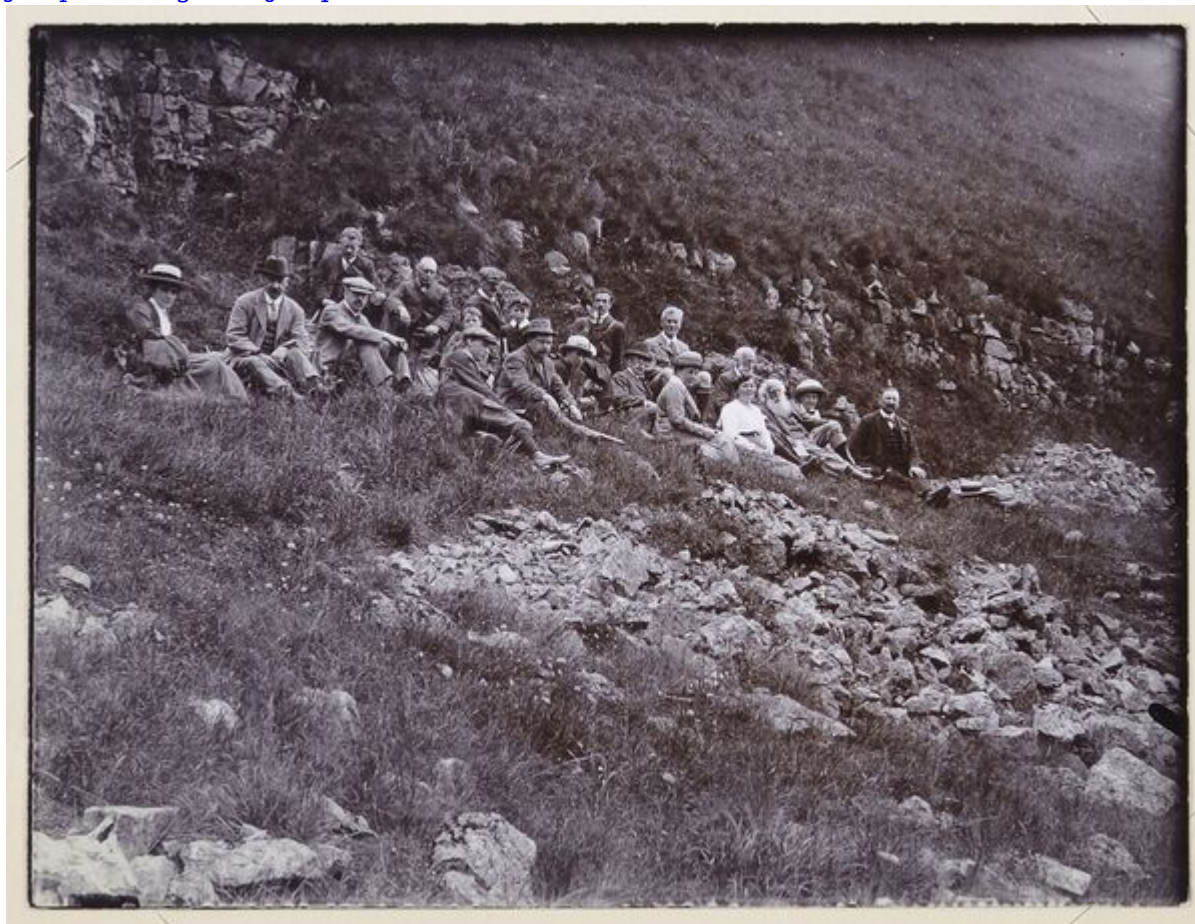


# Excursion to Derbyshire. July 27th to August 4th, 1914 - Geologists' Association excursion

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## **Excursion to Derbyshire. July 27th to August 4th, 1914 (Transcription from GA Circular No. 168. Session 1913-1914 p. 9-16)**

**DIRECTORS:** H. H. BEMROSE, J.P., Sc.D., V.P.G.S., H. C. SARGENT, F.G.S., and S. B. WINSER, ESQ.

**EXCURSION SECRETARY:** DOUGLAS LEIGHTON, 108, St. Julian's Farm Road, West Norwood, S.E.

**HOTEL ARRANGEMENTS** —Headquarters will be at New Bath Hotel, Matlock Bath. Tariff 8s. a day, including dinner, bed and attendance, breakfast, and a packet of sandwiches, and carriage of luggage between Station and Hotel. The hotel contains a mineral water swimming bath and is situated amongst fine limestone scenery.

