# Geological dioramas at the Museum of Practical Geology, South Kensington, from 1932 - rescuing "a dull, even repellent, subject"

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**Article in preparation**

**By Jane Insley**

**Lantern slide diorama images supplied by Christina Walsh**


The new Museum of Practical geology, South Kensington. The diroamas are the cases between the pillars on the ground floor.
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## Contents

# The institution story

The present building for the Earth Galleries of the Natural History Museum, London, opened in 193n as the Museum of Practical Geology, built to a similar plan to the neighbouring Science Museum with extra office and laboratory spaces.[1] The Royal Commission of 1927 agreed the use of the South Kensington plot for the Geological Survey of Great Britain, as its old premises in Jermyn Street had been irremediably damaged by bombs in 1917.[2] There were strong links between the institutions through staffing as well as architecture; Sir Francis Grant Ogilvie was the first chairman of the Geological Survey Board of the DSIR (Department of Science and Industrial Research) and from 1919 was responsible for the Geological Survey, having been Director of the Royal Scottish Museum in Edinburgh between 1900 and 1903, and Director of the Science Museum from 1911-1920. Dr W F P McLintock was assistant curator at Jermyn Street from 1907 to 1911, moved to the Royal Scottish Museum until 1920, when he returned to London as Curator and Librarian at Jermyn Street, where Sir John Smith Flett was then Director.

New building began in 1929, and was sufficiently complete by 1933 to be commandeered as the

venue for an International Economic and Monetary Conference, then handed back to the Survey for preparation for the move. When the building was ready, what should go in it? McLintock, writing in the *Museums Journal* shortly after the public opening, was clearly aware of what he was up against. In his view, the geological museum officer would be

> "*wise to recognise the somewhat discouraging fact that the ordinary visitor regards geology as a dull, even repellent, subject* ", that

> "*systematic collections of rocks, minerals and fossils, often bearing the most unfamiliar and unpronounceable names, did little to dispel the sense of misgiving with which the more courageous visitors ventured to explore the geological galleries.*" and, not least, "*museums pursuing such a policy usually present a deserted and desolate appearance.*"[3]

The new building in the new location offered the opportunity of bringing displays up to contemporary standards, necessary owing to its proximity to the other internationally renowned museums in South Kensington [Natural History Museum, Victoria and Albert Museum, Science Museum and Imperial Institute]. Flett and McLintock visited many foreign museums and elaborated a scheme for the new museum, which was intended to serve the public, the student and the expert. The very rich accumulation of geological material in the Survey's collections would be supplemented with descriptive and illustrative material to increase their educative value - guide books, labels, diagrams, sections and sketch maps, photographs, models, panoramic views of scenes of geological interest, and pictorial representations of former geological scenes. Notably, much of the preparation was to be done by existing staff; skilled assistance for models, panoramas and paintings would be required from artists who had done similar work for other British museums.[4]

The use of interpretive material in the galleries was a major advance, but the terms used to describe it did not make particularly clear the difference between models, panoramic views and pictorial representations of scenes from the past. However, McLintock was very clear on the advantages of ‘panoramic scenes’ or dioramas - skewed perspective modelled scenes.

> "*For the purposes of geological display the diorama has distinct advantages over the photograph or picture. It is a three-dimensional representation with a foreground modelled in perspective, and consequently represents a subject as the observer actually sees it with stereoscopic vision. With the device of the curved background, now generally adopted in the best types of diorama, it is possible to increase the angle of vision, normally 90 [degrees], to 180 [degrees], and thus to compress in manageable dimensions a subject , which, if represented on the same scale pictorially, would demand from two to three times the equivalent wall-space. The diorama is a stereoscopic painting, rather than a coloured model, and undoubtedly gives a more vivid impression than a picture in that, being partly modelled, the aspect changes as the spectator moves. It has to be well conceived to give a vivid impression; it must be well designed to give coherence and balance; and its successful execution makes considerable demands on the artist, who must be both a painter and a modeller.*"[5]

The dioramas would be placed where they could make the most sense to visitors not skilled in

geology, their attractiveness being their colour, lighting and vividness. As the new building had a large amount of natural light from roof and side windows, it was not particularly feasible to show them in a darkened gallery, so apart from four set in the Economic Gallery on the second floor, most were shown as more or less central features on the ground floor.[6] For more serious students they represented topographical features and geological structures as seen in the field, and so helped develop "that most necessary requisite of the successful field geologist - an eye for country". For teachers with school-classes and demonstrators in charge of groups, they allowed a party of twenty to view each one simultaneously without discomfort.[7]

A standard size was adopted, with showcasing to match. The most suitable dimension for general purposes was 7ft long, 2ft 6 inches deep and 4 ft high with the horizon line [3] ft from the floor. Installation was important:

"The diorama and its shell are completely isolated by a dustproof layer of piano felt from the outer case, and the lighting arrangement, normally 8 40 watt lamps carried from the front of the case, is separated from the diorama by a framed sheet of glass set at an angle of 45 [degrees]. These last points are of extreme importance. Dioramas are expensive exhibits, and when the lamps are not isolated from the diorama itself, dust accumulates on the painted background and modelling and leads to a rapid and permanent deterioration."[8]

## Who was to make them?

Flett and McLintock were convinced about the value of dioramas from seeing so many elsewhere, particularly at the Imperial Institute, the first of the South Kensington museums to use them.

