
Figures, plates and tables

Figures

(Figure 1) (1:50) Granite-gneiss intrusion above and cutting the early banding of an older gneiss. The foliation in the granite-gneiss is parallel to the second foliation in the older gneiss. At the south-west end of the section this second foliation coincides in direction with the early banding. A third of a mile W.S.W. of the head of Loch an Tigh Sheilg.

(Figure 2) (1/100) Granite-gneiss dyke cutting banded gneiss and pegmatite (cross-hatched). One branch of the pegmatite has been introduced along a limb of a fold. The pegmatite shows no appreciable foliation, but in the granite-gneiss dyke there is a foliation about parallel to the sides. About 1000 yards S.S. W. of the head of Loch a' Gharbh Bhaid Mhòir.

(Figure 3) (1/24) Folded banded gneiss showing thinning of the long limb and second foliation parallel to the axial planes of fold. South side of Loch na h-Adh, three miles west of Loch Stack.

(Figure 4) (1/240) Dyke of granite-gneiss with pegmatite rods cutting folded gneiss and coarse pegmatite (cross hatched). About a mile slightly south of east of Loch Stack Lodge. The dyke is foliated parallel to its side. The pegmatite shows no appreciable foliation.

(Figure 5) (1/10) Nearly horizontal pegmatite cutting nearly vertical banded gneiss. South side of Loch Eileanach. The pegmatite is banded parallel to its sides, but is crossed by a foliation parallel to the (modified) gneiss banding.

(Figure 6) (1/10) Gneiss with a band that has been sharply contorted, probably in consequence of the rocks on one side having been moved past those on the other. Rather more than a third of a mile N.N.E. of the outlet of Gorm Loch.

(Figure 7) Intersection of the older epidiorite dykes by the later picrite intrusions on Sron a Bhuic, two miles south of the foot of Loch Assynt.

(Figure 8) Relation of newer to older planes of foliation in pyroxenic and hornblendic gneiss. Rudha Leumair, 3¼ miles north-west of Lochinver.

(Figure 9) (1:50) Ground plan of foliated basic dyke and acid gneiss, about 200 yards southeast of south end of Loch nam Buainichean. The marginal portion of the dyke is foliated parallel to the side. This portion, the foliation in it, and some quartz veins are folded and occasionally crossed by a strain-slip foliation parallel to the axial planes of fold. The interior of the dyke is foliated parallel to the same axial planes. A thin strip of gneiss next the dyke is foliated parallel to the dyke side, and follows the same folds. The prominent foliation in the rest of the dyke is parallel to the axial planes of these folds. Near the south-east side of the exposure there are indications of an early banding in the gneiss.

(Figure 10) Generalised section proceeding from the coast 600 yards south of Regoilachy, Loch Maree, in an E.N.E. direction to the slopes of Slioch. A. Gneiss of the Fundamental Complex with dykes. BG. Hornblende Schist. Ag. Mica Schist. Am. Pre-Torridon Mylonised Rocks. Agⁱ. Graphite Schist. Bb. Torridon Sandstone. Aλ. Limestone.

(Figure 11) Section from Loch Fada across Slioch to Gleann Bianasdail. A. Lewisian Gneiss. B. Torridonian Sandstone. Ca. Basal quartzite. Cb. Pipe-rock. Cc. Fucoid beds. Cd. Serpulite grit. C.e. Dolomite. T. Kinlochewe thrust-plane. f. fault.

(Figure 12) Section across Srath Lungard, showing the Torridonian Series lying upon an eroded platform of Lewisian Gneiss, A. Lewisian Gneiss. Ba. Diabaig Group. Bb. Applecross Group.

(Figure 13) Portion of vertical face of Torridon Sandstone (Applecross Group) with laminas in curves. Coast about a mile and a half east of the Red Point, five miles south of Loch Gairloch.

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(Figure 30) Section from the North-East Side of Beinn Uidhe to Loch an Urchoil. A. Lewisian Gneiss. Ca. Basal Quartzite (Cambrian). Cb. Pipe-rock. Cc. Furoid-beds. Cd. Serpulite-grit. Ce I. Ghrudaidh group. M. Eastern Schists. F. Intrusive Igneous Rocks. T. Thrusts. T'. Moine-thrust. t. Minor thrusts.

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(Figure 41) Section across upper limit of Allatyrne Burn, two miles north of Ullapool. B. Torridon Sandstone. Ca. Basal Quartzite (Cambrian). Cb. Pipe-rock. Cc. Furoid-beds. Cd. Serpulite-grit. Ce. Limestone. M. Eastern Schists. T. Ben More thrust. T'. Moine thrust. f. Faults.

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(Figure 44) Section from Loch Broom, 350 yards north from Corry Point, eastward to beyond High Road. A. Lewisian Gneiss. Bb. Applecross group (Torridonian). Ca. Basal Quartzite (Cambrian). Cb. Pipe-rock. Cc. Furoid-beds. Cd. Serpulite-grit. Ce. Limestone. M. Eastern Schists. T. Thrusts. T'. Moine thrust.

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(Figure 62) Section from Loch Eishort over the north side of Sgiath-bheinn an Uird. Ba⁴. Kinloch Beds (Torridonian). Bb. Applecross group. Ca. Basal Quartzite (Cambrian). Cb. Pipe-rock. Cc. Furoid-beds. Cd. Serpulite-grit. Ce I. Ghrudaigh group. Ce II. Eilean Dubh group. Ce III. Sailmohr group. D. Tertiary Dykes. T. Thrusts. t. Minor thrusts. f. Faults.

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(Front cover) [Supplied for GeoGuide] Stac Pollaidh (Stac Polly)

(Title page) The geological structure of the North-West Highlands of Scotland.

Plates

Description of plates

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(Plate 34) Overfolding of Cambrian quartzites above Ben More thrust-plane; Na Tuadhan, north of Ben More, Assynt, Sutherlandshire.

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(Plate 40) 1. [\(S5013\)](#) [NG 63 61] Hornblende-rock, from a basic lenticle in gneiss; × 35. N.N.W. of Rona. Iron-ores in a matrix composed of irregular grains of green hornblende. See page 48. 2. [\(S3398\)](#) [NC 114 328]. — Hornblende-rock; × 35. At bend of road, north side of Loch Dhrombaig, about one mile east-south-east of Oldany. Confused aggregate of a nearly colourless and usually fibrous hornblende, with some iron-ores. The rock is probably a modified pyroxenite. See page 47.

(Plate 41) 1. [\(S3419\)](#) [NC 259 461]. — Hornblende-anthophyllite-rock; × 35. Glac a' Albin Ath, about a mile and a half E.S.E. of Laxford Bridge. Colourless anthophyllite and green hornblende. A cross-section of anthophyllite lies a little to the north-east of the centre of the figure and on the south-east side of a longitudinal section of the same mineral. See page 49. 2. [\(S4651\)](#) [NC 177 416]. — Calc-anthophyllite-rock; × 35. South of Allt Mòr, Geisgeil. Anthophyllite, calcite, and iron-ores. The anthophyllite occurs as long, cross-jointed prisms in a matrix of crystalline, granular calcite. See page 49.

(Plate 42) 1. [\(S3036\)](#) [NC 441 657]. — Hornblende-gneiss (basic); × 22. Shore-cliff near Ceannabeinne, Durness. The two principal constituents are green hornblende and plagioclase (oligoclase-andesine). Quartz and iron-ores are also present. See page 59. 2. [\(S2390\)](#) [NC 459 594]. — Hornblende-gneiss, north face of Ben Arnaboll, Eireboll; × 35. Granular aggregate of sphene with iron-ores in the centre. Hornblende, feldspar, and quartz are also present. See page 61.

(Plate 43) 1. [\(S3409\)](#) [NC 064 294]. — Epidote-amphibolite; × 35. Cnoc an Sgrìodach, south of Loch nan Lub, near Stoer. Hornblende, epidote, and feldspar (andesine). The andesine and epidote form a saussuritic aggregate. See page 57. 2. [\(S2415\)](#) [NC 444 565]. — Zoisite amphibolite; × 35. Lochan nam Breac Buidhe, Eireboll. Long, slender prisms of zoisite in a matrix of feldspar. A pale-green hornblende is also present. See page 58.

(Plate 44) 1. [\(S4461\)](#) [NC 096 233]. — Hornblende-biotite-gneiss (modified pyroxene-gneiss); × 35. About 200 yards north-west of the bridge at Lochinver. Green hornblende, reddish-brown biotite, plagioclase, quartz and iron-ores. The contrast between the biotite and hornblende is very marked in the section in consequence of the difference in colour; but this is of course lost in the photograph. The mode of occurrence of the biotite may, however, be easily recognised with a lens. See page 61. 2. [\(S4461\)](#) [NC 096 233]. — Portion of the same slide more highly magnified; × 60. Hornblende, feldspar, quartz and iron-ores. This photograph shows the peculiar character of the hornblende in this important group of rocks. The central portions of the aggregates, which probably represent original crystals of pyroxene, contain small and

usually rounded grains of quartz; the marginal portions are composed of larger individuals which are not separated by quartz and which project into the surrounding felspar (andesine or labradorite). See page 61.

(Plate 45) 1. [\(S3739\)](#) [NC 108 238]. — Granulitic hornblende-gneiss. Loch an Eoin, 2½ miles east of Lochinver; × 35. Ragged prisms of actinolite in a granulitic matrix of felspar, quartz, epidote and biotite. Crystals of pyrite. Inclusions of quartz and epidote occur in the actinolite. See page 63. 2. [\(S4454\)](#) [NC 047 268]. — Granulitic hornblende-gneiss; × 35. Roadside, west of Loch-na-h' Irinne, Clachtoll. Hornblende, felspar, quartz and pyrite. The hornblende in this rock is in the form of grains. The felspar and quartz cannot be distinguished. Both are water-clear and have approximately the same refractive index. They occur in grains of the same size and shape. See page 63.

(Plate 46) 1. [\(S4454\)](#) [NC 047 268]. — Roadside west from Loch-na-h' Irinne, Clachtoll, 4 miles north-west from Lochinver. Quartz-felspar mosaic in granulitic hornblende gneiss; crossed nicols; × 35. A portion of the same specimen as that represented in (Plate 45), fig. 2. This figure illustrates the fact that it is impossible to separate quartz from felspar under polarised light. See page 63. 2. [\(S4454\)](#) [NC 047 268]. — Same locality. Quartz-felspar mosaic. Another portion of the same specimen after treatment with hydrofluoric acid; × 35. Quartz, felspar, and hornblende. The uncovered section has been treated with hydrofluoric acid and stained with fuchsin; but the greater part of the stain has been removed in order to render the felspar transparent. The quartz and felspar are not uniformly distributed. The quartz occurs in streaks and lenticles. This mode of distribution of the quartz and felspar is a necessary consequence of the fact that the granulitic hornblende-gneisses have been formed by the deformation of coarser-grained rocks. See page 65.

(Plate 47) 1. [\(S8627\)](#) [NC 265 241]. — Diabase. Hill-slope above lowest Chalda Loch, about 11 mile north-east of Inchnadamff; × 15. Lath-shaped labradorite, augite and iron-ore. Green hornblende occurs as an accessory; a small patch may be recognised about halfway between the centre and margin in a N.N.W. direction. See page 91. 2. [\(S2745\)](#) [NC 215 159]. — Hornblende-enstatite-diorite. Quarter of a mile northwest of Loch Chroisg, Assynt; × 35. Lath-shaped labradorite, augite, enstatite and hornblende. The central portions of the crystals of labradorite are turbid in consequence of the presence of minute inclusions. A large ophitic plate of enstatite, also containing inclusions, Occurs on the northeast margin, and a similar plate is seen near the centre on the south-east side. Ophitic green hornblende is represented to the west and south-west of the centre. The dark patch on the west is also hornblende. The two sections of enstatite in the right half of the figure are separated by a large patch of augite. See page 92.

(Plate 48) 1. [\(S2319\)](#) [NC 20 25]. — Olivine-norite. North side of Loch Assynt, 4 miles west of Inchnadamff. Olivine, enstatite, labradorite and iron-ores. Olivine is represented on the left margin and at the top. It contains minute inclusions and anastomosing veins of magnetite. Enstatite is colourless and idiomorphic. The labradorite is interstitial. See page 92. 2. [\(S2747\)](#) [NC 215 159]. — Epidote amphibolite (foliated). Quarter of a mile northwest of Loch Chroisg, Assynt; × 35. Hornblende, felspar, epidote, sphene and iron-ores. The epidote and felspar form a saussuritic aggregate. The sphene forms granular, colourless aggregates surrounding the iron-ore. See page 94.

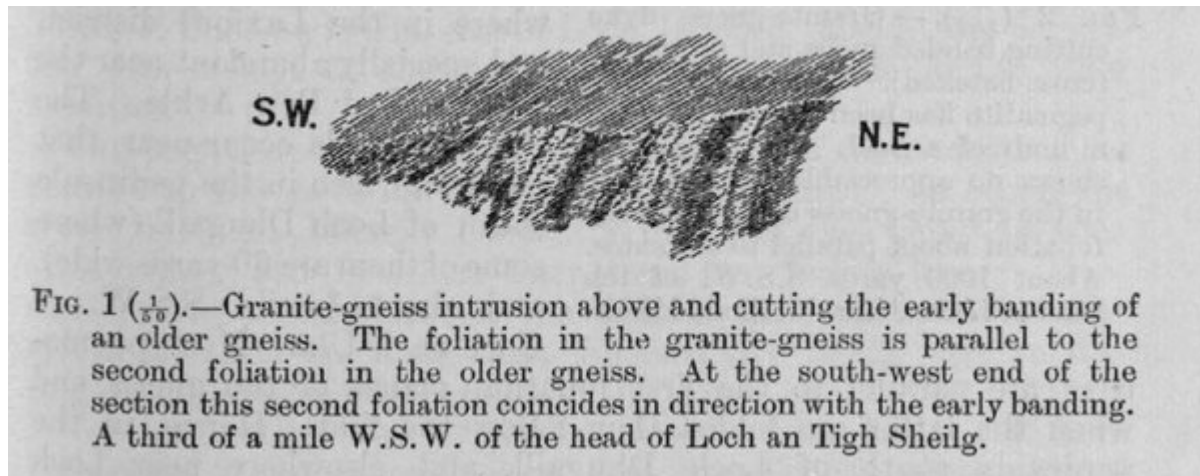
(Plate 49) 1. [\(S4434\)](#) [NG 856 766]. — Hornblende-schist. Five-eighths of a-mile north of Meall an Spardain, about 3¼ miles south of Poolewe; × 15. The section is at right angles to the direction of linear foliation. Hornblende, felspar and quartz. The sections of hornblende are almost all approximately at right angles to the vertical axis, and there is no tendency to elongation in any special direction either in the hornblende or felspar. See page 97. 2. [\(S4434\)](#) [NG 856 766]. — Section from the same specimen parallel to the linear foliation; × 15. The sections of hornblende are almost all approximately parallel to the vertical axis, and the individuals are elongated in this direction. See page 97.

