

Benjamin Neeve Peach - biographical information

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B.N.Peach. Photograph taken c.1912. (A.G. Stenhouse). BGS Photo P613158.



B.N.Peach. Probably c.1862 when he first joined the Geological Survey, aged 19. BGS photo P575813.

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Benjamin Neeve Peach - biographical information

Timeline

1842 Born September 6th at Gorran Haven, Cornwall.

Son of C.W. Peach of the Coastguard Service, a keen naturalist and fossil collector. In 1849 transferred to Scotland. 1854 proved Durness Limestone - fossiliferous. Murchison in appreciation completed education of B.N. Peach at Royal School of Mines (1859 -), studied under Huxley and Ramsay.

1862 Joined Geological Survey as Assistant Geologist.

First official duty, determination of fossils in the London office under Salter. Transferred to Scotland. Became associated with James Geikie and John Young in mapping glacial deposits of the Lothians. Noted occurrence of Highland rocks in drifts of the Lammermuirs.

Surveyed Scottish Coalfields, large areas of Old Red Sandstone with associated volcanics and eastern part of Southern Uplands.

1868 Promoted to Geologist.

1879 Appointed Acting Palaeontologist in Scotland in addition to fieldwork.

1882 District Surveyor.

1883 Given charge of survey of North West Highlands.

1888 Re-examination of Southern Uplands began. Peach determined large collection of graptolites (proved Lapworth's sequence).

1892 Received Murchison's Centenary Prize. Elected F.R.S.

1903 LL.D. (Edin).

1905 Retired. Worked on monograph on "The Higher Crustacea of Carboniferous rocks of Scotland".

1926 Died January 29th.

Awards: Wollaston Fund; Murchison Medal; Wollaston Medal; Neill Medal (R.S.E.)

Biographies and obituaries

Evans, J.W. Obituary - Benjamin Neeve Peach, LL.D., F.R.S. [In Anniversary Address.].

1926 Proceedings of the Geological Society in Quarterly Journal of the Geological Society. v. 82 p.xlvi-xlix. 1926

1926 Obituary - Benjamin Neeve Peach. Born 6th September 1842, died 29th January 1926. Geologists Magazine. Whole Series. v. 63 p.187-190. 1926

1928 Greenly, Edward, Benjamin Neeve Peach: a study. [Obituary.]. Transactions of the Edinburgh Geological Society. v. 12 p.1-11. 1928

1926 Proceedings Royal Society (1926) (B.C.)

1926 "Glasgow Herald" (January 30th 1926)

1926 "Scotsman" (January 30th 1926)

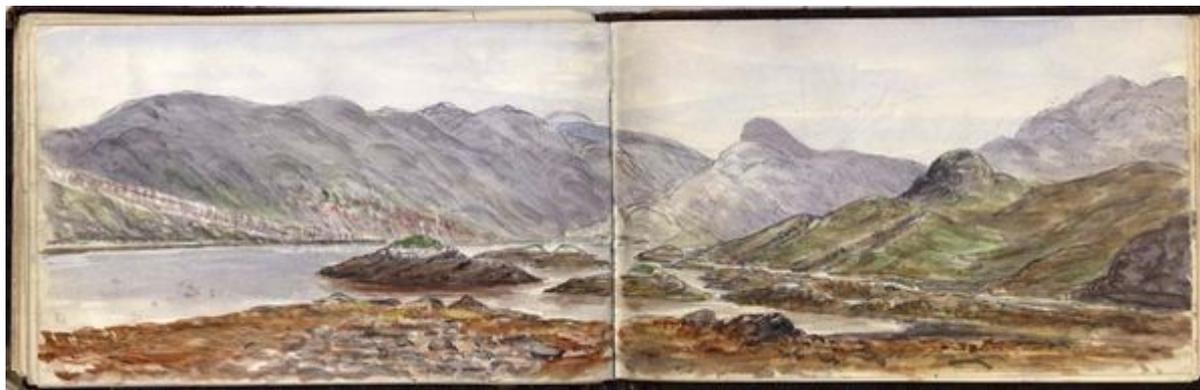
1926 Geological Magazine (1926) p. 187

2015 [Benjamin Neeve Peach \(1842-1926\)](#) John Mendum and Anne Burgess Edinburgh Geologist No 57

Photographs

A gallery of portraits and group photographs with Ben Peach in can be found on [GeoScenic](#)

A gallery of his drawings and paintings can also be found on [GeoScenic](#).