Members should write as soon as possible to Mr. J. Nobile, New Bath Hotel, Matlock Bath, to engage rooms, stating that they belong to the Geologists' Association party. They should at the same time inform Mr. Leighton, enclosing a stamped addressed envelope.

RAILWAY ARRANGEMENTS:—Special return fare from London, 14s. 11d. Vouchers for obtaining tickets at reduced rates from any station will be issued by Mr. Leighton. Leave St. Pancras on July 27th at 2.30 p.m., reaching Matlock Bath at 6.4 p.m.

## **Tuesday, July 28th. Cromford, Via Gellia and Grange Mill (Maps, 71 N.W., 81 S.E., and 82 S.W.), —Yoredale Shales, Kinderscout Grit, Mountain Limestone with vents, and intrusive sill**

**DIRECTOR:** DR. H. H. BEMROSE.

[Section across the smaller volcanic neck and the Stratified Tuff in Carboniferous Limestone, Grange Mill. Sir A. Geikie.](#)

[Plan of necks and bedded tuff at Grange Mill, five miles west of Matlock Bath. Sir A. Geikie.](#)

Breakfast at 8.

At 9.30 drive to Cromford Station. Examine Limestone shales with nodules of limestone.

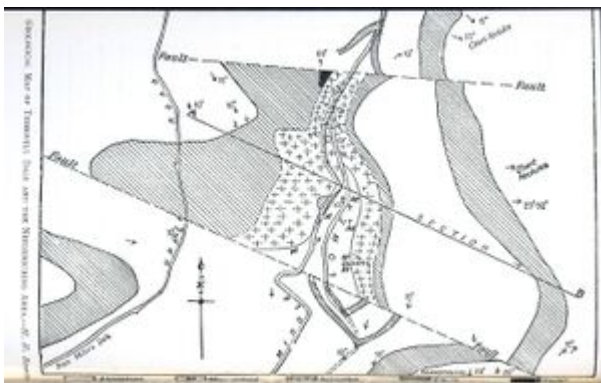
Drive to Black Rocks. Climb the hill and examine Millstone grit escarpment. A fine view of the Derwent gorge, at Matlock, is seen.

Drive via Middleton to Ryderpoint and up Griff Grange Vale, via Grange Mill, to Shothouse Spring. (Carriages return to Holly Bush Inn.) See bedded tuff below the spring. Walk back to the Holly Bush Inn, examining the two vents with dykes. Drive down via Gellia. Visit quarry in Ible Sill, and, if time permits, see deposits of sand which contained Scrablag. See Calcareous tufa quarry. Drive to Pig of Lead. See quarry in lava. Drive to Hotel. Cost of drive 2s. 6d.

Walking distance about two miles. Dinner 7 p.m.

## **Wednesday, July 29th. Millers Dale, Tideswell Dale, Litton, Cressbrook Dale, Monsal Dale (Map 81 S.E.).—lavas, Intrusive sill and contemporaneous tuff s**

**DIRECTOR:** Dr. H. H. Bemrose.



Geological map of Tideswell Dale and the neighbouring area.—H. H. Bemrose.

Breakfast at 7.30. Leave by train at 8.33, arrive Millers Dale at 9.3.

Walk down Millers Dale by the River Wye. See junction of upper surface of lower lava with the overlying limestone at Ravenstor. The clay at the junction contains selenite.

See Litton Slack fault. The fault, with a down throw to the east of about 200 ft., has brought the massive white limestones down to the level of the railway at Litton Tunnel, and has thrown the lowest beds of the cherty limestone series into juxtaposition with the lower part of the lava in the cutting west of Litton Tunnel.

Walk up Tideswell Dale and examine the intrusive sill which has baked the subjacent clay and limestone. Examine quarries in the sill and in the lava.

Walk to Litton Village, where liquid refreshments may be obtained.

See laminated volcanic tuff and a limestone quarry above it. The beds are fossiliferous.

Return to Litton; descend by Tansley Dale to Cressbrook Dale. See another portion of Litton tuff and a bed of lava. Walk down the Dale. Near Ravensdale Cottages see another bed of contemporaneous volcanic tuff faulted against the limestone to the south of it.

Near Cressbrook Mill see lava. Walk to Monsal Dale. If time permit, tea may be had at the Headstones Inn or in Monsal Dale.

Near Monsal Dale Station see deposit of boulder clay.

