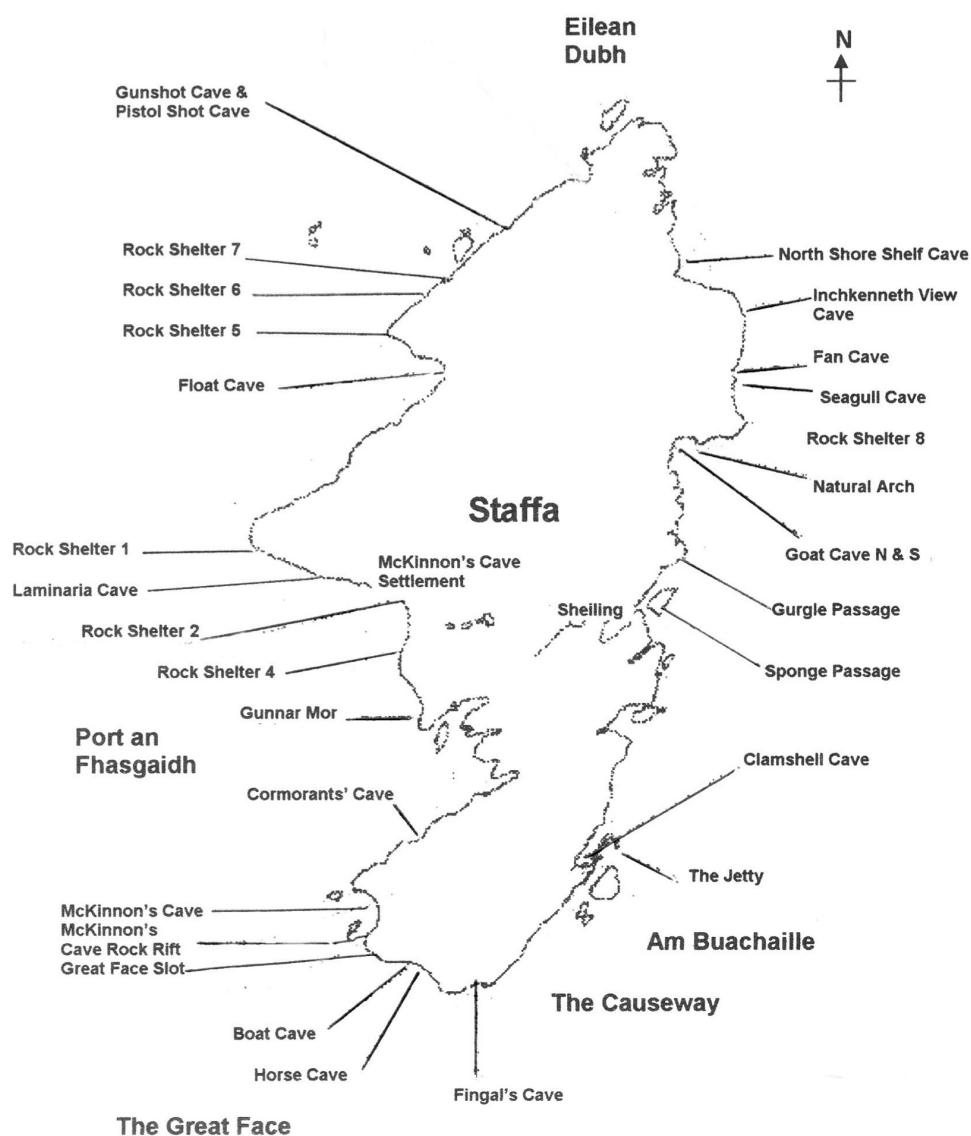


Fig. 31. Map showing results of cave exploration and documentation on Staffa in 2005 and 2006 by GSG.



Fig. 32. View along cliffs to Dutchmans Cap in distance.



Fig. 33. Boat Cave & Horse Cave entrances from the sea.

Sadly all too soon it was time to pack up and leave for home. Thankfully the crossing this time was not as rough as on the way out.

We did wonder what would have happened had Fingals Cave been either more easily accessible or for that matter, more remote. Would it still have been part of The Scottish Grand Tour or hardly visited at all?

This presentation came about from a comment at the XIII<sup>th</sup> International Symposium at Jeju Island, South Korea in 2008, that the UK does not have any lava caves. However it does have the most famous basalt cave in the world.

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