(Plate 50) 1. [\(S3894\)](#) [NC 09 04]. — Chert pebble from Torridon Sandstone. Ben More, Coigach, Ross-shire. For description see page 280. 2. [\(S6352\)](#) [NC 257 740]. — Jasper pebble from the Torridon Sandstone. Cape Wrath. For description see page 280.

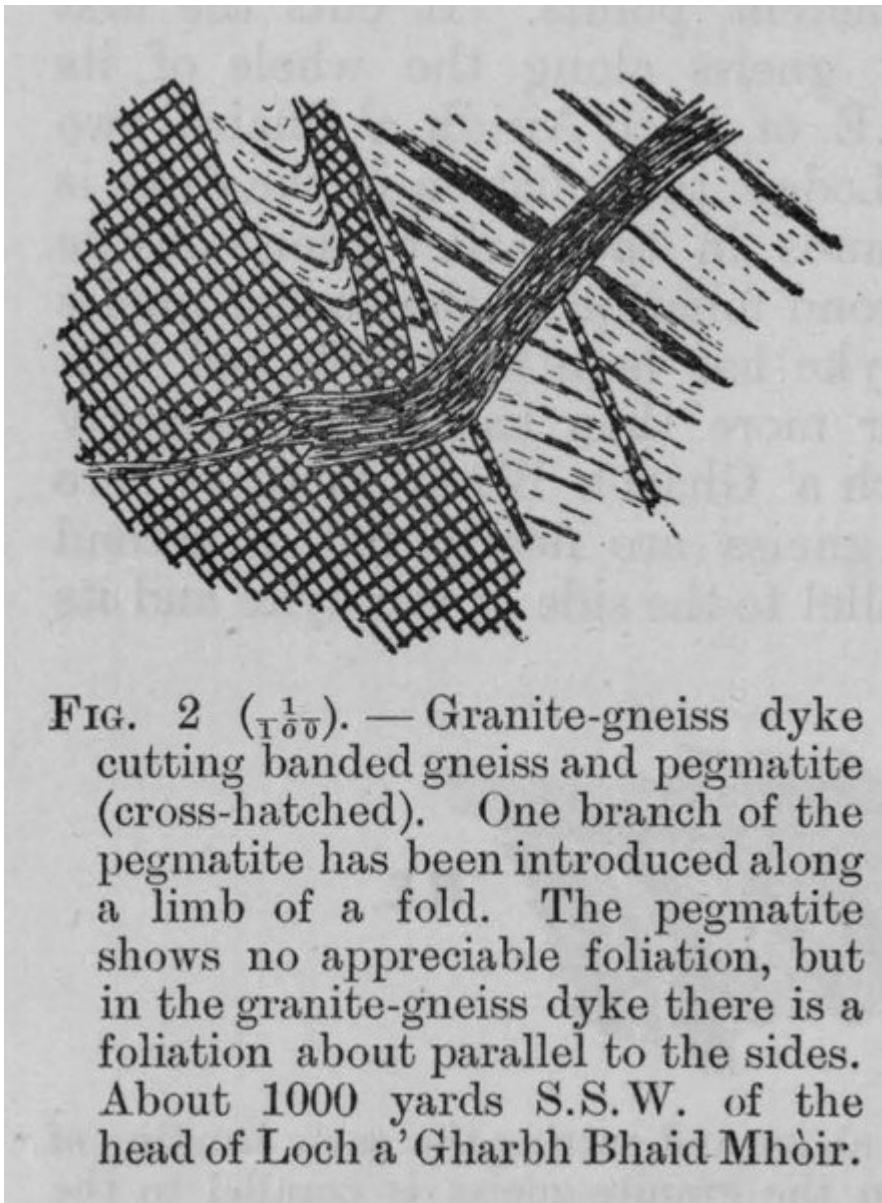
(Plate 51) 1. [\(S6189\)](#) [NG 72 48]. — Spherulitic Felsite. Pebble from the Torridon Sandstone, Applecross. For description see page 281. 2. — Spherulitic Felsite; another portion of the same slide.

(Plate 52) The figures 1, 1a, 1b, 1c represent traces of supposed organisms in phosphatic nodules from the Upper Torridon shales of Cailleach Head, Loch Broom; magnified about 60 diameters. See page 288. 1. Irregular mass showing

cellular structure. 1a. Group of four cells. 1b. Black sphere with perforations. 1c. Brown fibre. 2. *Olenellus lapworthi*, Peach. Enlarged 2 diameters. 3. *Olenellus lapworthi*, var. *elongatus*, Peach. 79 4. *Olenellus reticulatus*, Peach. Natural size. 4A. *Olenellus reticulatus*, Peach. Natural size. 4B. *Olenellus reticulatus*, Peach. Test enlarged to show nature of ornamentation. 5. *Olenelloides armatus*, Peach. Enlarged 4 diameters. Figs. 2–5 from "Furoid beds," Cambrian, Meall Ghiubhais, Kinlochewe, Ross-shire. Copied by permission of the Geological Society from Quart. Jour. Geol. Soc., Vol. L., 1894. Pls. XXIX., XXX., XXXI., and XXXII., pp. 674, 675.



(Figure 1) (1:50) Granite-gneiss intrusion above and cutting the early banding of an older gneiss. The foliation in the granite-gneiss is parallel to the second foliation in the older gneiss. At the south-west end of the section this second foliation coincides in direction with the early banding. A third of a mile W.S.W. of the head of Loch an Tigh Sheilg.



(Figure 2) ($\frac{1}{100}$) Granite-gneiss dyke cutting banded gneiss and pegmatite (cross-hatched). One branch of the pegmatite has been introduced along a limb of a fold. The pegmatite shows no appreciable foliation, but in the granite-gneiss dyke there is a foliation about parallel to the sides. About 1000 yards S.S. W. of the head of Loch a' Gharbh Bhaid Mhòir.



(Figure 3) ($\frac{1}{24}$) Folded banded gneiss showing thinning of the long limb and second foliation parallel to the axial planes of fold. South side of Loch na h-Adh, three miles west of Loch Stack.

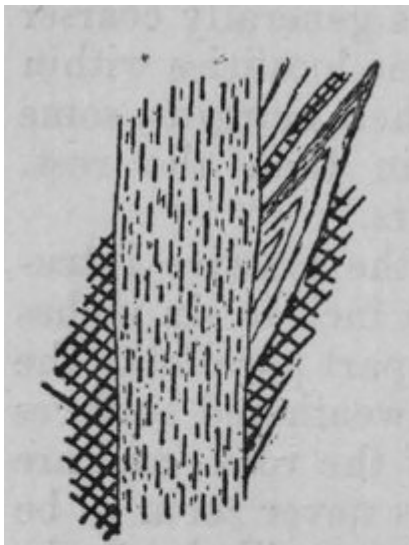


FIG. 4 ($\frac{1}{240}$).—Dyke of granite-gneiss with pegmatite rods cutting folded gneiss and coarse pegmatite (cross hatched). About a mile slightly south of east of Loch Stack Lodge. The dyke is foliated parallel to its side. The pegmatite shows no appreciable foliation.

(Figure 4) ($\frac{1}{240}$) Dyke of granite-gneiss with pegmatite rods cutting folded gneiss and coarse pegmatite (cross hatched). About a mile slightly south of east of Loch Stack Lodge. The dyke is foliated parallel to its side. The pegmatite shows no appreciable foliation.



FIG. 5 ($\frac{1}{10}$). — Nearly horizontal pegmatite cutting nearly vertical banded gneiss. South side of Loch Eileanach. The pegmatite is banded parallel to its sides, but is crossed by a foliation parallel to the (modified) gneiss banding.

(Figure 5) ($\frac{1}{10}$) Nearly horizontal pegmatite cutting nearly vertical banded gneiss. South side of Loch Eileanach. The pegmatite is banded parallel to its sides, but is crossed by a foliation parallel to the (modified) gneiss banding.

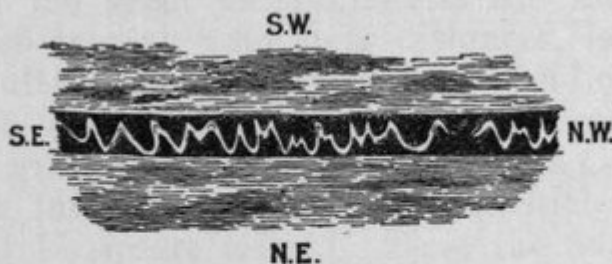


FIG. 6 ($\frac{1}{10}$). — Gneiss with a band that has been sharply contorted, probably in consequence of the rocks on one side having been moved past those on the other. Rather more than a third of a mile N.N.E. of the outlet of Gorm Loch.

(Figure 6) ($\frac{1}{10}$) Gneiss with a band that has been sharply contorted, probably in consequence of the rocks on one side having been moved past those on the other. Rather more than a third of a mile N.N.E. of the outlet of Gorm Loch.

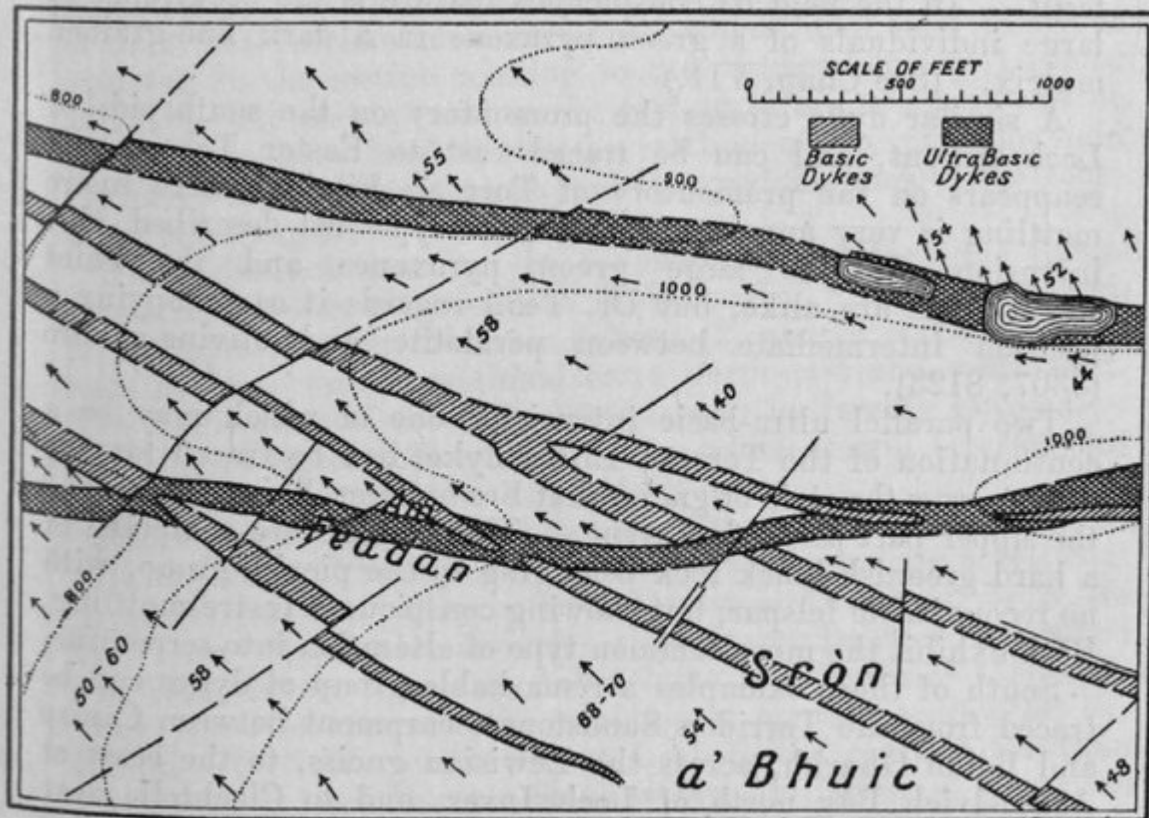


FIG. 7.—Intersection of the older epidiorite dykes by the later picrite intrusions on Sron a Bhuic, two miles south of the foot of Loch Assynt.

(Figure 7) Intersection of the older epidiorite dykes by the later picrite intrusions on Sron a Bhuic, two miles south of the foot of Loch Assynt.

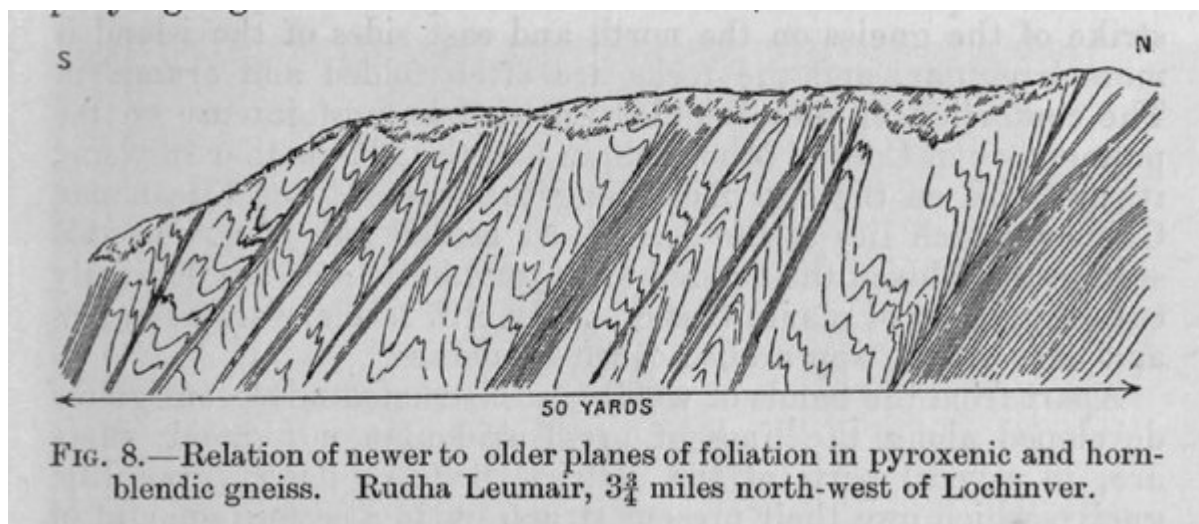


FIG. 8.—Relation of newer to older planes of foliation in pyroxenic and hornblende gneiss. Rudha Leumair, $3\frac{3}{4}$ miles north-west of Lochinver.

