Archive Collections

The Lapworth Museum has a large and extensive archive particularly relating to Charles Lapworth, the first Professor of Geology at Birmingham, but also to **other significant geoscientists (/facilities/lapworth-museum/collections/archive/index.aspx#geoscientists)** , particularly from the nineteenth century.

Lapworth Archive

The Lapworth Archive is extremely important historically, and scientifically, and has been described as one of the most complete archives of any 19th century natural historian after that of Darwin. The archive contains a remarkably complete record of Lapworth's research, teaching, administrative and consultancy work, and also personal items.

The material spans approximately fifty years from his early research in southern Scotland in the mid 1860s, through to his death in 1920. During those years Lapworth was involved in many important geological controversies, debates and discoveries. The archive clearly records his role in these issues, and his ideas and methodology when solving some of the major geological controversies.

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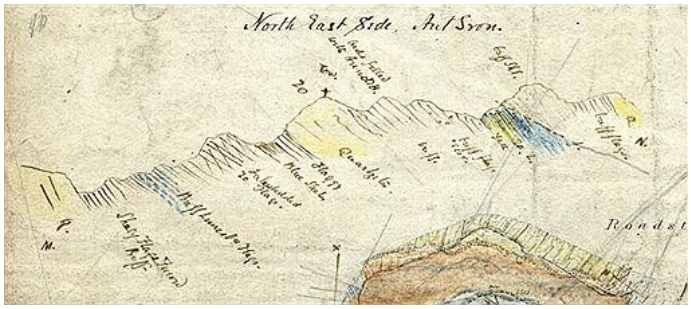
View whole map (/Images/College-LES-only/GEES/lapworth/south-scotland-1000x229.jpg)

Lapworth's early geological work involved unravelling the geology of the Southern Uplands of Scotland. He demonstrated that graptolite fossils could be used to zone and correlate rock sequences throughout the area, and could help to establish the geological structure and history. This work began during the 1860s and continued through to the 1880s. The archive contains many of Lapworth's beautifully hand drawn maps, cross-sections and sketches made during his research in the area.

After his appointment as the first Professor of Geology at Mason College in Birmingham, Lapworth's research turned to the geological structure of the North West Highlands, an area that had been the subject of great controversy for many decades. Lapworth's crucial work in solving the controversy is recorded in detail within the archive. He again used his pioneering large-scale geological mapping to establish the structure and geological history of the region, concentrating on the area around Durness and Loch Eriboll in Sutherland. His original, beautifully coloured and annotated field maps, sketches and notebooks are preserved in the collection.



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Lapworth's work on graptolites, a fossil group in which he was also one of the worlds leading authorities, is preserved within the archive. This material includes numerous original drawings of different graptolite species together with his original notes and figures in connection with his numerous publications.

Lapworth was also involved in applied geological work, and to a large degree founded the discipline of hydrogeology; he also worked as a member of the Royal Commission inquiry into the extent of Britain's coal reserves prior to the Great War.

Open all sections

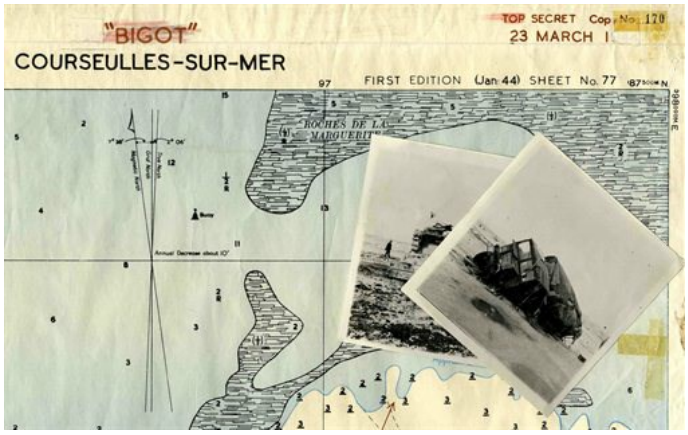
Wills and Shotton archives

There are also significant archives relating to later Heads of Department at the University of Birmingham.

Leonard Johnston Wills (1884–1979) was Professor of Geology at Birmingham from 1932 until 1949. He had a wide range of geological interests including fossil arthropods, fish and footprints; British palaeogeography; and applied aspects of geology particularly relating to water resources.

Professor Fred Shotton (1906–1990) followed Wills as Head of Department, and was also interested in a wide range of geological subjects. Of particular importance was his work on the geology of the Cross Fell Inlier, and his research on Quaternary ecology and climatic reconstruction. He also pioneered the technique of applying petrology to study the provenance of Stone Age axes. As with his predecessors, Lapworth and Wills, he was also involved in applied geological consultancy work, notably hydrogeology. The Shotton Archive contains an extensive record of his research work.

Shotton also served as a military geologist during the Second World War and his work involved locating water supplies for the army, particularly in desert environments using groundwater from boreholes. He was also involved in geological aspects of beaches in France, and whether heavy army vehicles could operate on them successfully during the allied invasion. Much material relating to this work is contained in the archive collection.



Manuscript maps

In addition to Lapworth's own manuscript maps and cross sections, there are many others relating to notable geologists. These include maps of the Cross Fell area of Cumbria, a classic geological locality, produced by **J.G. Goodchild (1844–1906)**. The maps relate to Goodchild's involvement in the Geological Survey's original mapping of the Lake District and surrounding areas.