The Director General of the Imperial Institute, Sir William Furse, was more than happy to endorse the quality of the work done by his studio of artists, helping with suggestions from 1932.[9] By November that year some of the work was already well in hand, and without necessarily going to competitive tender. Nevertheless, they did check if they felt the price was high;[10] by this time, there appeared to have evolved a nearly standard rate of payment for diorama making, except where circumstances were unusual. This was the case with the China Clay diorama, where the artist and curator went on a field trip to Cornwall to choose the scene. McLintock was fully convinced that the Imperial Institute artists were the best there were, and recorded their names and the dioramas they made. Although the artists waived copyright in any printed images or lantern slides that might be generated subsequently to installation in the museum, the Institute’s chief diorama artist Raphael Roussel stipulated that their names should appear in any labelling or captioning, mirroring the practice at the Imperial Institute.[11]

## The Museum opens - 1935

Sixty two days after the new museum opened its doors, *The Times* noted that the attendance was running at about a thousand visitors a day. The journalist was struck by the contrast this presented with the annual attendance for the previous two years of opening at the dingy and dangerous Jermyn St premises of less than 21,000 - in the 28 days between the opening of the new building and the end of July "no fewer than 26,000 persons discovered in themselves a dawning interest in a despised science". Undoubtedly he had been talking to Dr McLintock. The new museum was welcoming, light and spacious.

> *The result is as attractive a display as in any instructional institution in the world. The*

> *visitor whose first reaction is an admiration of dioramas, models and even lighting effects, is soon drawn into an interest in the broad outlines of an unfamiliar science and then into the more confined technical aspects. The Londoner will first find London itself, and its history through several million years, explained to him, and then those near-by parts of England which he has visited on holiday - the Thames Valley, Surrey, Sussex, the Weald, the Isle of Wight. A realistic diorama of Lulworth Cove prepares him for less familiar but no less interesting representations of coal mines, stone quarries, and other phenomena in which science and everyday life can be seen to converge.*

> *The moral is that that elusive entity, "the man in the street", is ready to learn if the teaching is made sufficiently attractive. There are still many museums in London which, through no fault of their staffs, are compelled to show their possessions in such confusing multitude and in such inadequate space, that the poor "plain man" does not know where to begin looking, and cannot anyhow look for long with a clear mind. It seemed to many a rash experiment to build so large and expensive an edifice for what, in Jermyn Street days, was one of the smallest and least popular of London museums. but to judge by the figures given - and they are the only basis for judgement - the experiment has already abundantly justified itself.*[12]

## The dioramas at the Geological Museum

Subjects selected for illustration ideally had high relief, with some prominent form in the foreground.[13] There were four main types:

1. *Economic geology* characterised by open workings and excavations, where well considered selection of viewpoint showed geological structures and relationships revealed by quarrying.
2. *Geological processes* - including provision for a non-standard showcase for the plume of an erupting volcano, and a transparent background in places and suitable lighting devices conveying a sense of movement and activity associated with volcanic action.
3. *Purely geological and scenic* - familiar or well-known scenes, where the temptation to emphasise too many geological points was resisted. Choices included tilting and folding of strata, formation of sea stacks and cliffs, differential marine erosion of hard and soft rocks giving rise to bays and headlands, formation of river gorges, unconformity, earth-movement and thrusting, ancient volcanicity, and the effects of long-continued erosion and glaciation.
4. Most difficult was *Reconstruction of scenery and conditions of the past* - the composition evolved from fragmentary evidence, and had to be able to withstand criticism of informed but not necessarily unanimous opinion.

"When successfully completed, however, such dioramas make a considerable appeal to the general public and form by no means the least popular exhibits in the galleries."

Sixteen dioramas were chosen for the first series to be constructed for the museum, and are listed as numbered below. Information about later additions has been also given with arbitrarily assigned numbers.

# Sources of information, illustration and present location

## History of the British Geological Survey

Sir John Smith Flett, *The first hundred years of the Geological Survey of Great Britain*, London, HMSO, 1937

Dr W F P McLintock, DSc, FRSE, FRGS, "Geological dioramas in the Museum of Practical Geology", *Museums Journal* ,1936, June 1936, vol xxxvi, p89-94 plus plates vi, vii

H E Wilson, *Down to earth: one hundred and fifty years of the British Geological Survey*, Edinburgh and London, Scottish Academic press. 1985

## BGS Archives, Keyworth

The archive categories GSM/MG/C and GSM/MG/E contain papers related to the setting up of the museum at South Kensington, in numbered folders. The individual items within the folders carry the original reference numbers as used in the original correspondence; not every item carries such a reference and occasionally the date of the document has to be deduced from the contents.

BGS photographs were used to produce postcards of the dioramas, and now can often be found on sale though suppliers such as eBay. The reference number on the diorama postcard is the negative number, and the negatives were retained in South Kensington, under the aegis of the Natural History Museum when the institutions merged. However, images of the diorama labels may still be extant at Keyworth

Enthusiasm for reporting new displays at the South Kensington museums resulted in occasional articles when new dioramas were unveiled, notably in *The Times* and the *Illustrated London News*, both having been accessed on-line through the Science Museum Library.

Assistance with sources and further information are acknowledged.

# Conclusion

By the time the new Museum of Practical Geology had been open for ten months, it had attracted over 253,000 visitors, compared to an annual attendance at Jermyn St of about 20,000. The new building was spacious, well lit and attractive; in addition to other features the number of specimens was rigorously reduced and illustrative matter increased. As with the other institutions in South Kensington, the use of dioramas was continued for several decades, in a similarly episodic manner. As the museum went through a series of re-designs the dioramas were also removed gradually from the galleries, with the last clutch being remembered fondly by retired museum staff as being on the "upstairs landing", Eventually the last ones were cleared altogether, and having no inventory status were dispersed, leaving no records.