(Figure 8) Relation of newer to older planes of foliation in pyroxenic and hornblende gneiss. Rudha Leumair, $3\frac{3}{4}$ miles north-west of Lochinver.

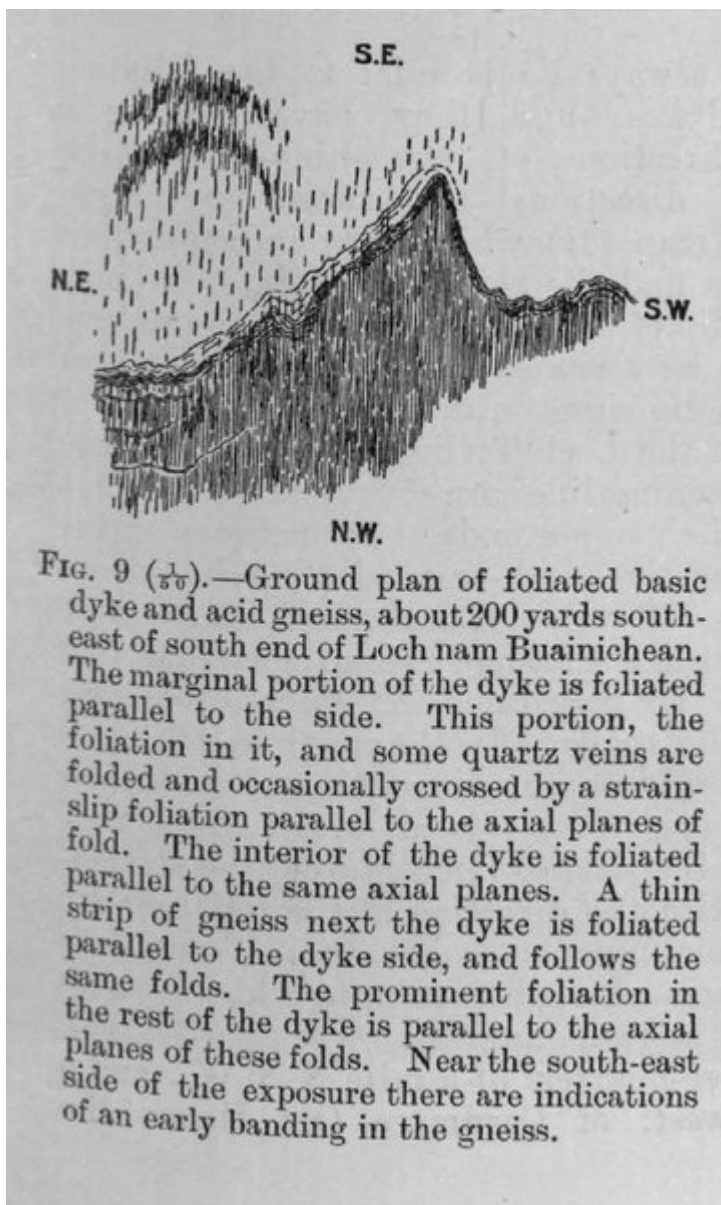
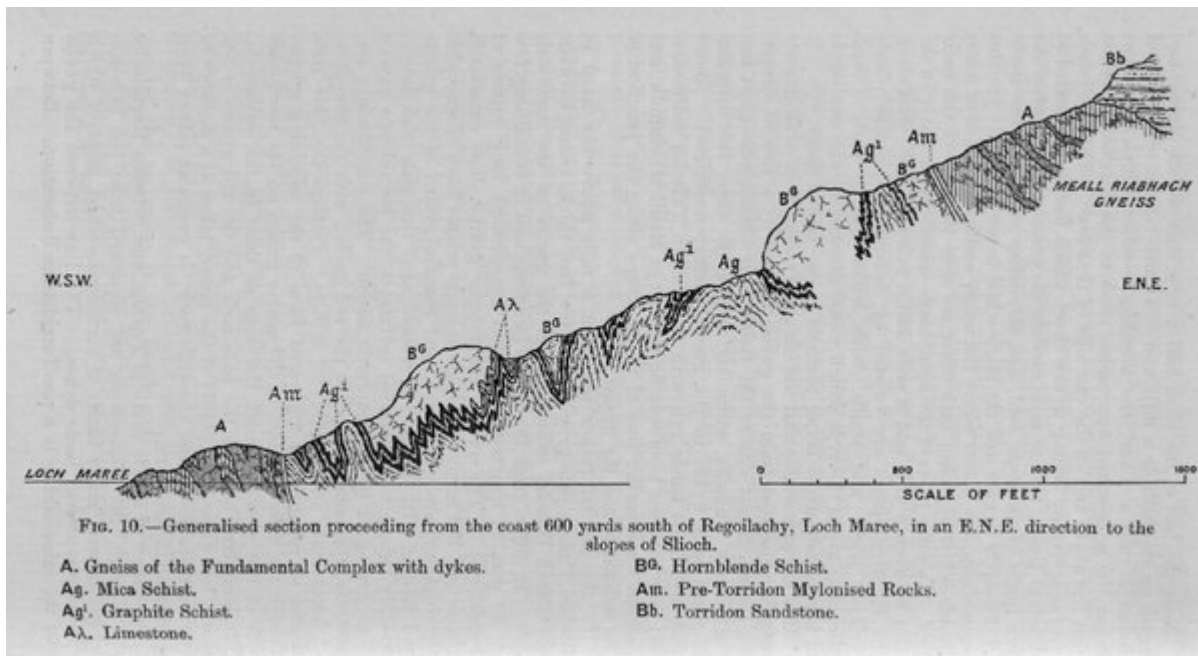
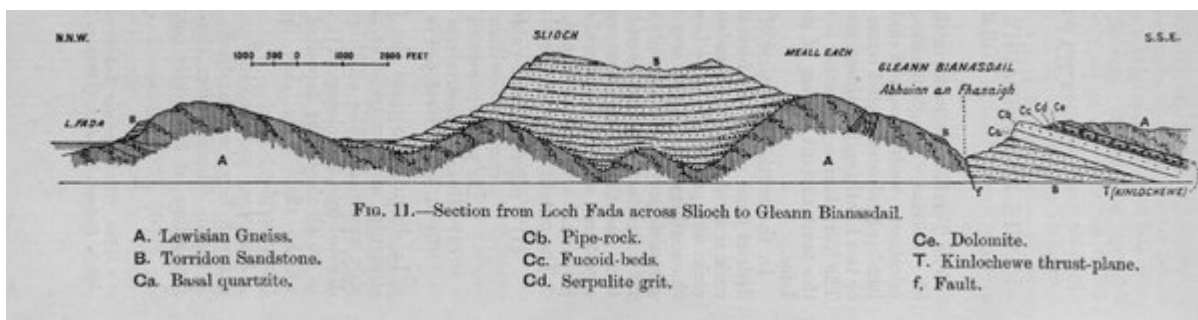


FIG. 9 ($\frac{1}{50}$).—Ground plan of foliated basic dyke and acid gneiss, about 200 yards south-east of south end of Loch nam Buainichean. The marginal portion of the dyke is foliated parallel to the side. This portion, the foliation in it, and some quartz veins are folded and occasionally crossed by a strain-slip foliation parallel to the axial planes of fold. The interior of the dyke is foliated parallel to the same axial planes. A thin strip of gneiss next the dyke is foliated parallel to the dyke side, and follows the same folds. The prominent foliation in the rest of the dyke is parallel to the axial planes of these folds. Near the south-east side of the exposure there are indications of an early banding in the gneiss.

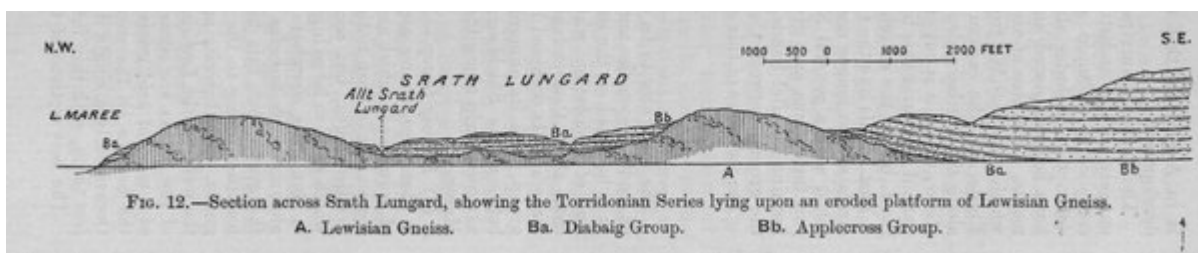
(Figure 9) (1:50) Ground plan of foliated basic dyke and acid gneiss, about 200 yards southeast of south end of Loch nam Buainichean. The marginal portion of the dyke is foliated parallel to the side. This portion, the foliation in it, and some quartz veins are folded and occasionally crossed by a strain-slip foliation parallel to the axial planes of fold. The interior of the dyke is foliated parallel to the same axial planes. A thin strip of gneiss next the dyke is foliated Parallel to the dyke side, and follows the same folds. The prominent foliation in the rest of the dyke is parallel to the axial planes of these folds. Near the south-east side of the exposure there are indications of an early banding in the gneiss.



(Figure 10) Generalised section proceeding from the coast 600 yards south of Regoilachy, Loch Maree, in an E.N.E. direction to the slopes of Slioch. A. Gneiss of the Fundamental Complex with dykes. BG. Hornblende Schist. Ag. Mica Schist. Am. Pre-Torridon Mylonised Rocks. Ag'. Graphite Schist. Bb. Torridon Sandstone. Aλ. Limestone.



(Figure 11) Section from Loch Fada across Slioch to Gleann Bianasdail. A. Lewisian Gneiss. B. Torridonian Sandstone. Ca. Basal quartzite. Cb. Pipe-rock. Cc Fucoid beds. Cd Serpulite grit. C.e. Dolomite. T. Kinlochewe thrust-plane. f. fault.



(Figure 12) Section across Srath Lungard, showing the Torridonian Series lying upon an eroded platform of Lewisian Gneiss, A. Lewisian Gneiss. Ba. Diabaig Group. Bb. Applecross Group.