Leave Monsal Dale by train at 6.3, arrive Matlock Bath at 6.34.

Dinner 7.15 p.m. Walking distance about 8 miles.

## **Thursday, July 30th. Ambergate, Bullbridge, Crich, Whatstandwell**

(Geological Survey Map, New Series, Sheet 125.)

DIRECTOR: H. C. SARGENT, F.G.S.

Breakfast 8.30 a.m. Leave by 9.43 a.m. train, arriving Ambergate 9.53. Take single tickets, fare 5½d.

The exposures visited during the day will include Carboniferous Limestone, Limestone Shales, three members of the Millstone Grit series, Lower Coal Measures, and Glacial Drift.

From Ambergate Station the party will walk to Ridgeway Quarry, where a fine exposure of the topmost grit (Rough Rock) is to be seen. On the way the outcrops of the three lower grits will be crossed. A fault with E.N.E. downthrow, which brings down the Lower Coal Measures against the Rough Rock, will be noted, and an interesting section of the Coal Measures in the Ridgeway cutting will be traversed, provided permission can be obtained from the Midland Railway Company.

The Alton Coal seam (about 300 ft. above the base of the Coal Measures) will be next examined in Bulibridge Brickyard. The floor of the seam is gannister, and its roof a marine band with an abundant fossil fauna: *Gastrioceras*, *Orthoceras*, *Pterinopecten*, *Posidoniella*, *Megalichthys*, etc. This seam is correlated with the Crabtree Coal of North Staffordshire, and the Bullion Coal of Lancashire.

Passing the outcrops of four grits and the Limestone Shales in downward succession, fine exposures of the Carboniferous Limestone of the Crich inlier will be examined in Crich quarries; vein-minerals (calcite, fluorite, barytes, galena, blende, etc.) may be collected, as well as corals and brachiopods of various species (D2 of Dr. Vaughan's classification).

In the Old Quarry there is a good section of Glacial Drift containing local and foreign erratics.

The anticlinal structure of the area is well seen from the summit of Crich Hill (940 ft. O.D.).

Descending the hill on its western side, a small exposure of Limestone Shales with *Pterinopecten papyraceus* may be examined, and also the Upper Kinderscout Grit in the Duke's Quarries, near Whatstandwell.

Return from Whatstandwell 4.19 p.m., arriving Matlock Bath 4.31. Fare 3½d. Walking distance about 7 miles. Dinner 7 p.m.

## **Friday, July 31st. Visit to the Derwent Valley Water Works, Bamford, Hoyden, Derwent, by kind permission of The Board. (map 81 N.E.).— Yoredale Sandstone and Shale, Kinderscout Grit**

**DIRECTORS:** DR. H. H. BEMROSE, Deputy Chairman of the Board, and S. B. WINSER, Engineer.

Breakfast 7.30 a.m.

Leave by train at 8.33 a.m., change at Chinley, arrive 9.23; leave Chinley 10 2, arrive Bamford 10.27 a.m.; depart by train from Water Works offices 10.45, arrive Derwent Dam 11.15. Walk through Dam and up bed of Derwent Reservoir to Howden Dam, examining the faulting and crumpling of the shales and thin sandstones exposed in the river bank, Evidence of the comparatively recent date of the wrinkles will be examined. They are probably due to a creep similar to that in deep mines, caused by the relaxation of pressure brought about by the removal of rock during the excavation of the stream, while the pressure remained as before in the hills on either side. The line of least strength determined the direction of the flexure. Arrive Howden Dam 1.15 p.m. Refreshments in West Tower. Depart by train, Howden Dam, 2.0 p.m.; arrive Water Works offices 2.30. Wagonettes to Grindleford. Depart Water Works offices 2.35; arrive Maynard Arms Hotel 3.30. Tea at Maynard Arms. Depart Maynard Arms 4.20; arrive Grindleford Station 4.30.

The 4.38 train, Sheffield to Manchester, will be stopped at Grindleford to pick up the party. The party should be ready on the platform at 4.40. Change at Chinley, arrive 5.16, depart 5.33. Arrive Matlock Bath 6.34. Cost of drive 2s.

Dinner 7.30 p.m..

## **Saturday, August 1st. Darley Dale, Winster, Robin Hood's Stride, Alport, Rowsley (Maps 81 S.E., 82 S.W.).—Mountain Limestone, Shales, Millstone Grits**

**DIRECTOR:** DR. H. H. BEMROSE.

Breakfast 8.30 a.m.