Archives

A brief listing of Ben Peach related archives held at BGS. Also consult the [BGS Archives online catalogue](#)

ARCHIVE NO	TEMP SORT TITLE
LSA/236	Strathpeffer mineral water supply, report by Peach and Horne.
LSA/361.2.059	Ben Peach - a Fishy Ditty. A song written in recognition of B.N. Peach.
LSA/361.1.075	Lesmahagow in the olden time by B.N. Peach. This is a drawing in ink of two crustaceans wearing clothes meeting. The male is doffing his cap while the female curtsies.
LSA/361.1.005	The Merrick, a song composed and performed by B.N. Peach at the Annual Dinner of 16th February 1869.
LSA/361.1.047	A charcoal and colour drawing of a courting couple walking in the country. Caption reads Oh! happy love when love like this is found.
LSA/361.1.045	A drawing of a boat containing three men out at sea during rough weather, one of the men is being very ill over the side of the boat. The caption reads Jas. Craik proceeding to geologize the big and wee scones! Drawn by B.N. Peach.
LSA/361.1.076	A pencil drawing of a small dog running away from the butchers shop with sausages in its mouth hotly pursued by the Butcher, a passerby looks on. The drawing was done by B.N. Peach.
LSA/361.1.057	A pencil drawing of the profile of a woman entitled His ideal by B.N. Peach.
LSA/361.1.038	A watercolour painting of a flock of sheep on a wooded hillside.
LSA/361.1.046	An ink drawing of Loch Doon by B.N. Peach.
LSA/361.1.052	An ink drawing of some apes and monkeys. The main character is sitting smoking a pipe while another is preening him. The sketch is named Men and brethren and was drawn by B.N. Peach.
LSA/361.1.048	An ink drawing of two mice relaxing unaware that a cat is watching them. Caption read Where ignorance is blind. Drawn by B.N. Peach.
LSA/151.1	Arthurs seat geological map by B.N. Peach.
LSA/151.2	Calton Hill geological map by B.N. Peach.
LSA/328	Highland and Southern Upland structures and movements, notes on.
LSA/167	Highland border rocks, Southern Upland structures, ms.
LSA/361.1.019	Ink and colour wash painting of cliffs meeting the sea.
LSA/361.2.005	Ink caricature of B.N. Peach.
GSM1/320	Letters from A. Geikie.
GSM1/447	Letters from A. Strahan.