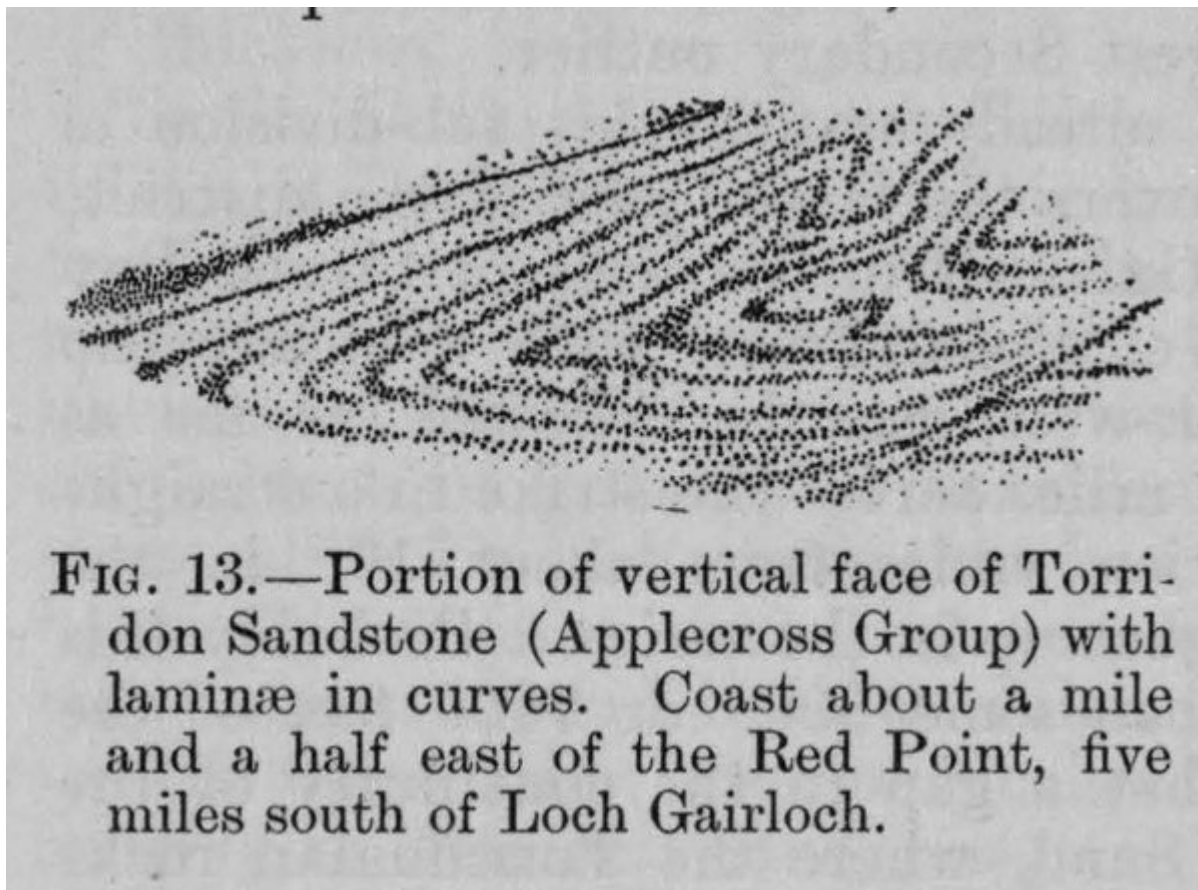
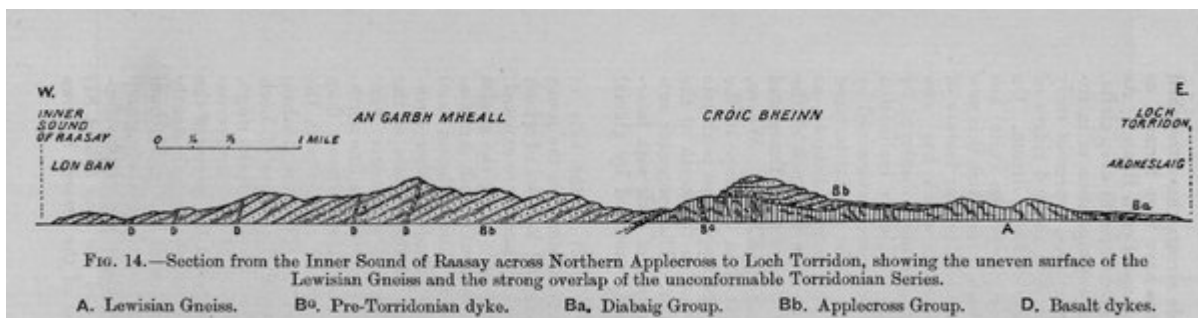
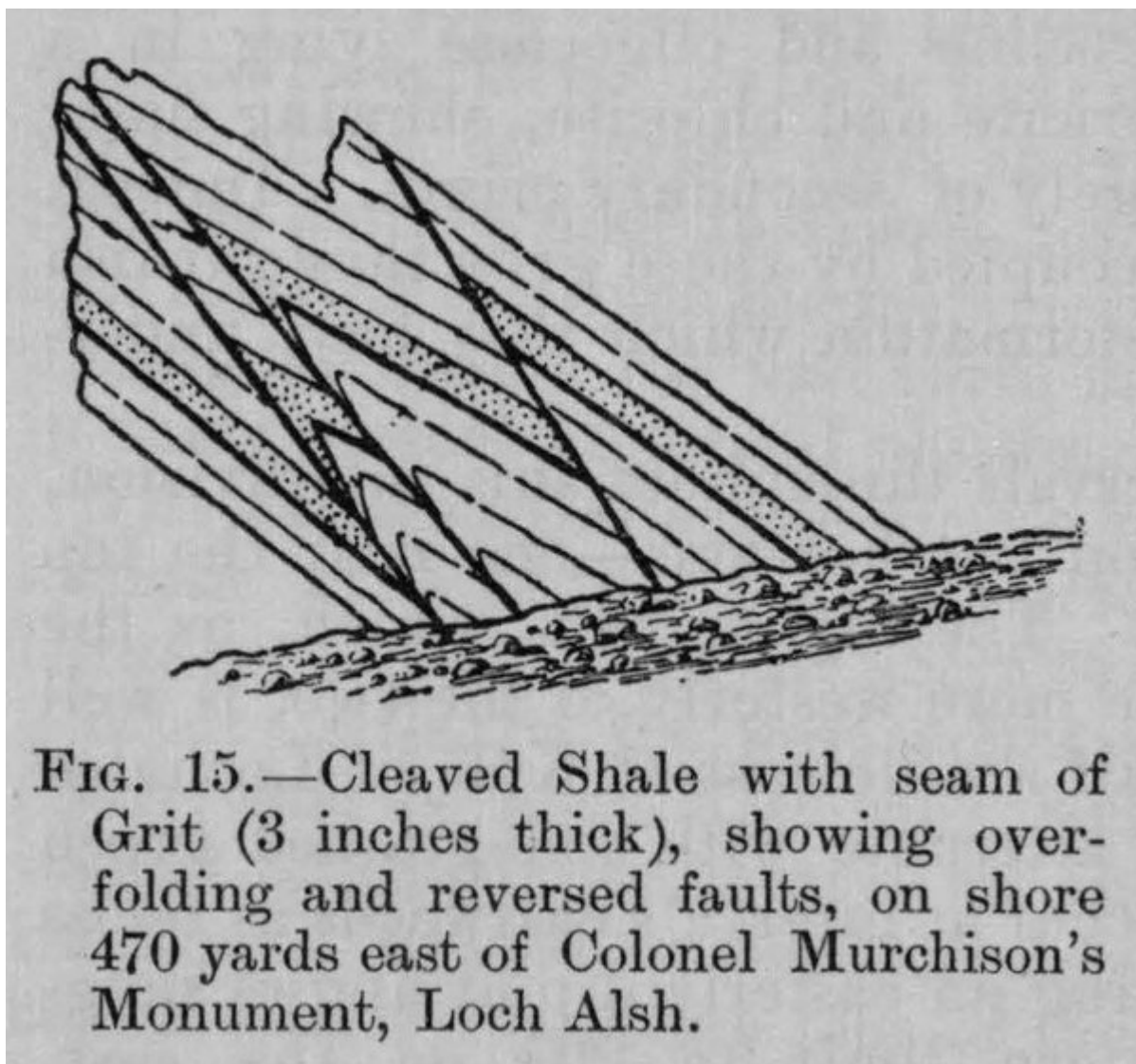


FIG. 13.—Portion of vertical face of Torridon Sandstone (Applecross Group) with laminæ in curves. Coast about a mile and a half east of the Red Point, five miles south of Loch Gairloch.

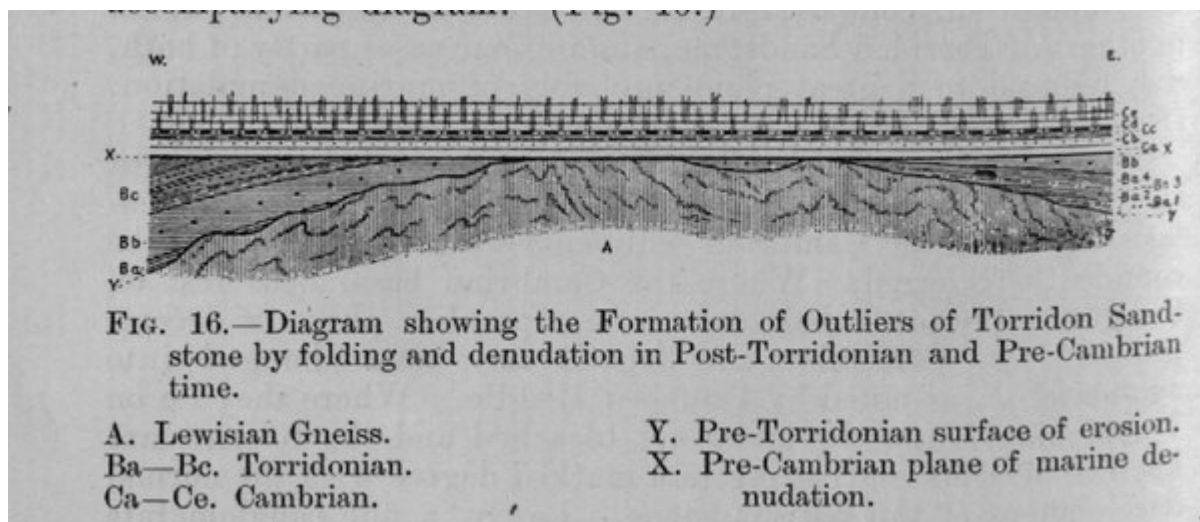
(Figure 13) Portion of vertical face of Torridon Sandstone (Applecross Group) with laminas in curves. Coast about a mile and a half east of the Red Point, five miles south of Loch Gairloch.



(Figure 14) Section from the Inner Sound of Raasay across Northern Applecross to Loch Torridon, showing the uneven surface of the Lewisian Gneiss and the strong overlap of the unconformable Torridonian Series. A. Lewisian Gneiss. B^G. Pre-Torridonian dyke. Ba. Diabaig Group. Bb. Applecross Group. D. Basalt dykes.



(Figure 15) Cleaved Shale with seam of Grit (3 inches thick), showing over-folding and reversed faults, on shore 470 yards east of Colonel Murchison's Monument, Loch Alsh.



(Figure 16) Diagram showing the Formation of Outliers of Torridon Sandstone by folding and denudation in Post-Torridonian and Pre-Cambrian time. A. Lewisian Gneiss. Ba—Bc. Torridonian. Ca—Ce. Cambrian. Y. Pre-Torridonian surface of erosion. x. Pre-Cambrian plane of marine denudation.

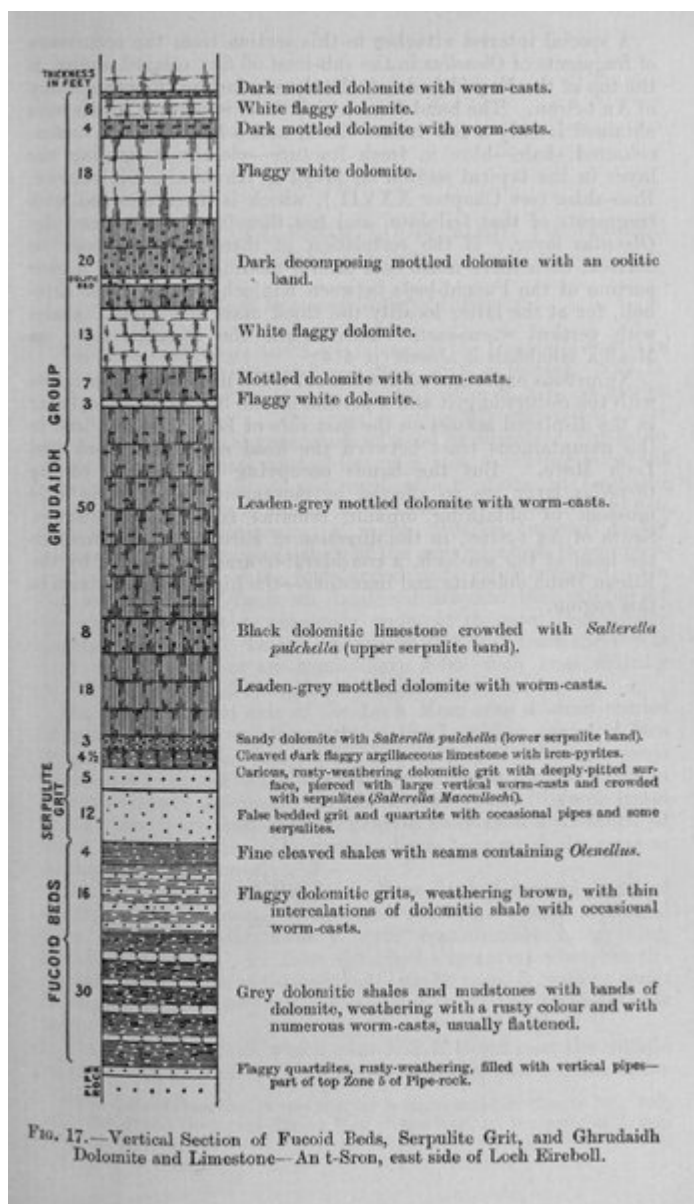
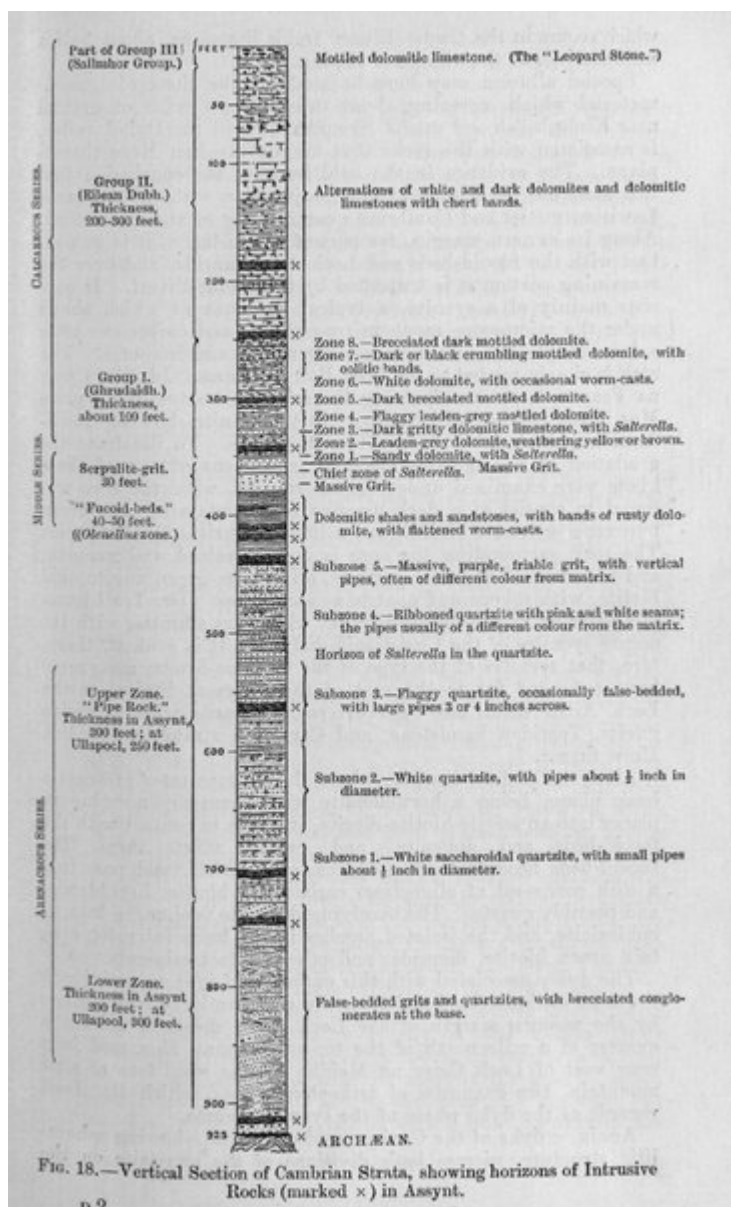
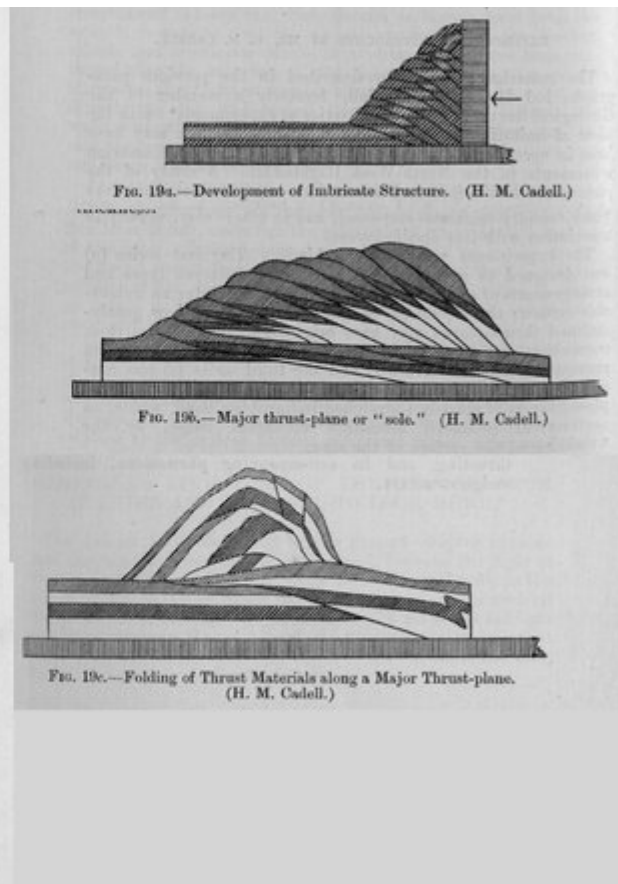
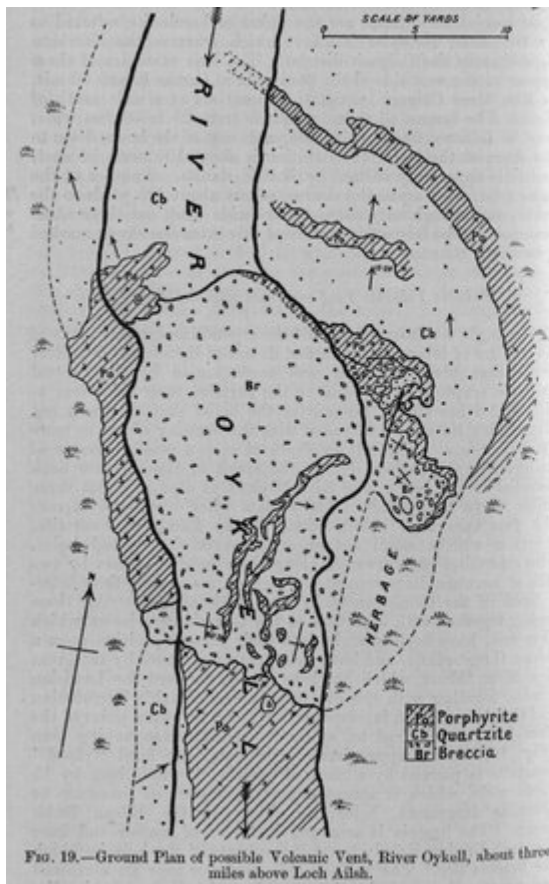