A number of Lapworth's students at Mason College also researched and mapped regions in Britain, and their work was used to produce the Geological Survey maps of the areas. Examples of these held in the archive include manuscript maps of Anglesey and North Wales produced by **C.A. Matley FGS (1884–1920)** and **Dr T. Stacey Wilson**.

Manuscript map of North Wales produced by C.A. Matley

Photographs

The archive contains a large photographic collection including portraits of notable geologists, landscape photography and many items covering all aspects of geology. The material includes early photographs dating back to the 1860s and contains a number of important collections. The photographic archive is an important historical and scientific record, often providing evidence of geological localities that have now disappeared.

William Jerome Harrison (1845–1908) was an important, pioneering amateur photographer. In 1880 he became Chief Science Master to the Birmingham School Board, and until his death was responsible for the teaching of science in Birmingham's schools. Harrison was interested in natural history, particularly geology, and published widely on many aspects of the subject. He was active in many Midlands scientific societies and became a close friend of Lapworth, accompanying him on numerous field trips in the region, and attended his geology classes at Mason College. Harrison was interested in all aspects of photography and became a leading authority on the subject, publishing many important works. He realised the importance and potential of photography for producing historical records, and for illustrating educational material. It was Harrison who produced the first geological book illustrated by photographs.

The collection includes geological photographs by Harrison, particularly of Midlands geology, and field excursions with Lapworth. There are also many copies of photographs that he contributed to the National Collection of Geological Photographs.

The photographic collection also includes over 7000 glass lantern slides many dating back to the early days of Mason College and used by Lapworth and his colleagues for teaching.

Other slide collections have been donated and include slides of photographs taken by **Tempest Anderson (1846–1913)**, who was an ophthalmic surgeon by profession, but also an important and influential photographer. In addition, he was a keen geologist with a particular interest in volcanology, in which he became an authority. He spent much of his free time travelling to active volcanic regions to study the eruptions. The Royal Institution commissioned him to study and report on the 1902 eruptions of La Soufrière on St. Vincent, and Mount Pelée on Martinique, in the West Indies.

As with W.J. Harrison, Tempest Anderson promoted the role of photography for illustrating geology, and his photographs of volcanoes form an important, and often unique, record of eruptions and their effects.

Miscellaneous items

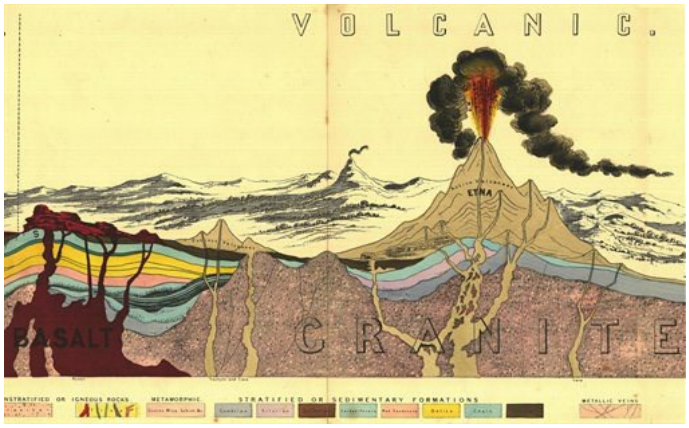
There are many interesting and unusual items within the archive collection relating to a wide range of geological topics.

In 1885 a relative of a crew member on board the ship the Charles Bell, presented specimens of volcanic material which covered the ship as it sailed close to the erupting volcanic island of Krakatoa in Indonesia during 1883. In addition, there is a copy of the ship captain's report, which provides an eyewitness account in great detail of the huge eruption and subsequent tidal waves, which caused terrible destruction to nearby islands, and accounted for over 36,000 lives.

Sections of the Captain's Report, from the ship Charles Bell, during the 1883 eruption of Krakatoa "The blinding fall of sand and stones, the intense blackness above and around us, broken only by the incessant glare of varied kinds of lightning, and the continued explosive roars of Krakatoa, made our situation a truly awful one.

"At 11pm having stood off from the Java shore, wind strong from the SW, the island WNW eleven miles distant, became more visible, chains of fire appearing to ascend and descend between the sky, and it, while on the SW end there seemed to be a continued roll of balls of white fire, the wind though strong was hot and choking, sulphurous with a smell as of burning cinders, some of the pieces falling on us being like iron cinders, and the lead from a bottom of 30 fathoms came up quite warm...

"...We saw a wave rush right onto the Button Island apparently sweeping right over the South part and rising halfway up the North and East sides. We saw this repeated twice, and the same wave seemed also to run right onto the Java shore"



Geological sketches

There are also numerous geological sketches, and a number of coloured, geological illustrations within the archive collection. Some were made by notable geologists, such as Professor A.H. Green's 1871 original drawings to illustrate his textbook Physical Geology, while others were made by amateur geologists.

Geological sketch
Click image for larger version
(http://www.lapworth.bham.ac.uk/images/coll

The collection also includes many beautifully drawn, and coloured, sections of mines particularly from the South Staffordshire coalfields. Some of these were produced in the early 19th century and record the different strata and coals encountered at different levels in the mines, and often include sketches or detailed drawings of the mine buildings and workings.

Detailed drawing of a mine
Click image for larger version
(http://www.lapworth.bham.ac.uk/images/collections/archives/Mine_Section.jpg)

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