However, some still do survive. *Edinburgh from the Braid Hills* has surfaced in the stores of the National Museums of Scotland at Granton, along with *North West Highlands of Scotland* by Cawood.[14] *Vesuvius Erupting* is in the stores for Bristol Museums and Galleries, now re-opened as M Shed.[15] A very Roussel-like version of the Avon Gorge is on show in The Bristol Museum Geology gallery, but may be another copy.[16] And the Haig Pit ‘Cumbrian Colliery’ diorama features on the website for the museum at the colliery it portrays.

Images of the dioramas are equally dispersed. The various photo libraries for the museum where the dioramas originated in some cases no longer have the images or their source negatives, although the numbers assigned to postcards may provide a dating aid for individual dioramas. *Edinburgh from the Braid Hills* featured on a postcard specialist website run by Peter Stubbs,[17] and the glorious Roussel version of the *Formation of Coal* is still available through the Photo Studio of the Natural History Museum, along with *Pleistocene Britain: the Swanscombe waterhole*, and the *Northampton ironstone quarry in 1935*, showing economic geology in action. Others may crop up from time to time through E-Bay and other on-line dealers and suppliers.


# Acknowledgements

I have had a huge amount of help in finding information about these dioramas – Geoff Barnes, Colin Vallance of the Wheal Martyn Museum, Cornwall, and his contacts at the Royal Institution, Truro, members of the family of diorama maker Raphael Roussel, Andy King of M Shed, Bristol Museums, and to Nick Basden and Dr Alison Morrison-Low of the National Museums of Scotland. My heartfelt thanks go to Joan V Bird of the British Geological Survey Archives, Keyworth, and to Bob McIntosh also of BGS, for encouragement to continue this research.


# Listing of dioramas at Museum of Practical Geology

## 1. Early man in Thames Valley - Vernon Edwards

*Reconstruction of scenery and conditions of the past*

This did not appear in the list of October 1932, but was ready for titling in April 1934. (BGS Archives, GSM/MG/C/15)

The first diorama in the list confusingly appears in two forms – once in the half-tone reproduction of the *Museums Journal* of 1936, accompanying McLintock's article, and once in rather more spectacular colour and entitled Pleistocene Britain: Swanscombe Waterhole in the Picture Library of the Natural History Museum. Originally it was intended to show elephant, fallow deer, rhinoceros, bear, bison and man living in open grassland. However, comparison of the two images show some subtle differences – in the Natural History Museum scene the tree on the left has lost its foliage, the human figure in the foreground is rather hunched in the earlier image and more upright in the second; he has apparently mislaid some of his clothing but is still facing tastefully away from the viewer although his left arm is in the same configuration, and the elephants in the background are quite docile in the first image but rather more lively in the second. This leads one to suspect that the first diorama may have been either refreshed or replaced. Because this showed an early version of the London area, it was one of the most popular dioramas in the Museum.[18]

BGS Archives, GSM/MG/C/15 1952/956 includes a list of the titles required for display purposes, which includes 11 of the first 16 dioramas (Nos 8, 9, 10, 12, and 14 excepted).

BGS negative MN2613, dated 23 July 1935

MNL 530/11633

H E Wilson, p62:

'A feature of the ground floor was a series of sixteen coloured 'dioramas' – showcases containing plaster models perspectively merged into a painted background illustrating various geologically interesting localities, such as The Needles and Fingals Cave, and reconstructions of prehistoric

scenes. The figure in ‘Early Man in the Thames Valley’ was alleged to be modelled on Flett!’

An on-line search for the diorama (June 2020) discovered a stock photo from Alamy, showing the diorama in its standard showcase and with a slightly incorrect caption, but dated 1935, and attributed to the Smith Archive, with Image ID: 2BW3ER6. It also showed the Natural History Museum image, as part of the Mary Evans Picture Library with image code MEV-10703598. The Natural History Museum Picture Library Image ID is 000404.

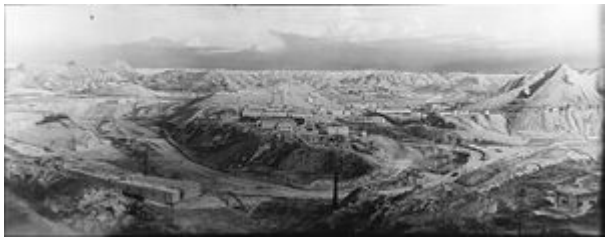
*The Times* 1932 Apr 25 pg 7

Exhibition at the Natural History Museum.

The exhibition illustrating the fish fauna of succeeding geological epochs is intended to be permanent, and to be extended gradually. A start was made this weekend, when a single diorama over 5ft long was placed near the entrance to the Department of geology. Here there are to be seen as if in an aquarium, life-size models of the fish-like animals and true fishes which lived when the upper Silurian was passing into the Lower Devonian or Lower Old Red Sandstone period. The creatures to be seen are the first forms of vertebrate life on earth known in any detail and can be dated to at least 20,000,000 years ago. …The models have been constructed by Commander Vernon Edwards under the supervision of Errol J. White, Assistant keeper in the Department of Geology.

Commander Vernon Edwards was a skilled natural history modelmaker, and produced many pieces – Bolton, Grant Museum and elsewhere hold examples of his work. He had already created a diorama for the Natural History Museum (NHMPL number 000360), so would have been a natural choice to make a scene for the MPG.

## 2. The oilfield of Masjid l Sulaiman, SW Iran - Montague B Black



The oilfield of Masjid l Sulaiman, SW Iran - Montague B Black. Diorama, Museum of Practical geology. Credit: Christina Walsh.

*Economic geology*

This was far-enough advanced for questions about its funding to be settled by September 1932. This would have been close to McLintock's experience as he worked there in the field in 1926. ( BGS Archives, GSM/MG/C/15)

This diorama may have been transferred to the National Museums Scotland, where it was described as an *Iranian Oil field* by Montague Black, inventory number T1938.179, and de-accessioned in 2005.