GSM1/420 Letters from A.C. Ramsay.
GSM1/382 Letters from A.I. MacConnochie.
GSM1/520 Letters from C. Lapworth.
GSM1/335 Letters from C.E. Hawkins.
GSM1/272 Letters from C.T. Clough.
GSM1/527 Letters from C.W. Peach.
GSM1/354 Letters from D.R. Irvine.
GSM1/246 Letters from E. Anderson.
GSM1/255 Letters from E. Best.
GSM1/398 Letters from E. Newton.
GSM1/251 Letters from G. Barrow.
GSM1/392 Letters from H. Miller (Jun).
GSM1/478 Letters from H.B. Woodward.
GSM1/347 Letters from H.H. Howell.
GSM1/265 Letters from H.M. Cadell.
GSM1/441 Letters from H.M. Skae.
GSM1/254 Letters from J. Bennie.
GSM1/278 Letters from J. Croll.
GSM1/321 Letters from J. Geikie.
GSM1/345 Letters from J. Horne.
GSM1/377 Letters from J. Linn.
GSM1/337 Letters from J.B. Hill.
GSM1/463 Letters from J.C. Ward.
GSM1/492 Letters from J.F. Blake.
GSM1/325 Letters from J.G. Goodchild.
GSM1/452 Letters from J.J.H. Teall.
GSM1/284 Letters from J.R. Dakyns.
GSM1/476 Letters from J.S.G. Wilson.
GSM1/338 Letters from L.W. Hinxman.
GSM1/384 Letters from M. MacGregor.
GSM1/495 Letters from P.B. Brodie.
GSM1/306 Letters from R. Etheridge.
GSM1/350 Letters from R. Hunt.
GSM1/519 Letters from R. Kidston.
GSM1/380 Letters from R. Lunn.
GSM1/540 Letters from R.H. Traquair.
GSM1/355 Letters from R.L. Jack.
GSM1/422 Letters from T. Reeks.
GSM1/407 Letters from various friends and colleagues.
GSM1/330 Letters from W. Gunn.
GSM1/458 Letters from W. Traill.
GSM1/445 Letters from W.J. Sollas.
GSM1/248 Letters from W.T. Aveline.
GSM1/407 Letters to J. Horne, J.S. Flett, J. Geikie and others.

- LSA/327 Lewisian rocks affected by post-Cambrian movements, ts paper.
- IGS1/602 Manuscript on arthropods, geology and glaciation of Scotland.
- GSM1/8 Minutes on his appointment.
- LSA/329 Moine schists, origin of the: ts paper by B.N. Peach.
- IGS1/1221 Notices of election to learned societies.
- LSA/31 Orkneys field map, holiday work by B.N. Peach and J.Horne.
- GSM2/512 Papers about the Peach and Horne memorial.
- LSA/126 Peach, B.N., field notebooks, sketchbooks, etc.
- LSA/361.2.013 Photograph of B.N. Peach and J. Horne on board ship in 1910.
- LSA/361.1.096 Photograph of B.N. Peach and J. Horne studying rocks.
- LSA/361.2.029 Photograph of the entire party of the Assynt Excursion, taken outside the Inchnadamph Hotel during September 1912. Excursion of the British Association for the Advancement of Science Meeting held in Dundee.
- LSA/361.2.028 Photograph of the Scottish Survey Officers outside the Inchnadamph Hotel, while taking part in the Assynt Excursion led by B.N. Peach and J. Horne during September 1912. Excursion of the British Association for the Advancement of Science Meeting held in
- LSA/361.2.004 Photograph taken of B.N. Peach, about 1912 by A.G. Stenhouse and presented to the Survey.
- IGS1/639 Photograph.
- IGS1/843 Poem about him.
- LSA/5 Scotland one-inch sheet 39 explanation by B.N. Peach.
- LSA/6 Scotland one-inch sheets 30, 38, 39, 40 and 47 sections and explanation.
- LSA/69.5 Stirling and Clackmannan vertical sections.
- LSA/361.2.025 The Assynt Excursion conducted by B.N. Peach and J. Horne from 11th to 18th September 1912 for the British Association for the Advancement of Science Meeting held in Dundee. This entry in a diary of events and travels over the week while on excursion.
- LSA/361.1.018 Water colour painting by B.N. Peach of Quinag.
- LSA/361.1.020 Water colour painting of a landscape showing hills and loch.

Ben Peach's Scotland, landscape sketches by a Victorian geologist

This text is derived from the booklet written by Angela Anderson and published by the Institute of Geological Sciences, 1970.

Early years

There can be few names in the history of Scottish geology better known than that of Ben Peach, whose classic work in the Geological Survey of Scotland from 1862 to 1905 laid the foundations for so much of our present understanding of the geological structure of this country.