FIG. 17.—Vertical Section of Fucoid Beds, Serpulite Grit, and Ghrudaidh Dolomite and Limestone—An t-Sron, east side of Loch Eireboll.

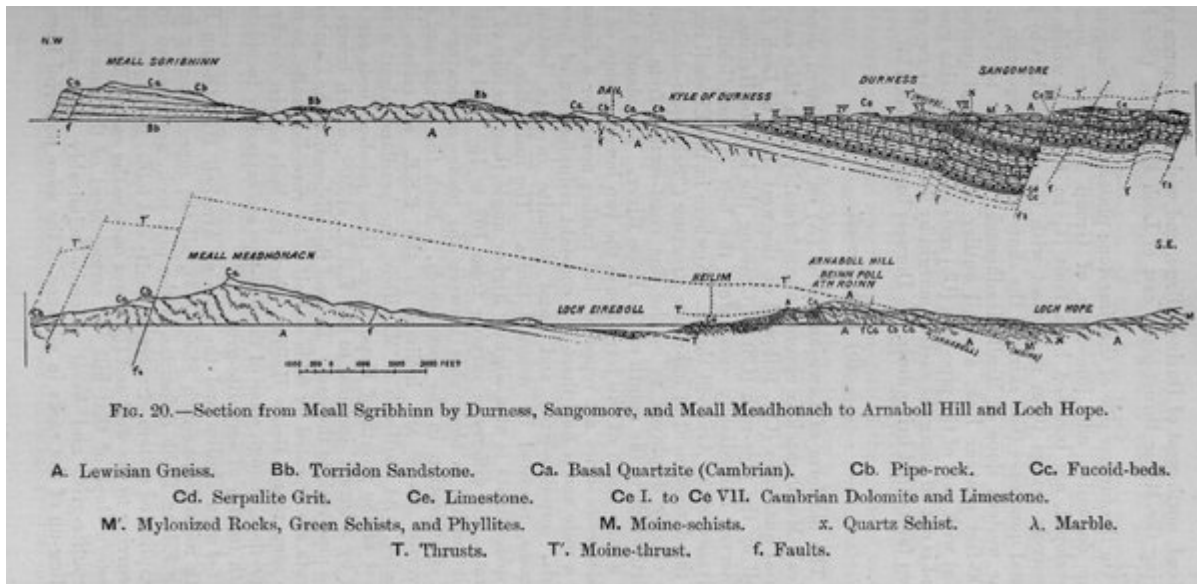
(Figure 17) Vertical Section of Fucoid Beds, Serpulite Grit, and Ghrudaidh Dolomite and Limestone — An t-Sron, east side of Loch Eireboll.



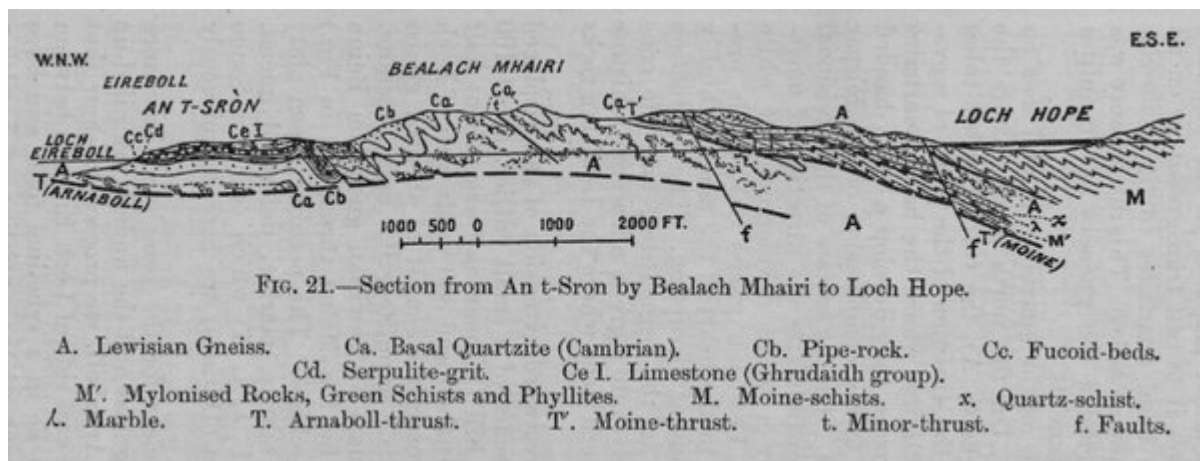
(Figure 18) Vertical Section of Cambrian Strata, showing horizons of Intrusive Rocks (marked x) in Assynt.



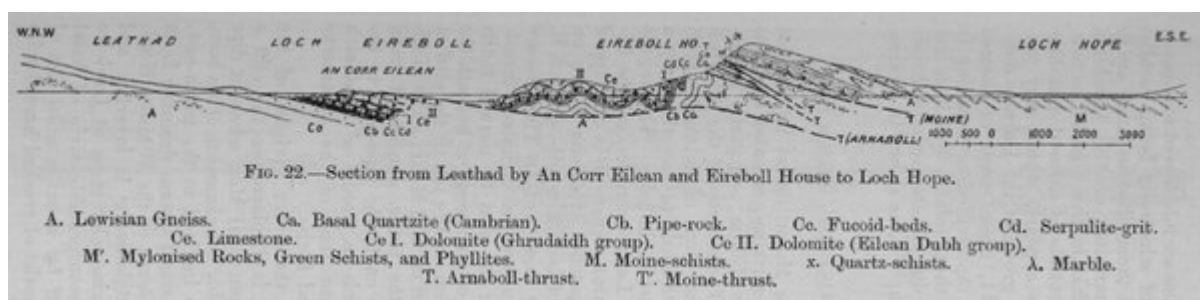
(Figure 19) Ground Plan of possible Volcanic Vent, River Oykell, about three miles above Loch Ailsh. Figure 19a. Development of imbricate structure (H. M. Cadell). Figure 19b Major thrust plane or sole (H. M. Cadell). Figure 19c. Folding of thrust materials along major thrust-plane. (H. M. Cadell).



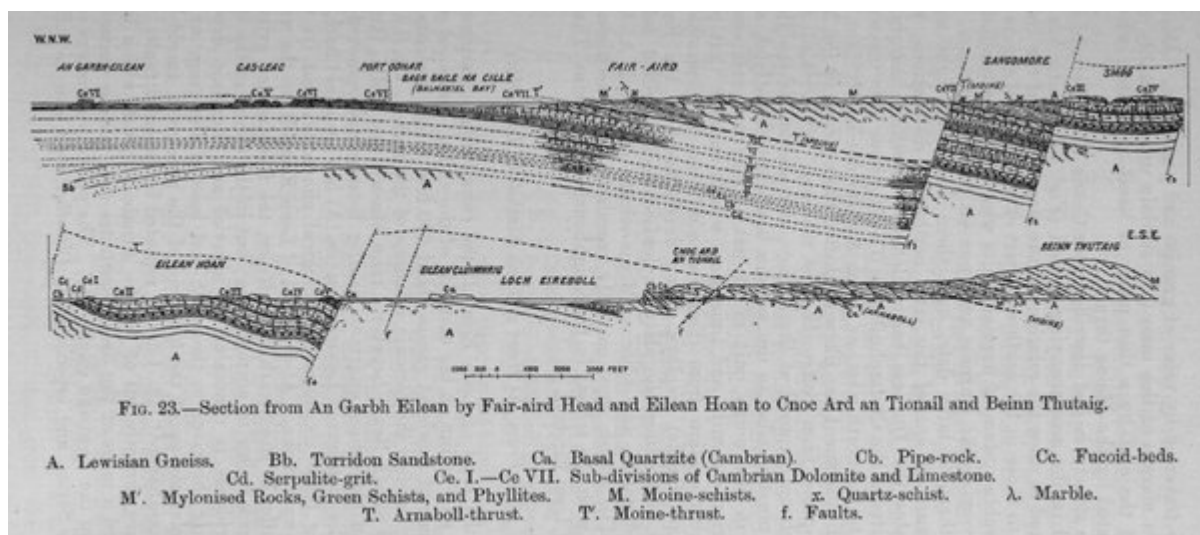
(Figure 20) Section from Meall Sgribhinn by Durness, Sangomore, and Meall Meadhonach to Arnaboll Hill and Loch Hope. A. Lewisian Gneiss. Bb. Torridon Sandstone. Ca. Basal Quartzite (Cambrian). Cb. Pipe-rock. Cc. Fucoid-beds. Cd. Serpulite Grit. Ce. Limestone. Ce I. to Ce VII. Cambrian Dolomite and Limestone. M'. Mylonized Rocks, Green Schists, and Phyllites. M. Moine-schists. x. Quartz Schist. λ. Marble. T. Thrusts. T'. Moine-thrust. f. Faults.



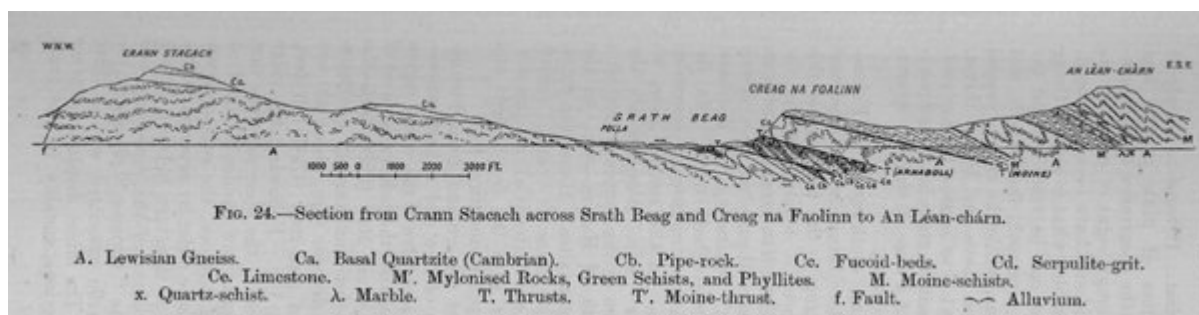
(Figure 21) Section from An t-Sron by Bealach Mhairi to Loch Hope. A. Lewisian Gneiss. Ca. Basal Quartzite (Cambrian). Cb. Pipe-rock. Cc. Fucoid-beds. Cd. Serpulite-grit. Ce I. Limestone (Ghrudaigh group). M'. Mylonised Rocks, Green Schists and Phyllites. M. Moine-schists. x. Quartz-schist. λ. Marble. T. Arnaboll-thrust. T'. Moine-thrust. t. Minor-thrust. f. Faults.