BGS negative, MN2773, dated 22 Nov 1935; ‘Mineral Bay, showing this diorama’,

BGS negative MN2803 dated 1 Dec 1935

MNL526/11629

?MNL 509/11621

A postcard found on-line (June 2020) at Picclick.co.uk had a wildly incorrect caption, and was too unfocussed to determine the 3 digit MN number

## 3. Chalk and clay for Portland cement - R T Roussel

Chalk and clay for Portland cement - R T Roussel. Diorama from the Museum of Practical Geology. Credit: Christina Walsh

*Economic geology*

On the list proposed in October 1932, and completed by March 1933; (BGS Archives, GSM/MG/C/15)

Postcard "Chalk and Clay for Portland Cement - R T Roussel ", MN 2769.[19]

BGS negative MN 2769, 22 Nov 1935

MNL 504/11617

## 4. A Cornish China Clay Quarry - Herbert H Cawood

A Cornish China Clay Quarry - Herbert H Cawood. Credit: Christina Walsh

Economic geology. Another of the earliest dioramas to be done, in November 1932 McLintock and Cawood were in Cornwall to make a site visit to the China Clay pit and works. (BGS Archives GSM/MG/E 12-18 Building the new Geological Institute)

McLintock and Cawood went to Cornwall in November 1932 to visit a china clay pit and works. (BGS Archives GSM/MG/C/15 1952/956; Diorama no. 4)

This diorama was later re-homed at the Wheal Martyn Museum at St Austell in Cornwall, where it was photographed in 2011. Another in the Royal Institution, Truro, has a very similar layout, but was constructed by a different artist. The two scenes could well be of the same mine, but from different view points. The method of construction is very similar.[20]

The *Cornish Clay Quarry* featured in an exhibition *Geology and Ceramics* in 1960, as reported in *The Times*. Ceramics And Their Origins Exhibition At South Kensington *FROM OUR MUSEUMS CORRESPONDENT The Times*, Friday, May 27, 1960; pg. 16; Issue 54782; col E .

BGS negative MN 2770, 22 Nov 1935; MNL 505/11618. The postcard is MN505, on eBay in June 2020.

## 5. Ironstone Quarry, Corby, Northants - Herbert H Cawood

Ironstone Quarry, Corby, Northants - Herbert H Cawood. Diorama from the Museum of Practical Geology. From a Lantern slide. Credit: Christina Walsh.

*Economic geology*

Proposed by October 1932 (BGS Archives, GSM/MG/C/15)

Natural History Museum Photographic Library. Image ID 002747(below)

BGS negative 2767, 22 Nov 1935

Mineral bay, showing this diorama BGS negative MN2803 dated 1 Dec 1935

MNL 503/11616

## 6. Penrhyn Slate Quarry, North Wales - Montague B Black

Penrhyn Slate Quarry, North Wales - Montague B Black. Diorama from the Museum of Practical Geology. From a Lantern slide. Credit: Christina Walsh.

*Economic geology*

(BGS Archives, GSM/MG/C/15 1952/956; 23 June 1932)

Standardisation of showcase sizes led to a certain amount of streamlining of manufacture of dioramas also, with the chance of getting a reduced rate for bulk buying - by June 1932, it had been noted that both Black and Cawood had both done similar work at the Imperial Institute, so there was a suggestion that " *4 industrial exhibits 'of the Penrhyn type' could have a quote of reduced price if put in hand together* "; the Penrhyn diorama appeared on the list proposed in October 1932.

As the cases were free-standing, they could be moved around if required, and two of the dioramas were used in special exhibitions later in their museum career. Montague Black's rendering of the work at the *Penrhyn Slate Quarry* of 1932 was used in a 1949 special exhibition of drawings of the quarry by Miss M E Thompson, reviewed by both *The Times* and the *Illustrated London News*.

BGS Archives GSM/MG/C/15 1952/956 23 Jun 1932. Penrhyn Slate Quarry Exhibition Of Drawings *From Our Museums Correspondent The Times*, Tuesday, Apr 19, 1949; pg. 6; Issue 51359; col C ; "Roofing the British Home since Elizabethan Times: The Great Penrhyn Slate Quarry." *Illustrated London News* [London, England] 3 Sept. 1949: 334+. *Illustrated London News*. Web. downloaded (again) 13 Sep. 2012

BGS negative, MN 2766 22 Nov 1935

MNL 500/11613

## 7. Portland Stone Quarry - R T Roussel

*Economic geology*

Roussel and McLintock visited Portland in May 1933 to select a site for the model of a stone quarry.

Permission was granted "*to wander over any of our quarries*". The Dorset office had a small model they offered to the museum for exhibition. Following the trip, on 8th May, Cottonfields Quarry was selected as most suitable and delivery was promised by Nov 1st 1933, "*either to this museum or to the new Geological Museum South Kensington"*. In addition, a copy of the book "Portland Stone" was supplied by S Western Stone Co Ltd., and lodged in the Library by W F P McLintock, on 11 May.

(BGS Archives, GSM/MG/C/15 1952/956)

Illustrated in McLintock's article, plate vii . Also featuring in a museum postcard - "A Portland Stone Quarry - R T Roussel MN 506 ". The Chalk and Clay "panorama" had been successfully completed, and this next one was estimated for in March 1933 along with the Alaskan Glacier, at the nearly standard rate of £150 each. The record for this includes a discussion of the nature of the acknowledgement of the artist in printed reproductions.

BGS negative MN2611, 23 July 1935

MNL 506/11619

## 8. Edinburgh from the Braid Hills - Herbert H Cawood

Edinburgh from the Braid Hills - Herbert H Cawood. Diorama from the Museum of Practical Geology. From a Lantern slide. Credit: Christina Walsh.