At 9.30 a.m. drive to Matlock through the limestone gorge to Darley Dale.

Visit quarry. See junction of limestone with overlying shales. An anticlinal dome of limestone has been dissected by quarrying operations. " If stripped of the shale above, the dome would have a knoll-like aspect. On the north and east sides these shales, nearly horizontal, overstepped the denuded edge of the cherty limestone • (there normally about 50 ft. thick) on to the white limestone below " (C. B. Wedd).

Drive to Winster over limestone beds which dip at an angle of 25 deg. north under the shales. Climb Wyns Tor of dolomitized limestone and see chert beds.

Drive above a mile farther and walk to Robin Hood's Stride and Cratcliff rocks on an outlier of millstone grit.

Drive to Stanton Mill. Visit quarry. "The black shales of the Pendleside series, containing *Posidoniella lavis* are here seen to rest with unconformity on the limestones of the *lonsdalia* sub-zone. The shales, which show no signs of disturbance, rest evenly upon a surface formed by the truncated edges of the limestone beds (T. F. Sibly).

At Alport see calcareous tufa.

Drive back to Matlock Bath, via Rowsley. Dinner 7 p.m. Cost of drive 3s.

## **Sunday, August 2nd.**

Arrangements will be made for a party to drive to some of the sandpits in the mountain limestone in the neighbourhood of Newhaven. Cost of drive about 4s.

**DIRECTORS:** DR. H. H. BEMROSE AND H. C. SARGENT, F.G.S.

## **Monday, August 3rd. Neighbourhood of Matlock, faults, vent, sill, and tuff**

[\(Sketch map of Matlock by C. B. Wedd.\)](#) Reproduced from the Summary of Progress of the "Geological Survey for 1902., by permission of the Controller of His Majesty's Stationery Office.

**DIRECTOR:** DR. H. H. BEMROSE.

Breakfast 8.30.

At 9.30 walk to Cromford, see Faults and Horst, Ember Lane Vent. Quarry in Bonsall intrusive sill.

At Tearsall Farm see bedded tuff above lower lava.

Cross lower and upper lava flows by Salters Lane to Matlock Bridge. Return to Matlock Bath by the High Tor. If time permits see Fern and Roman Caves. Dinner at 7 p.m.

## **Tuesday, August 4th. Millers Dale, Calton Hill, Chee Dale.—Upper and Lower Lava Flow, volcanic vent with agglomerate and basalt. (map 81 S E.)**

**DIRECTOR:** Dr. H. H. Bemrose.

Breakfast 7.30 a.m.

Leave by train at 8.33 am., arrive Millers Dale 9.2.

Walk to base of upper lava preceded by tuff at bottom of Knott Low. See same lava flow on opposite side of valley, where it is being quarried.

Walk up Sandy Dale (lower lava) to Calton Hill vent, with agglomerate and basalt containing Olivine nodules.

Proceed down to Blackwell Mill and along Chee Dale to Millers Dale by the River Wye.

Leave Millers Dale at 4.25; arrive Matlock Bath 4 55; arrive Derby 5.25. Depart Derby 5.35 or 6.3; arrive St. Pancras 8.15 or 9.10.

Arrangements will be made for luggage to be conveyed to the station for those leaving Matlock Bath by the 4.55 train.

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## Figures and maps

[Section across the smaller volcanic neck and the Stratified Tuff in Carboniferous Limestone, Grange Mill.—Sir A. Geikie.](#) In: Excursion to Derbyshire. July 27th to August 4th, 1914. Geologists' Association Circular No. 168. Session 1913-1914 p. 10

[Plan of necks and bedded tuff at Grange Mill, five miles west of Matlock Bath.—Sir A. Geikie.](#) Reprinted, by permission, from "The Ancient Volcanoes of Great Britain." II In: Excursion to Derbyshire. July 27th to August 4th, 1914. Geologists' Association Circular No. 168. Session 1913-1914 p. 10

[Geological map of Tideswell Dale and the neighbouring area.—H. H. Bemrose.](#) In: Excursion to Derbyshire. July 27th to August 4th, 1914. Geologists' Association Circular No. 168. Session 1913-1914 p. 12

[Geological map By C.B. Wedd. Reproduced from the Summary of Progress of the "Geological Survey for 1902., by permission of the Controller of His Majesty's Stationery Office.](#) In: Excursion to Derbyshire. July 27th to August 4th, 1914. Geologists' Association Circular No. 168. Session 1913-1914 p. 15

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