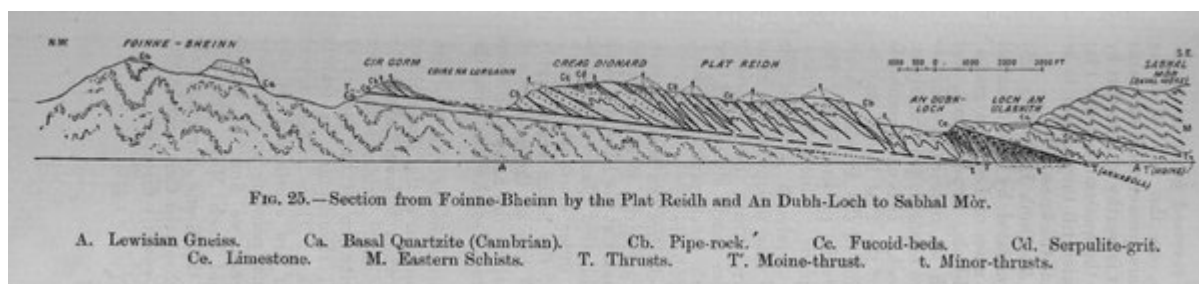
(Figure 22) Section from Leathad by An Corr Eilean and Eireboll House to Loch Hope. A. Lewisian Gneiss. Ca. Basal Quartzite (Cambrian). Cb. Pipe-rock. Cc. Fucoid-beds. Cd. Serpulite-grit. Ce. Limestone. Ce I. Dolomite (Ghrudaigh group). Ce II. Dolomite (Eilean Dubh group). M'. Mylonised Rocks, Green Schists, and Phyllites. M. Moine-schists. x. Quartz-schists. λ. Marble. T. Arnaboll-thrust. T'. Moine-thrust.



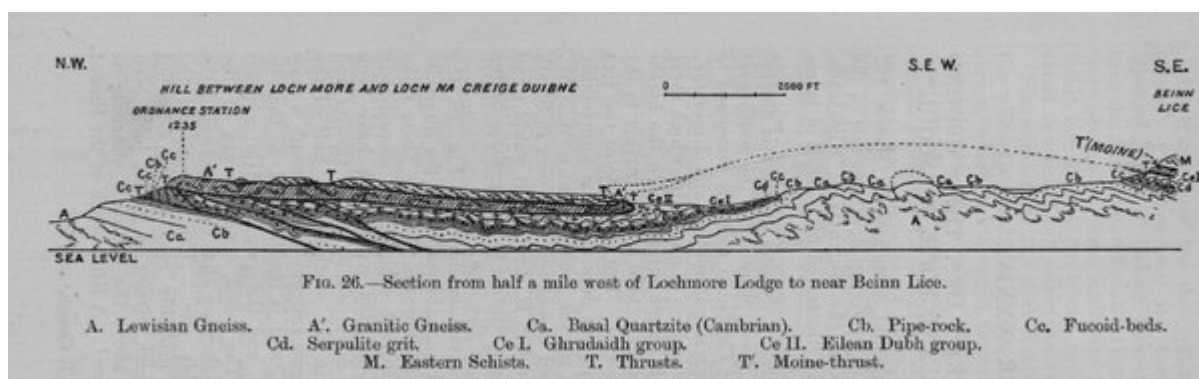
(Figure 23) Section from An Garbh Eilean by Fair-aird Head and Eilean Hoan to Cnoc Ard an Tionail and Beinn Thutaig. A. Lewisian Gneiss. Bb. Torridon Sandstone. Ca. Basal Quartzite (Cambrian). Cb. Pipe-rock. Cc. Fucoid-beds. Cd. Serpulite-grit. Ce. I.—Ce VII. Sub-divisions of Cambrian Dolomite and Limestone. M'. Mylonised Rocks, Green Schists, and Phyllites. M. Moine-schists. x. Quartz-schist. λ. Marble. T. Arnaboll-thrust. T'. Moine-thrust. f. Faults.



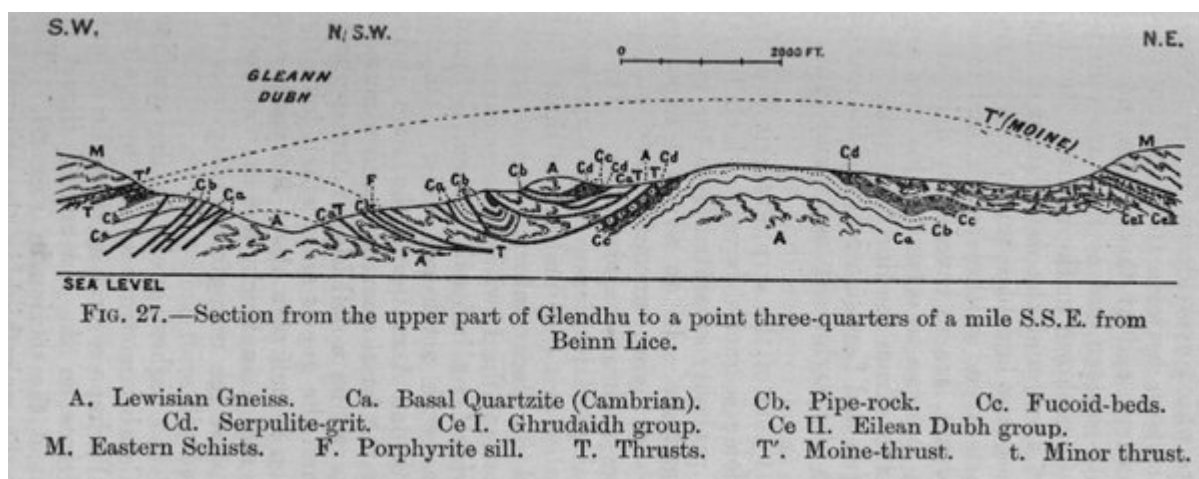
(Figure 24) Section from Crann Stacach across Srath Beag and Creag na Faolinn to An Lean-charn. A. Lewisian Gneiss. Ca. Basal Quartzite (Cambrian). Cb. Pipe-rock. Cc. Fucoid-beds. Cd. Serpulite-grit. Ce. Limestone. M'. Mylonised Rocks, Green Schists, and Phyllites. M. Moine-schists. x. Quartz-schist. λ. Marble. T. Thrusts. T'. Moine-thrust. f. Fault. [symbol] Alluvium.



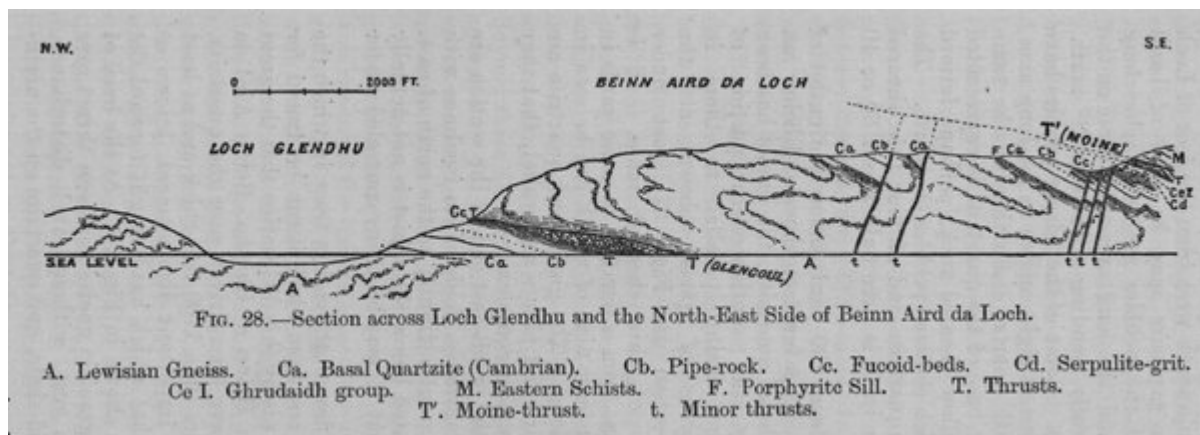
(Figure 25) Section from Foinne-Bheinn by the Plat Reidh and An Dubh-Loch to Sabhal Mòr. A. Lewisian Gneiss. Ca. Basal Quartzite (Cambrian). Cb. Pipe-rock. Cc. Fucoid-beds. Cd. Serpulite-grit. Ce. Limestone. M. Eastern Schists. T. Thrusts. T'. Moine-thrust. t. Minor-thrusts.



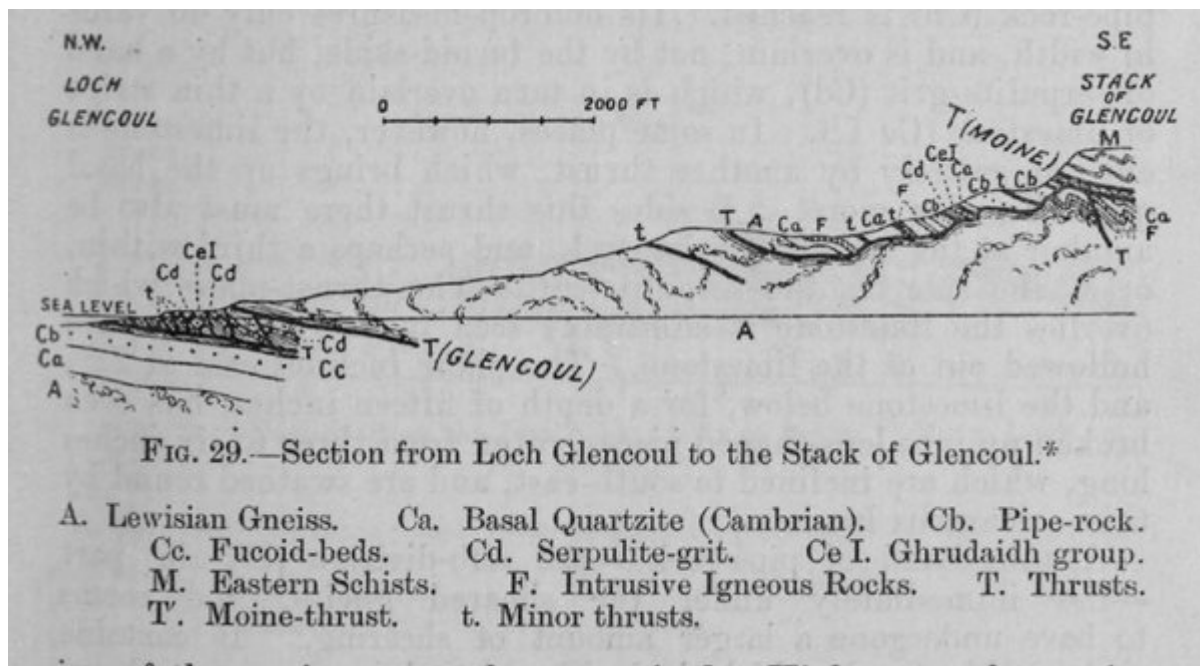
(Figure 26) Section from half a mile west of Lochmore Lodge to near Beinn Lice. A. Lewisian Gneiss. A' Granitic Gneiss. Ca. Basal Quartzite (Cambrian). Cb. Pipe-rock. Cc. Fucoid-beds. Cd. Serpulite grit. Ce I. Ghrudaidh group. Ce II. Eilean Dubh group. M. Eastern Schists. T. Thrusts. T'. Moine-thrust.



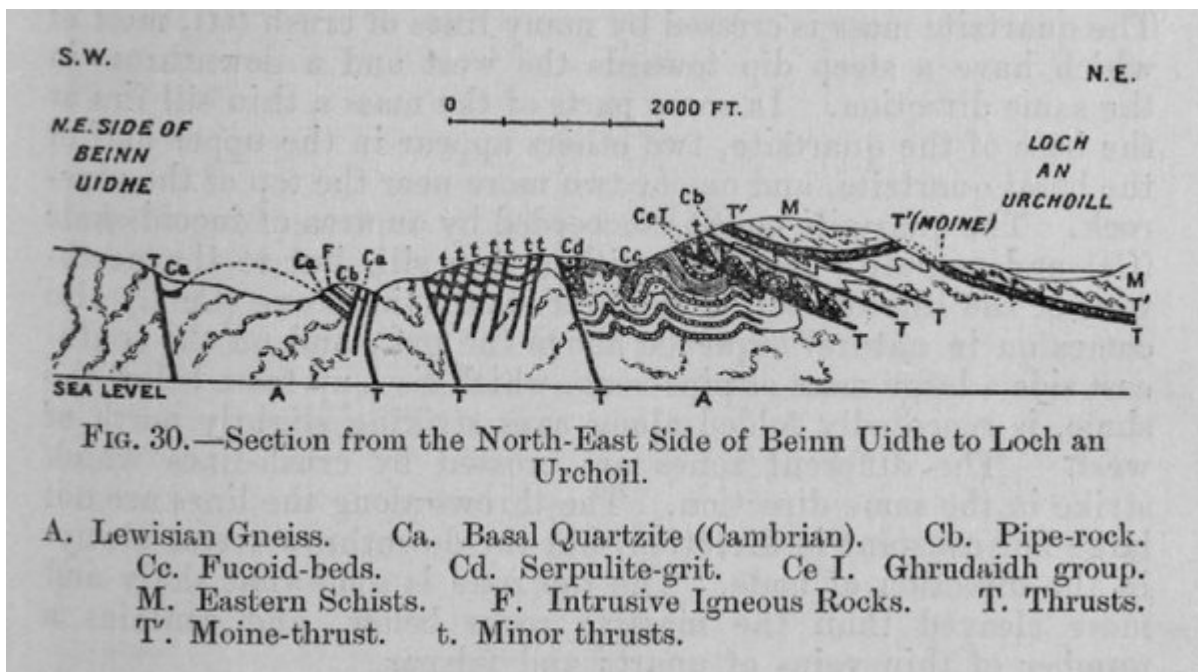
(Figure 27) Section from the upper part of Glendhu to a point three-quarters of a mile S.S.E. from Beinn Lice. A. Lewisian Gneiss. Ca. Basal Quartzite (Cambrian). Cb. Pipe-rock. Cc. Furoid-beds. Cd. Serpulite-grit. Ce I. Ghrudaidh group. Ce U. Eilean Dubh group. M. Eastern Schists. F. Porphyrite sill. T. Thrusts. T'. Moine-thrust. t. Minor thrust.