Ben Peach was not a Scot by birth or ancestry but was born of an East Anglian family living in Gorran Haven, a small fishing village in Cornwall. His father, Charles Peach, served as an officer in the Coastguard Service but was also a distinguished amateur naturalist and geologist, with a wide circle of friends both scientific and literary. Peach senior was the first to discover fossils in the quartzites near Gorran Haven and he wrote to Sir Roderick Murchison, then Director of the

Geological Survey of Great Britain, suggesting that they were Lower Silurian in age, the first evidence of any rocks older than Devonian to be found in southwest England. Murchison, whose great work was the *Silurian System*, replied cautiously suggesting a possible misidentification, but Peach senior banished all doubt by sealing his next letter with a cast of the diagnostic species. Young Ben was therefore introduced to geology at an early age and he and his brothers often accompanied their father on his geological excursions. When Charles Peach was promoted to Peterhead, Aberdeenshire, in 1849 the boys' interests and knowledge were extended greatly, for they learned not only about the local rocks but also about marine life and sea birds.

A further promotion took the family to Wick in Caithness in 1852 and young Ben's education continued at Wick Academy, where an imaginative rector fostered his natural talents further. Living in Thurso at this time was one Robert Dick, a baker by trade, but a self-taught botanist, geologist and palaeontologist of outstanding merit. It was not long before Peach senior recognized a kindred spirit and the two men became close friends. Their long discussions of their mutual interests stimulated young Ben still further and he began to explore the countryside on his own.

In 1854 Peach senior paid a visit to Durness on the north coast of Sutherland to 'receive a wreck', and there he noticed poorly preserved fossils in the local limestone. He duly informed Murchison and the discovery reawoke general interest in the Northwest Highlands, more especially when a subsequent visit in 1857 yielded better specimens of Lower Silurian age. Murchison felt so indebted to his friend that he undertook to send Ben to the Royal School of Mines when the young man reached the age of seventeen. Among Ben's new teachers were the renowned glaciologist and structural geologist Ramsey and Darwin's champion Thomas Huxley. Three years later in 1862 Ben, who had distinguished himself as 'an able student', graduated and was appointed by Murchison to his newly formed Geological Survey of Scotland, as their fourth member of staff. Although Peach senior's friendship with Murchison was largely instrumental in securing Ben's appointment to the Survey, Murchison was clearly impressed by the young man and time proved his faith to have been amply justified.

Geological Survey days

Ben Peach's first work for the Survey involved identifying Carboniferous fossils from Fife and the surveying of coalfields. From there he moved to Old Red Sandstone formations and then on to the complex Ordovician and Silurian rocks of the Southern Uplands of Scotland. In the last work he was joined, five years after his first appointment, by John Horne, with whom his name is now inseparably linked as a result of their outstanding work together on the Southern Uplands and the Northwest Highlands of Scotland. A large number of maps and the two huge memoirs of 1899 and 1907 were the result of this collaboration, together with several articles published in the learned journals of the day. This remarkable partnership lasted throughout the whole of their lives: they became known to their colleagues as Castor and Pollux, the Heavenly Twins. As it turned out, the partnership proved to be immensely beneficial to the understanding of Scottish geology. It is a reasonable generality that scientific minds tend to one or other of two extremes, the intuitive and the logical and Peach's ways of thought were intuitive. He could solve a complex problem very rapidly and would only call upon minutely detailed work to confirm the hypothesis later. But thinking such as this is not always well founded and can even be superficial, with the ideas generated not always worked out in complete detail. Indeed some superficiality is occasionally evident in Peach's work, and it is on record that with him spells of frenzied activity were sometimes followed by periods of total indolence. Sir Edward Bailey later wrote of him:

'Peach in matters geological could scarcely read or write; and in all directions found correspondence an anathema. Apart from this use of the picture books on palaeontology, Peach depended for his knowledge of the work of other men upon his supreme power of conversation; and if he had not had

companions like Archibald Geikie and John Horne to record his ideas he would today (1952) be little more than a tradition.'

While this is an unnecessarily harsh judgement on Peach and ignores his capacity for meticulous and detailed work (as, for example, his Monograph on Higher Crustacea of 1908) it must be admitted that it was Horne who actually wrote the Memoirs and it is quite possible that Peach, left to himself, would never have written up his work at all! Horne, in fact, was the ideal complement to Peach. He had a logical mind and was a careful, accurate and systematic worker. Though lacking Peach's imagination he had the capacity to organize the mapping programme and write up the memoirs afterwards.