*Purely geological and scenic*

Chosen to show the geological features of unconformity, earth-movement and thrusting, ancient volcanicity and the effects of long-continued erosion and glaciation. Not on the original list, but added later.

This diorama is now in the National Museums of Scotland, Inventory number G 1989.18.1

BGS negative MN 2768, 22 Nov 1935

MNL 514/11623

Postcard on-line : peter.stubbs@edinphoto.org.uk

## 9. Vesuvius in Eruption - Montague B Black

Vesuvius in Eruption - Montague B Black. Diorama from the Museum of Practical Geology. From a Lantern slide. Credit: Christina Walsh.

*Geological processes*

A panorama version of volcanic activity was proposed in October 1932, and after some discussion over the rate for the work, delivered in time. As stated above, it required a non-standard case to show height of explosion cloud, and had a transparent background in places and suitable lighting devices to convey sense of movement and activity associated with volcanic action.[21]

BGS Archives GSM/MG/E/15 1932-1936 Papers related to construction of exhibits. Included photographs of some of the models, including this one. (Montague Black, Vesuvius. 2502). Illustrated in *Museums Journal* Vol XXXVI Plate V facing p 81. Now at M Shed, Bristol (photo on right, taken sideways – diorama inaccessible)

BGS negative 2771 Vesuvius by day, dated 22 Nov 1935,

BGS negative MN 2772 Vesuvius by Night, 22 Nov 1935,

MNL507, MNL 508/11620

## 10. Cheddar Caves, Somerset - Montague B Black

Cheddar Caves, Somerset - Montague B Black. Diorama from the Museum of Practical Geology. From a Lantern slide. Credit: Christina Walsh.

*Geological processes*

Proposed October 1932.

Illustrated in the Museums Journal Vol XXXVI Plate V facing p 81

BGS negative 2763, dated 22 November 1935

BGS negative 2764, dated 22 November 1935

MNL 515 and 516/11624

Postcard – eBay, June 2020

## 11. North West Highlands of Scotland - Herbert H Cawood

North West Highlands of Scotland - Herbert H Cawood. Diorama from the Museum of Practical Geology. From a Lantern slide. Credit: Christina Walsh.

*Purely geological and scenic*

Proposed view on list of October 1932.

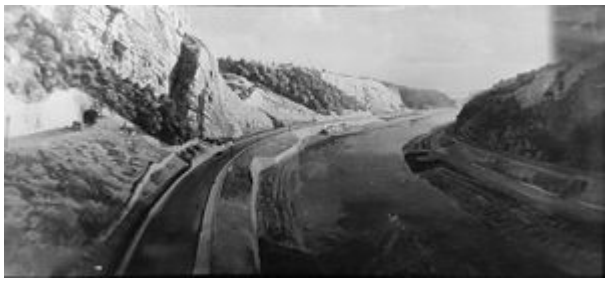
Now in the National Museums of Scotland :*North West Highlands of Scotland* -inventory number G 1989.18.2.

BGS negative, MN 2781, dated 25 Nov 1935

MNL 502 /11615

No copy image found 25/6/2020

## 12. Avon Gorge - R T Roussel



Avon Gorge - R T Roussel. Diorama from the Museum of Practical Geology. From a Lantern slide. Credit: Christina Walsh.

*Purely geological and scenic*

BGS Archives GSM/MG/E 12-18 Building the new Geological Institute.

Brilliant artist though he was, Roussel did sometimes miss the deadlines for delivery, and the *Avon Gorge* was one of them. Despite this lateness, McLintock was keen to use him for another, for which he would have been the most appropriate, but the minute does not clarify to which diorama this next order referred.

"Moreover, I learn from Dr McLintock that the further diorama he would propose to order could best be made by the artist who took so long to complete the diorama of the Avon Gorge, i.e., an order placed last October was not delivered until just before the opening of the Museum."

This should be noted in the context of a phenomenal speed of output of dioramas for more than one institution, as as Roussel was also supplying dioramas for the Science Museum's Children's gallery – comparison of delivery dates show that Roussel delivered the Portland Stone Quarry, and two others for the Science Museum in a ten week period around Christmas 1933.

BGS negative MN2612, dated 23 July 1935

MNL 529/11632.

Postcards found on ebay have each of the MN numbers

## 13. The Needles and Alum Bay - Herbert K Rooke

The Needles and Alum Bay - Herbert K Rooke. Diorama from the Museum of Practical Geology. From a Lantern slide. Credit: Christina Walsh.

*Purely geological and scenic*

Not specifically listed in October 1932, but ready for a title in April 1934.

Illustrated in McLintock, op cit, plate vii

BGS negative MN3774, dated Feb 1939

MNL 501/11614.

Postcard on ebay.

## 14. Lulworth Cove and Stair Hole - Herbert K Rooke

Lulworth Cove and Stair Hole - Herbert K Rooke. Diorama from the Museum of Practical Geology. From a Lantern slide. Credit: Christina Walsh.

*Purely geological and scenic*

Illustrated in the *Museums Journal* with the standard showcase used by the Museum of Practical Geology

It is possible to make out some of the scene of *Lulworth Cove and Stair Hole*, made by Herbert Rooke, in the *Museums Journal* image showing a closeup of the standard case chosen to house the dioramas.

McLintock, op cit, plate vi

BGS negative MN2765 , dated 22 Nov 1935

MNL 513/11622 ;

Ebay Postcard Jun 2020

## 15. Alaskan Glacier - R T Roussel

*Geological processes*

On the proposed list of Oct 1932, estimated for in March 1933 with the Portland Stone Quarry. The diorama was to be 7 feet by 4 feet and was ready for titling in April 1934. (GSM/MG/C/15 1952/956 Purchase of exhibits).