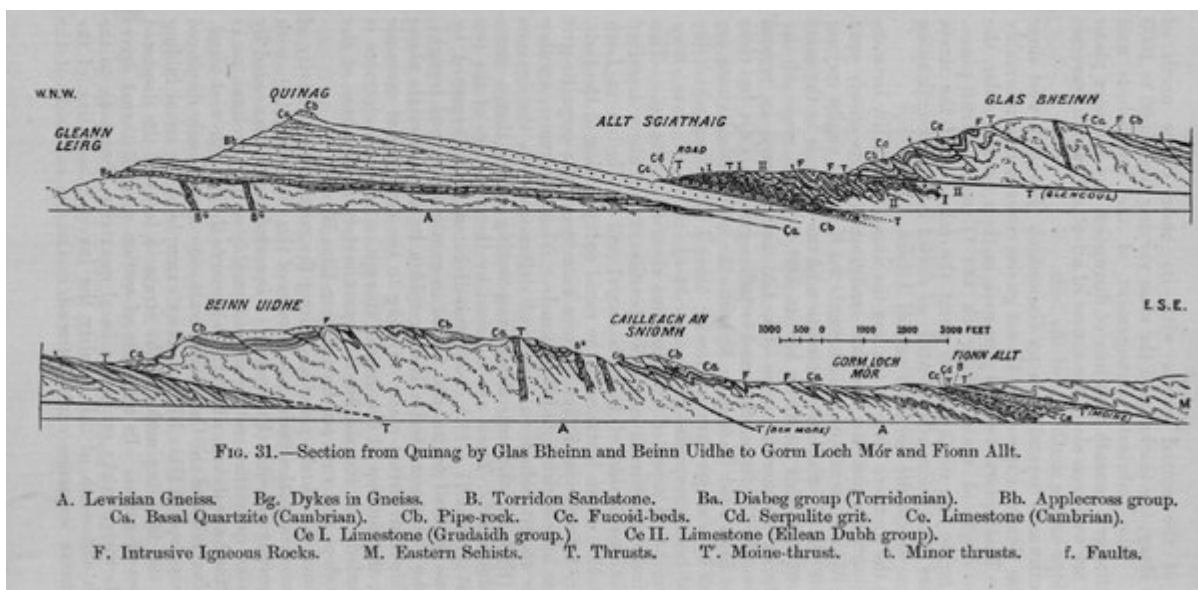
(Figure 28) Section across Loch Glendhu and the North-East Side of Beinn Aird da Loch. A. Lewisian Gneiss. Ca. Basal Quartzite (Cambrian). Cb. Pipe-rock. Cc. Furoid-beds. Cd. Serpulite-grit. Ce I. Ghrudaidh group. M. Eastern Schists. F. Porphyritic Sill. T. Thrusts. T'. Moine-thrust. t. Minor thrusts.



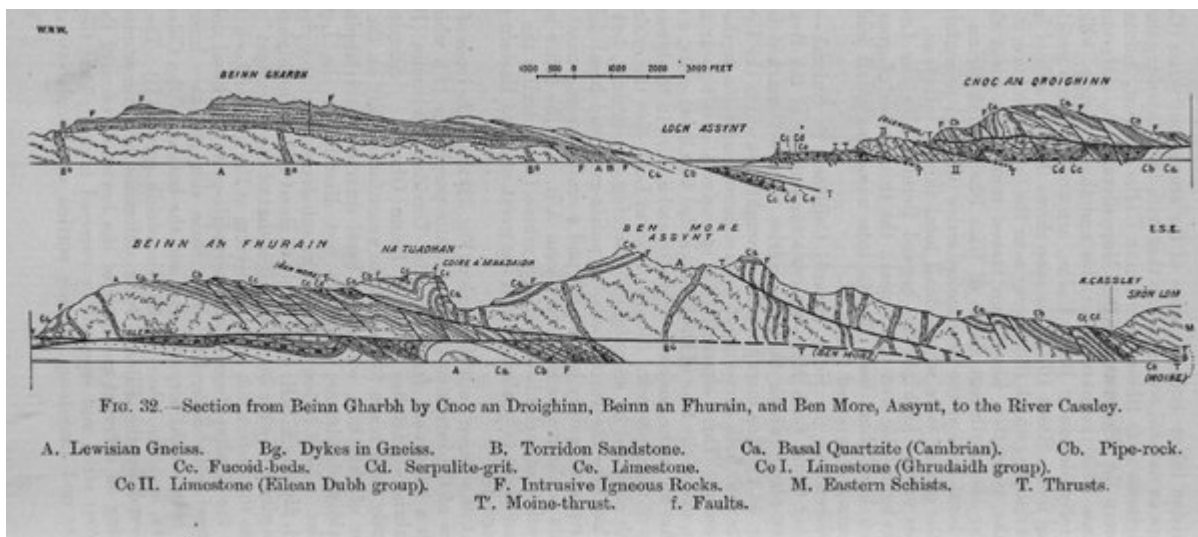
(Figure 29) Section from Loch Glencoul to the Stack of Glencoul. The Stack of Glencoul is not named on the one-inch map, but it lies nearly two miles south-east from Glencoul cottage. A. Lewisian Gneiss. Ca. Basal Quartzite (Cambrian). Cb. Pipe-rock. Cc. Furoid-beds. Cd. Serpulite-grit. Ce I. Ghrudaidh group. M. Eastern Schists. F. Intrusive Igneous Rocks. T. Thrusts. T'. Moine-thrust. t. Minor thrusts.



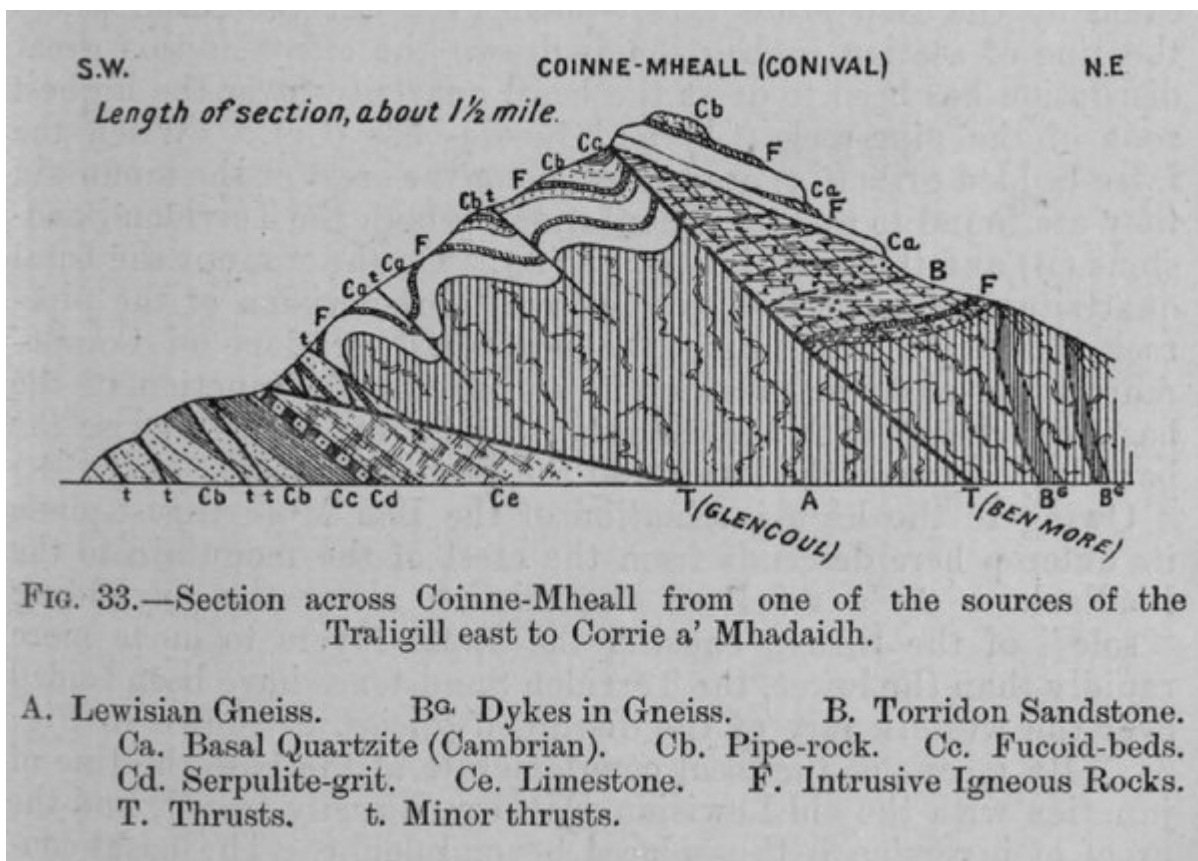
(Figure 30) Section from the North-East Side of Beinn Uidhe to Loch an Urchoill. A. Lewisian Gneiss. Ca. Basal Quartzite (Cambrian). Cb. Pipe-rock. Cc. Furoid-beds. Cd. Serpulite-grit. Ce I. Ghrudaidh group. M. Eastern Schists. F. Intrusive Igneous Rocks. T. Thrusts. T'. Moine-thrust. t. Minor thrusts.



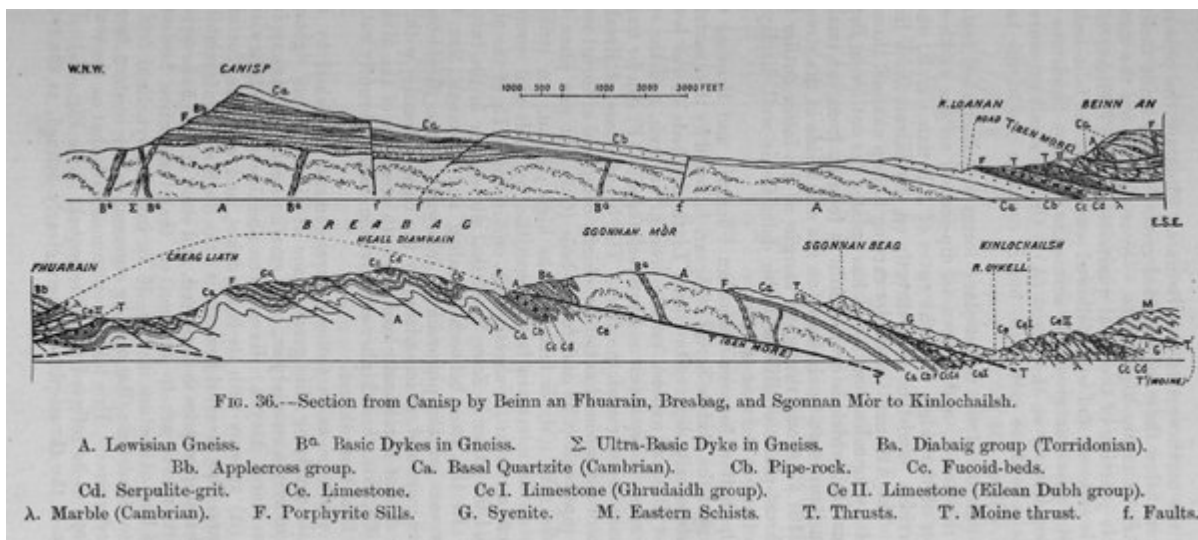
(Figure 31) Section from Quinag by Glas Bheinn and Beinn Uidhe to Gorin Loch Mar and Fionn Allt. A. Lewisian Gneiss. B^G. Dykes in Gneiss. B. Torridon Sandstone. Ba. Diabeg group (Torridonian). Bb. Applecross group. Ca. Basal Quartzite (Cambrian). Cb. Pipe-rock. Cc. Furoid-beds. Cd. Serpulite grit. Ce. Limestone (Cambrian). Ce I. Limestone (Grudaidh group.) Ce II. Limestone (Eilean Dubh group). F. Intrusive Igneous Rocks. M. Eastern Schists. T. Thrusts. T'. Moine-thrust. t. Minor thrusts. f. Faults.



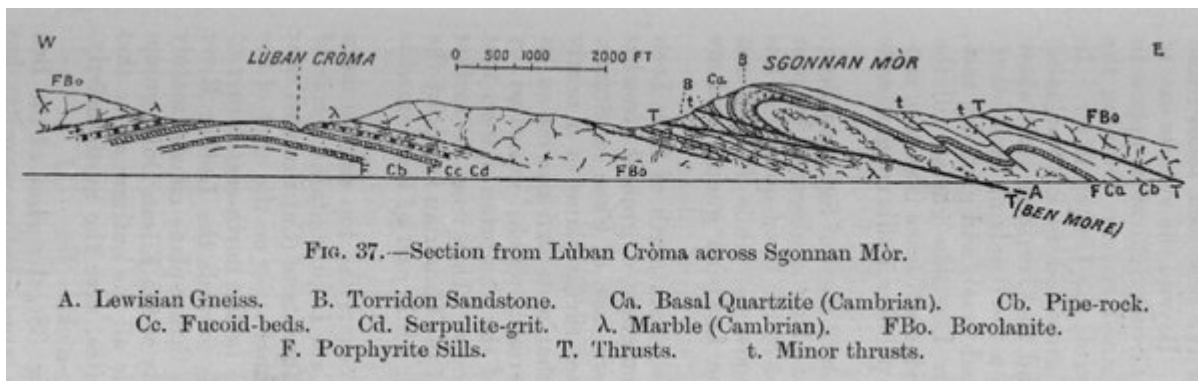
(Figure 32) Section from Beinn Gharbh by Cnoc an Droighinn, Beinn an Fhurain, and Ben More, Assynt, to the River Cassley. A. Lewisian Gneiss. B^G. Dykes in Gneiss. B. Torridon Sandstone. Ca. Basal Quartzite (Cambrian). Cb. Pipe-rock. Cc. Fucoïd-beds. Cd. Serpulite-grit. Ce. Limestone. Ce I. Limestone (Ghrudaidh group). Ce II. Limestone (Eilean Dubh group). F. Intrusive Igneous Rocks. M. Eastern Schists. T. Thrusts. T'. Moine-thrust. f. Faults.