Northwest Highlands

Peach and Horne, who worked together for forty years, first went to the Northwest Highlands, the scene of their most famous work, in 1883. Peach was then forty years old. They were sent by Archibald Geikie to resolve a long standing controversy about the structure of the area. Murchison had believed that the fossiliferous Cambro-Ordovician Durness Limestone passed conformably upwards into the 'Eastern' schists of which a large part of the Northern Highlands are formed. Nicol was the main exponent of the opposition and pointed out that the metamorphosed schists must be older than the unmetamorphosed limestones and that the junction was a steep fault. Since it could easily be demonstrated in the field that the junction is almost horizontal, Murchison's views were held to be correct. In 1883 both Calloway and Lapworth suggested that the junction was a low-angle tectonic thrust, and this idea was now being given serious consideration by Geikie. It was during their first season of field mapping in the region round Durness and Eriboll that Peach recorded the true situation. Instead of the simple conformity which Murchison had suggested, there were gigantic structures of a kind never before encountered in the British Isles. The Eastern (Moine) Schists had been thrust westwards by a series of large-scale low-angled faults over the unmoved foreland rocks of ancient Lewisian gneiss and their cover of Late Precambrian Torridonian sandstone and Cambro-Ordovician limestones. During this process a series of smaller faults (imbricate structures) had been produced en-echelon in the underlying foreland and cover rocks. The thrust zone was eventually traced in the field from Eriboll to Skye. These well exposed structures now seem easily recognizable, but it was perhaps the most spectacular discovery of all time in British geology. By 1884 Murchison's views on the succession had to be abandoned in view of the rapidly accumulating evidence against them. Peach was somewhat reluctant to overturn Murchison's theory, for he felt a debt of gratitude to Murchison and greatly respected the old man.

A further discovery during these years was the existence of large numbers of trilobites of the genus *Olenellus* in the basal Cambrian rocks of the foreland. These fossils not only gave a Lower Cambrian age to the basal sequence, but confirmed the American affinities of the faunal assemblages there. In these days when rifting apart of the former Euro-American continent is readily accepted by most geologists, one wonders what Peach and Horne thought of 'American' trilobites in Scotland. Peach described the trilobites in two papers in 1892 and 1894 and he himself drew the very fine illustrations contained in them.

Southern Uplands

While the Highland work was still going on, in 1888 Peach and Horne resumed their work on the Southern Uplands. In 1878 and subsequent years, Lapworth had shown that the original survey of the Ordovician and Silurian was unsatisfactory. Peach and Horne began their revision with the Moffat sheet (16) and the Loch Doon sheet (8), which had been surveyed but not published. These sheets were then issued in 1889 and 1893. Thereafter, at odd times during the autumn and spring seasons, when work was impossible on their Highland ground, they gradually extended their search and

made exhaustive examination of most of the important field exposures, adding notes and lines to the original six-inch maps. Peach made himself an authority on the palaeontology, in particular the graptolites and identified them with precision and accuracy. He also drew up the cross-sections with which the great Memoir of 1899 is illustrated. Horne, meanwhile, wrote the text and the work on the petrology of the igneous rocks was done by Teall. Though produced under less than ideal conditions the Memoir stood for fifty years before any of its ideas were challenged: surely a great tribute to the men who produced it.

Retirement



Ben Peach. BGS photo P585013.

Peach retired from the Geological Survey in September 1905 after serving for forty-three years. His retirement gave him time to pursue at his leisure a line of research that had always fascinated him since his early days with Huxley at the Royal School of Mines - the technical description and illustration of fossils, and in particular the Scottish Carboniferous crustaceans. Peach was a very competent palaeontologist, a fact that tends to be overshadowed by his more famous Highland work. It was he who identified most of the fossils in the Survey Memoirs, the most notable being the Lower Cambrian trilobite fauna of the Northwest Highlands and it was to be eighty years before they were redescribed. His friend and colleague Edward Greenly records how, even in the euphoric days of the Moine Thrust discovery, Peach had growled, 'but give me something that has once been alive!'