This was a very popular topic for modelling, there being also a skeleton wire model of 1912, which had been used by Prof Alan Ogilvie to illustrate glacier motion, and offered on to the Science Museum. The MPG also purchased a model of a Glacier of the Great Ice Age from Thomas Murby and Co, which was offered through their 1934 trade catalogue.

BGS negative MN2774, dated 22 Nov 1935

MNL527/11630

### 16. An Ancient English Desert - E M Wilson

*Reconstruction of scenery and conditions of the past*

Triassic - processes and results of erosion and deposition during a prolonged period of dessication. On the proposed list of October 1932, and ready for titling in April 1934.

BGS negative MN2775, dated 22 Nov 1935;

MNL 528/11631

## Later additions

However, these were not the only dioramas the MPG ever had. Roussel's family records show there were at least three other dioramas, illustrated in museum postcards, following similar lines and described below. Further details came from the Geological Survey Archives at Keyworth, Nottingham, from references in the press and from souvenir postcards.

### 17. Lakeland Scenery - R T Roussel MNL525/11628

Lakeland Scenery - R T Roussel. Diorama from the Museum of Practical Geology. From a Lantern slide. Credit: Christina Walsh.

MN525 [1937]

*Proposed on 20th November 1936* (BGS Archives GSM/MG/E/15 1932 -1936 Papers relating to construction of exhibits.), work in hand by August 1937

The Lakeland scenery diorama was commissioned after the museum was open, with the standard sum for a diorama of £150 being set aside for it in the funds for 1937-8. Illustrating the geology and geography of celebrated scenic districts in Great Britain proved not only popular with the public but of the greatest use to the museum's guide-lecturer. The exhibit dealing with the Lake District featured specifically in one of the set of lectures and demonstrations by the guide lecturer and proved not the least popular item in the programme. The Lake District was popular for holidays, but was also a classic one scenically and geologically, being of great interest to the student of geology as well as the tourist. A standard sized diorama was ordered, for the by-then standard price of £150, to include a visit by the artist to the district to make the necessary sketches and photographs. This was ordered in November 1936, put in hand by August 1937, and its arrival in the museum was noticed by *The Times* on January 26 1938.

A Lake District Diorama Freaks Of A Volcano's Blast Category: News : *The Times*, Wednesday, Jan 26, 1938; pg. 9; Issue 47902; col D The diorama was described as a striking and decorative addition to the displays on the first floor, adjoining the exhibits illustrating the geology of the Lake District, and demonstrated very well the effect of the different types of rock on the landscape. The journalist also noted that it was *"the work of Mr R T Roussel, the artist responsible for several other dioramas in the Museum, notably that of Staffa".*

## 18. The Island of Staffa - R T Roussel

The Island of Staffa - R T Roussel. Diorama from the Museum of Practical Geology. From a Lantern slide. Credit: Christina Walsh.

MN 522 [no date found]

The postcard is the only remaining visual evidence for this diorama; *The Times* noted its arrival on display in December 1936.

*The Island of Staffa* represented Fingal's Cave, the Boat Cave, and the famous columnar lava formations, with the Treshnish Isles in the distance. A wide expanse of sea occupies the foreground, including a skimming seabird on the wing, and the general effect was noted as being extremely realistic.

Knowledge With Pleasure Exhibitions For The Young - *The Times*, Monday, Dec 14, 1936; pg. 11; Issue 47557; col A

BGS Negative MN2990, dated 24 Nov 1936

## 19. The formation of coal - R T Roussel

The formation of coal - R T Roussel. Diorama from the Museum of Practical Geology. From a Lantern slide. Credit: Christina Walsh.

MN519 - [Oct 1931]

*The Formation of Coal* is a confusing item, as although the records show the diorama was complete in October 1931, rather earlier than the rest, it does not appear on the lists for inclusion in the new

museum of 1932 or 1934, and there is a supplementary note which attributes a coal forest diorama to another maker, Cecil B Hobbs. (BGS Archives GSM/MG/C/10 Purchase of Weald Model ). The Roussel model showed *"a swamp of the coal-measures period, some 200,000,000 or 250,000,000 years ago, with the typical vegetation of club-mosses, tree ferns, seed ferns and horsetails. Insects made their first appearance in this period, and a small model of a dragonfly which had a wingspan of 2ft 6 in"*. The image and postcard do not show the butterfly model, although another (?copy) diorama at the Radstock Museum near Bath does. ( NHMPL 000262)

Primeval coal forest, BGS negative MN2966, dated 2 Nov 1936.

Primeval coal swamp MNL 519/11625

## 20. Idealised landscape of the Wealden period – MNL460

Idealized landscape on the shores of the Wealden Lake. Dinosaurian reptiles were the dominent vertebrates whilst conifers, cycads, ferns and rushes made up most of the plant life. Plate IV. British Wealden Geology. The Wealden district (Fourth edition). London. HMSO, 1965.

Known through a postcard on ebay June 2020; the MNL number suggests it might have been photographed at the same time but slightly earlier than items with MNL numbers from 500 to 533 , which were dated 1948.

## 21. The Kuwait Oilfields, by Montague Black.

This may be the last diorama to be commissioned for the museum. It was noted by *The Times* on 14 September 1954, as being placed in the main hall, having been presented by the Kuwait Oil Company. The diorama showed a geological section through the oil fields, which had formed in sands of Middle Cretaceous age (roughly one hundred million years old) which folded into a dome trapping the oil in its crest, and the surface installations, a township for the workers and a harbour in the middle distance, and Kuwait Town in the far distance, 18 miles away.

Diorama Of Oilfields Vivid Geological Impression *FROM OUR MUSEUMS CORRESPONDENT - The Times*, Tuesday, Sep 14, 1954; pg. 10; Issue 53036; col E

## 22. Lake Store gold mine BGS negative MN3076, dated 19 Jan 1937

Lake Store gold mine BGS negative MN3076, dated 19 Jan 1937. Diorama from the Museum of Practical Geology. From a Lantern slide. Credit: Christina Walsh.

Surface gold mine diorama (no 2) BGS negative MN3114, dated 11 Mar 1937

MNL 253 and 524 11627

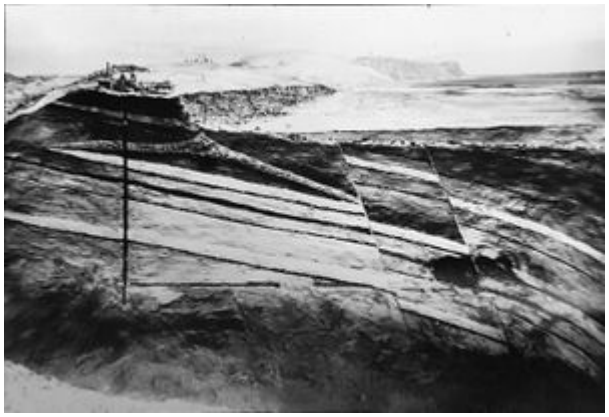
(No images or other information found (20200626 –jei)

## 23. Cumbrian colliery MNL 533 (from an on-line postcard (2012) but no longer available)

BGS negative label 11634, dated 1948;

But found at https://haigpit.wordpress.com/other-info/ , the website for Haig Pit Mining and Colliery museum, Whitehaven (20200626 – not yet followed up – jei)

## 24. Diorama of Haig Pit by (Montague Black?)



Diorama of Haig Pit by (Montague Black?). Diorama from the Museum of Practical Geology. From a Lantern slide. Credit: Christina Walsh.

Diorama of Haig Pit

This model, while displaying some “artistic licence”, is a very good representation of the underground layout in the older part of Haig Pit. It is also representative of the other coastal pits in the county which worked undersea from St Bees Head to Maryport.

The background shows Kells before most of the present day houses were built and in the distance the cliffs of St Bees Head. Haig shafts were sunk, between 1914 & 1918 to provide better access to an area of coal, 2 miles offshore, which was already being worked from Wellington Pit. As there were already three shafts at Wellington the new sinkings became Nos. 4 & 5, the infant mine being known simply as No 5 Pit. Following the tradition of naming pits in the Whitehaven colliery after prominent people or events of the day (Wellington after the Duke, Ladysmith after the Boer War battle etc) the new pit was later named in honour of (Douglas?) Haig, the British Army Commander during the First World War.

The connection to Wellington was made in 1922 and until the closure of the latter in 1932 the two pits worked together. Haig Pit worked until 1986, finally closing as part of the rundown of the industry which followed the 1984 strike (during which Haig continued to work). By then the workings were 4¾ miles from the shore.

The twin shafts, 1200 feet deep, were 18 (No 4) & 21 (No5) feet in diameter. From a depth of 1136 feet drifts were set away (rising at 1 in 120) to meet the Six Quarters seam about 700 yards to the west. This seam was followed down at 1 in 6 to meet the drifts coming through a fault from Wellington's "Saltom District", which was in the Main Band seam.

The model illustrates the two methods of working practiced at Haig. The lower workings, nearer the shafts are in the Main Band, a seam of top quality coal up to 14 feet in thickness. It was worked in this area of the pit between 1912 and 1935 by the Bord and Pillar method. As 20 feet wide workings were driven out to the boundary large pillars, 40 yards or so square, were left to support the roof. On reaching the boundary the pillars would be removed as the workings retreated back to the main roadways.

The upper workings were in the Bannock Band, about 8 feet thick and only of slightly lesser quality than the Main Band. Some working was done by Bord and Pillar from 1911 to 1935 but much of the coal was worked around here from 1938 to 1951 by the longwall method. In this system, as the name implies, coal was removed from faces up to 150 yards in length off which a slice 4 feet high, in the upper part of the seam, and up to 6 feet deep was taken. Bringing down stone from above the seam heightened the "gate" roads serving these faces. This was packed into the void from which the coal had been removed as the face advanced, helping to support the roof and protect the "gates".

Also shown are sections of the strata in which the coal seams lie. It can be seen how they are interrupted by faults, often of considerable vertical displacement. This was the greatest problem in the Cumberland pits, much unproductive time being spent in locating and regaining the coal on the other side of the dislocation. Despite the high quality of the coal, and the skill and efforts of the Cumberland miners, the adverse geological conditions meant that the local pits were almost always less productive than those in other coalfields.

## 25. Ideal landscape of the London Clay Period

Ideal landscape of the London Clay Period, photograph of a large oil painting by Mr. E. Marsden Wilson

*Reconstruction of scenery and conditions of the past*

Not a diorama but a large oil painting by Mr. E. Marsden Wilson, it is included for completeness as it is a reconstruction of a past scenery. It depicts an imaginary scene in the south-east of England at a date something like fifty million years ago, when the London Clay was being deposited as sediment.

Published as Plate II. London and the Thames Valley. British Regional Geology. By R.L. Sherlock. 3rd edition with some additions by R. Casey, S.C.A. Holmes and V. Wilson. p. 34-35 for a full description.

# List of dioramas published as postcards by the Museum of Practical Geology

Source: Morris, Margaret O., B.Sc. Classified geological photographs. 3rd Edition revised by Patricia M. Statham, B.Sc. Geological Survey and Museum. London : HMSO, 1963.