As a man of much sympathy for all living things, he found their dead remains a source of endless fascination, especially those of crustaceans. At various horizons in the Scottish Carboniferous there occur sporadically, isolated but very well preserved faunas of 'shrimps', probably of freshwater origin. Throughout the 1880s and 90s collections of these crustaceans had accumulated and Peach, being Acting Palaeontologist for the Survey, became custodian of 'these treasures' as he called them. Several detailed papers emerged, culminating in his Monograph of 1908, with page after page of technical description and twenty plates executed with his usual artistic flair. He has been

criticized for over-interpretation and for drawing structures which were not really there. But he knew a great deal about modern crustaceans and theory may have led him to draw in structures which were not there in fact. However, comparison of his drawings with the original specimens shows that these lapses were few and in all other respects the drawings are executed with meticulous care and accuracy.

This fine Monograph of 1908 was Peach's last major work yet he remained as enthusiastic as ever with all aspects of geology until the end of his days. Greenly, who visited him six months before his death in 1926, tells how Peach, then a sick old man, became so excited about the opportunity to discuss geological theories with his visitor that the grim-faced landlady had to eject poor Greenly while Peach's voice, still declaiming geology, pursued them down the stairs!

Peach as artist

There was another facet of the genius of Ben Peach implicit in much of what has already been said. He was a very good artist in the romantic Victorian manner. His field notebooks and the backs of his field maps are covered with monochrome paintings in brush and ink, a few watercolour paintings and several sketches in both pen and pencil. His love for mountains and trees is clearly demonstrated in the many scenic views exhibited in the Scottish headquarters of the British Geological Survey. In these, aesthetic sense is combined with geological insight. Comparing the pictures with modern photographs shows that Peach took little artistic licence; and never enough to make the landscapes unrecognizable to those who are familiar with the scenery of the Northwest Highlands. He was a compulsive artist, for his notebooks contain, in addition to the landscapes, many sketches of any other things he saw around him, and cows, sheep, cats, dogs and people are portrayed often with a mischievous sense of humour. His drawings number over two hundred, and this collection depicts a tour of the Northwest Highlands and the Southern Uplands as seen through the eyes of a great man — a well loved man and a well respected geologist. This precious legacy which has come down to us gives a greater insight than all the many eulogies into the real Benjamin Neeve Peach.

Ben Peach — a fishy ditty

(Sung at the 1929 Edinburgh Geologists Annual Dinner)

D'ye ken Ben Peach with his shoulders broad

His dimpled cheeks and his smiling nod

D'ye ken Ben Peach with his reel and his rod

As he starts for the loch in the morning.

Chorus

For the whirr of his reel brought the fishes from their bed

And the swish of his line high over his head

As they hurried up in shoals to be all struck dead

By a wave of his wand in the morning.

Yes, I ken Ben Peach and Jock Scott too
The mallard wing and the black Zulu
You should see Ben Peach on Loch Kylesku
With a shark on his line in the morning.

Chorus..... For etc

He lived at Durness for many a day
By the big cave of Smoo at Sango Bay
And was once nearly slain in a furious fray
With a Frenchman at one in the morning.

Chorus..... For etc

He hunted for old crabs in the Cave of Smoo
And for beasties long hidden from the public view
Though pickled well in lime all too hard to stew
For his breakfast the following morning.

Chorus..... For etc

He tried camp life on wild Ben More
But the skies shed tears in a solid steady pour
So he curled up on the floor, and gave a solemn snore
Till seventeen o'clock in the morning.

Chorus..... For etc

And at last he landed many a degree
Both an F.R.S. and an LL.D.,

So here's to the memory of B.N.P.,

And the things that he caught in the morning.

Chorus..... For etc

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