**Economic geology, mining, quarrying**

MN509 Diorama—The Oilfield of Masjid I Sulaiman, S.W. Iran
MN503 Diorama—Ironstone Quarry, Corby, Northamptonshire
MN500 Diorama—Penrhyn Slate Quarry, N. Wales
MN506 Diorama—A Portland Stone Quarry, Isle of Portland, Dorset
MN504 Diorama—Quarrying Chalk and Clay for Portland Cement
MN505 Diorama—A Cornish China Clay Quarry
MN524 Diorama—Lake Shore Gold Mine, Ontario. (Surface view)
MN523 Diorama—Lake Shore Gold Mine, Ontario. (Geological Section)
MNL533 Diorama—A Cumbrian Coal-field (Geological Section)

**Rock structures**

MN502 Diorama—The North-west Highlands of Scotland>(Unconformities and thrust-plane)

**Vulcanism, scenery of igneous rocks**

MN507 Diorama—Vesuvius in Eruption
MN522 Diorama—The Island of Staffa (Columnar lavas)
MN514 Diorama—Edinburgh from the Braid Hills (Lava flows, sills, vents)

**Scenery of sedimentary rocks**

MN2612 Diorama—The Avon Gorge, near Bristol
MN525 Diorama—Lakeland Scenery: Lake Derwent-water from Castle Head, Keswick

**Coastal scenery and marine erosion**

MN513 Diorama—Lulworth Cove and Stair Hole, Dorset
MN501 Diorama—The Needles and Alum Bay, Dorset

**Weathering and denudation**

MN515 Diorama—The Cheddar Caves, Somerset (Cave Formation: stalactites; stalagmites)
MN516 Diorama—The Cheddar Caves, Somerset (Cave Formation in limestone)

**Reconstructions**

MN2613 Diorama—Early Man in the Thames Valley
MN519 Diorama—The Formation of Coal: A Carboniferous Coal Forest

# References


1. ↑ Sir John Smith Flett, "The First Hundred Years of the Geological Survey of Great Britain", London, HMSO, 1937, p192. Chapter 8 covers the period of his own leadership
2. ↑ Sir John Smith Flett, "The First Hundred Years of the Geological Survey of Great Britain", London, HMSO, 1937. p190-191.
3. ↑ Dr W F P McLintock, DSc, FRSE, FRGS, "Geological dioramas in the Museum of Practical Geology", *Museums Journal* ,1936, June 1936, vol xxxvi, p89-94 plus plates vi, vii. - p89
4. ↑ BGS Archives.The categories GSM/MG/C and GSM/MG/E contain papers related to the setting up of the museum at South Kensington, in numbered folders. The individual items within the folders carry the original reference numbers as used in the original correspondence; not every item carries such a reference and occasionally the date of the document has to be deduced from the contents. The minute from which this information is taken probably dates from November 1932.
5. ↑ Dr W F P McLintock, DSc, FRSE, FRGS, "Geological dioramas in the Museum of Practical Geology", *Museums Journal* ,1936, June 1936, vol xxxvi, p90
6. ↑ Dr W F P McLintock, DSc, FRSE, FRGS, "Geological dioramas in the Museum of Practical Geology", *Museums Journal* ,1936, June 1936, vol xxxvi, p89-94 plus plates vi, vii. p92-93. The Museum of Practical Geology (or the Geological Museum) is now part of the Natural History Museum, and the Picture Library has taken over the images. Image ID 000103 shows the same gallery as McLintock's image, but from the other end, and was taken in 1963, twenty eight years later.
7. ↑ Sir John Smith Flett, "The First Hundred Years of the Geological Survey of Great Britain", London, HMSO, 1937, p194
8. ↑ Dr W F P McLintock, DSc, FRSE, FRGS, "Geological dioramas in the Museum of Practical Geology", *Museums Journal* ,1936, June 1936, vol xxxvi, p89-94 plus plates vi, vii. p93
9. ↑ BGS Archives GSM/MG/C/10
10. ↑ This correspondence has the old style reference G S M 100/5/4, and is dated 1932
11. ↑ This was resolved around the diorama of the Portland Stone Quarry, no 7 in the list. BGS Archives, GSM/MG/C/15 1952/956
12. ↑ The New Geological Museum Average Attendance Of 1,000 A Day - *The Times*, Friday, Sep 06, 1935; pg. 15; Issue 47162; col E
13. ↑ Dr W F P McLintock, DSc, FRSE, FRGS, "Geological dioramas in the Museum of Practical Geology", *Museums Journal* ,1936, June 1936, pp 91-92
14. ↑ My thanks to Nick Basden for supplying information about the NMS holdings.
15. ↑ Again, thanks to Andy King.
16. ↑ Thanks for this information go to Alison Morrison-Low, for mentioning it, and Roger Vaughan of Bristol's City Museum and Art Gallery for digging out information about it.
17. ↑ Peter Stubbs, edinphoto
18. ↑ Dr W F P McLintock, DSc, FRSE, FRGS, "Geological dioramas in the Museum of Practical Geology", *Museums Journal* ,1936, June 1936, pl VII, (facing page 92)
19. ↑ My thanks go to Roussel family members for sending me photocopies of some of his diorama postcards.
20. ↑ Thanks go to Geoff Barnes for telling me about the diorama at Wheal Martyn, and to Colin Vallance of the Wheal Martyn Museum and the staff of the Royal Cornwall Museum, Truro, for images of their dioramas.
21. ↑ My thanks go to Andy King of Bristol Museums for his gymnastic skills in providing me with a photograph of a truly inaccessibly stored diorama.

‘http://earthwise.bgs.ac.uk/index.php?title=Geological_dioramas_at_the_Museum_of_Practical_Geology,_South_Kensington,_from_1932_-_rescuing_%22a_dull,_even_repellent,_subject%22&oldid=46520’
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