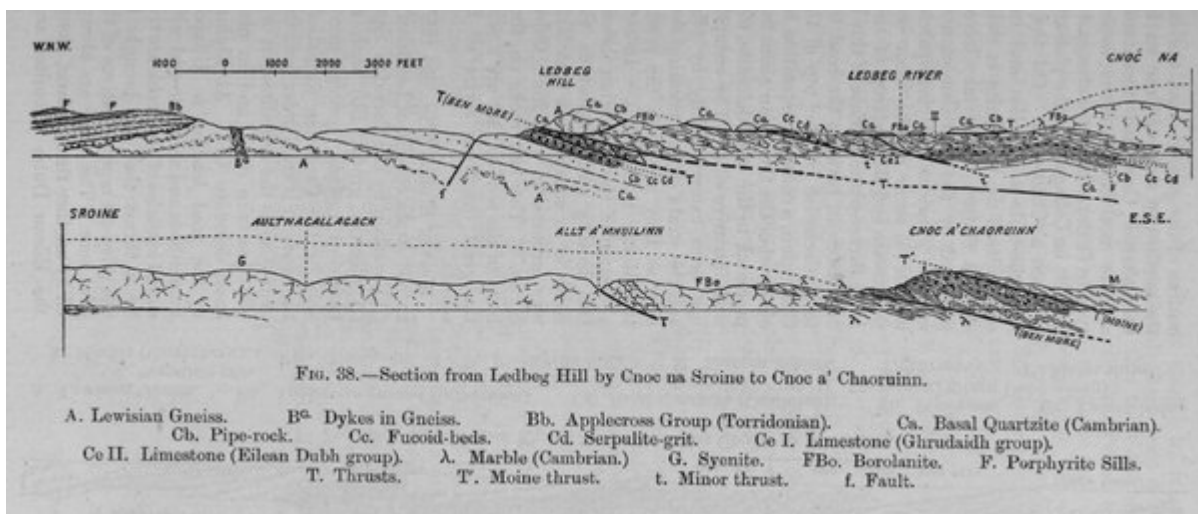
(Figure 33) Section across Coinne-Mheall from one of the sources of the Traligill east to Corrie a' Mhadaidh. A. Lewisian Gneiss. B^G. Dykes in Gneiss. B. Torridon Sandstone. Ca. Basal Quartzite (Cambrian). Cb. Pipe-rock. Cc. Fucoïd-beds. Cd. Serpulite-grit. Ce. Limestone. F. Intrusive Igneous Rocks. T. Thrusts. t. Minor thrusts.



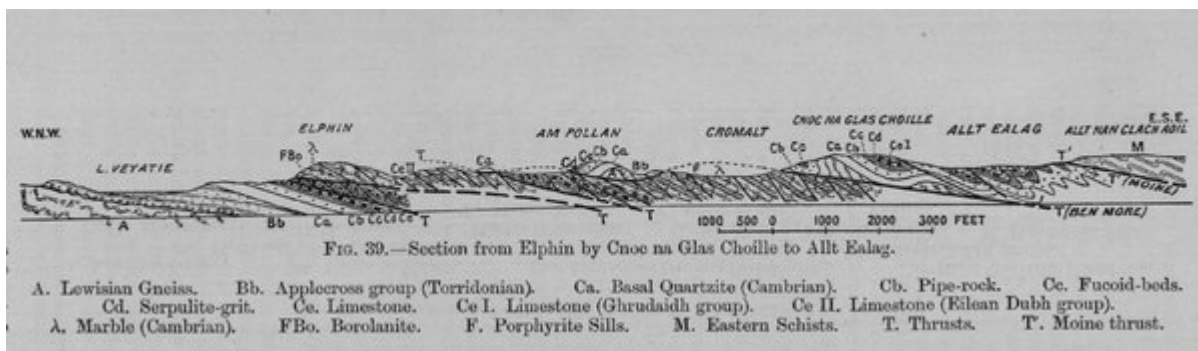
(Figure 36) Section from Canisp by Beinn an Fhuarain, Breabag, and Sgonnan Mòr. to Kinlochailsh. A. Lewisian Gneiss. Σ. Basic Dykes in Gneiss. E. Ultra-Basic Dyke in Gneiss. Ba. Diabaig group (Torridonian). Bb. Applecross group. Ca. Basal Quartzite (Cambrian). Cb. Pipe-rock. Cc. Fucoid-beds. Ce I. Limestone (Ghrudaigh group). Ce II. Limestone (Eilean Dubh group). G. Syenite. M. Eastern Schists. T. Thrusts. T'. Moine thrust. f. Faults Cd. Serpulite-grit. Ce. Limestone. λ. Marble (Cambrian). F. Porphyrite Sills.



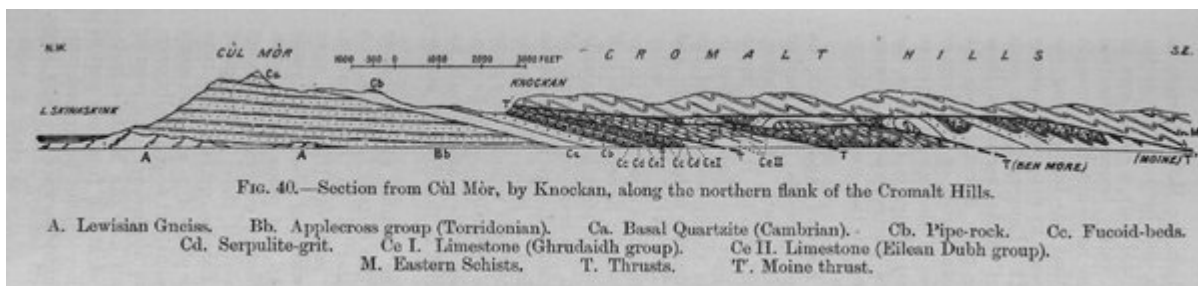
(Figure 37) Section from Lùban Cròma across Sgonnan Mòr. A. Lewisian Gneiss. B. Torridon Sandstone. Ca. Basal Quartzite (Cambrian). Cb. Pipe-rock. Cc. Fucoid-beds. Cd. Serpulite-grit. λ. Marble (Cambrian). FBo. Borolanite. F. Porphyrite Sills. T. Thrusts. t. Minor thrusts.



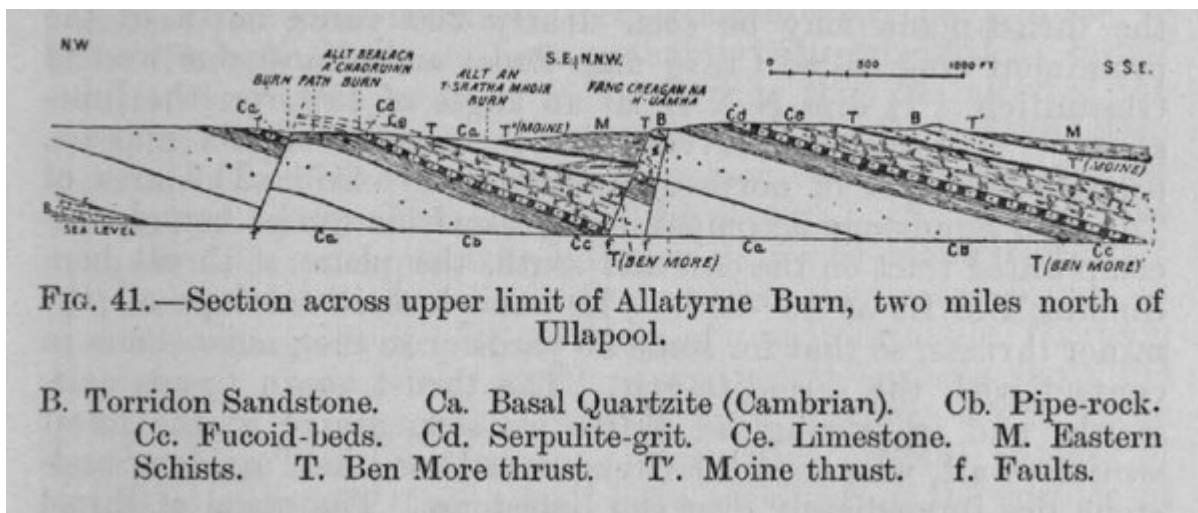
(Figure 38) Section from Ledbeg Hill by Cnoc na Sroine to Cnoc a' Chaoruinn. A. Lewisian Gneiss. B^a. Dykes in Gneiss. Bb. Applecross Group (Torridonian). Ca. Basal Quartzite (Cambrian). Cb. Pipe-rock. Cc. Fucoid-beds. Cd. Serpulite-grit. Ce I. Limestone (Ghrudaigh group). Ce II. Limestone (Eileen Dubh group). λ. Marble (Cambrian.) G. Syenite. FBo. Borolanite. F. Porphyrite Sills. T. Thrusts. T'. Moine thrust. t. Minor thrust. f. Fault.



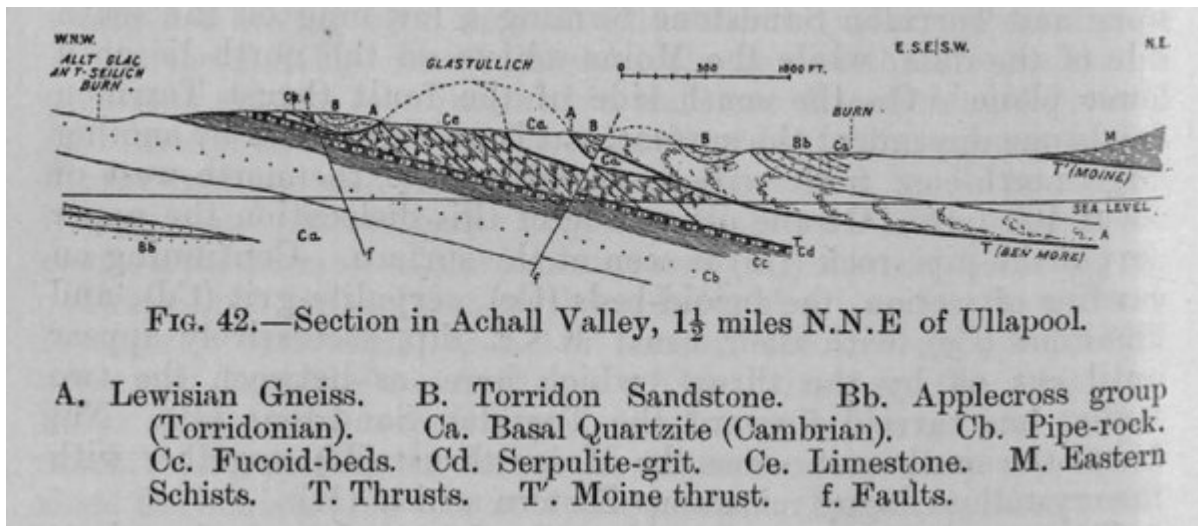
(Figure 39) Section from Elphin by Cnoc na Glas Choille to Allt Ealag. A. Lewisian Gneiss. Bb. Applecross group (Torridonian). Ca. Basal Quartzite (Cambrian). Cb. Pipe-rock. Cc. Fucoid-beds. Cd. Serpulite-grit. Ce I. Limestone (Ghrudaidh group). Ce II. Limestone (Eilean Dubh group). λ. Marble (Cambrian). FBo. Borolanite. F. Porphyrite Sills. M. Eastern Schists. T. Thrusts. T'. Moine thrust.



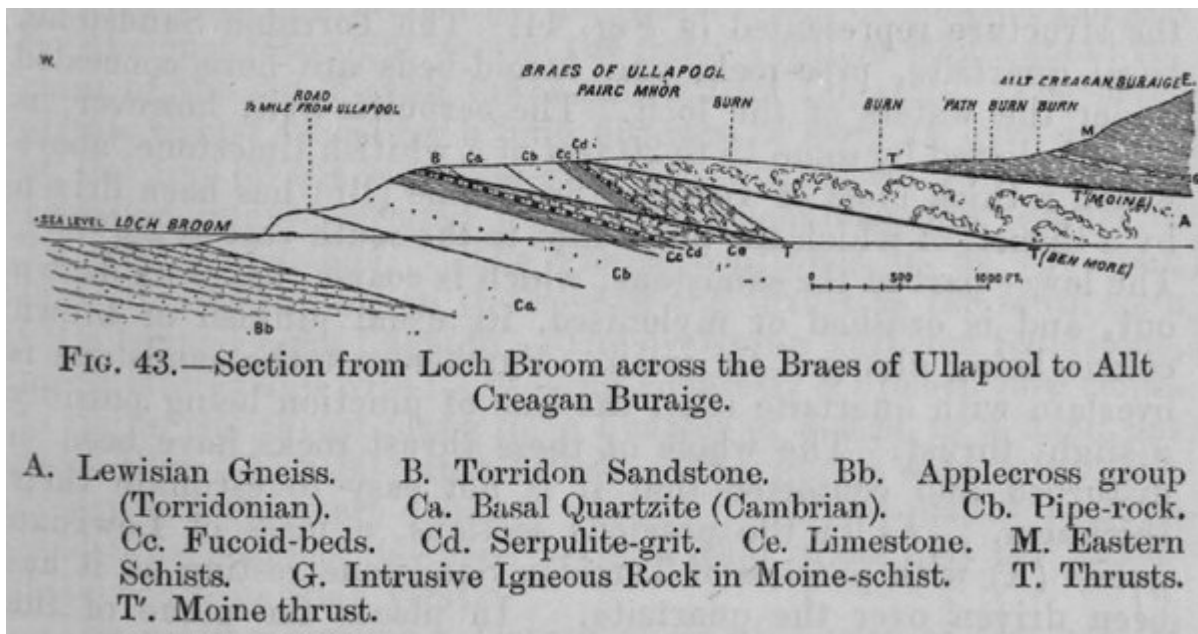
(Figure 40) Section from Cùl Mòr, by Knockan, along the northern flank of the Cromalt Hills. A. Lewisian Gneiss. Bb. Applecross group (Torridonian). Ca. Basal Quartzite (Cambrian). Cb. Pipe-rock. Cc. Fucoid-beds. Cd. Serpulite-grit. Ce I. Limestone (Ghrudaidh group). Ce II. Limestone (Eilean Dubh group). M. Eastern Schists. T. Thrusts. T'. Moine thrust.



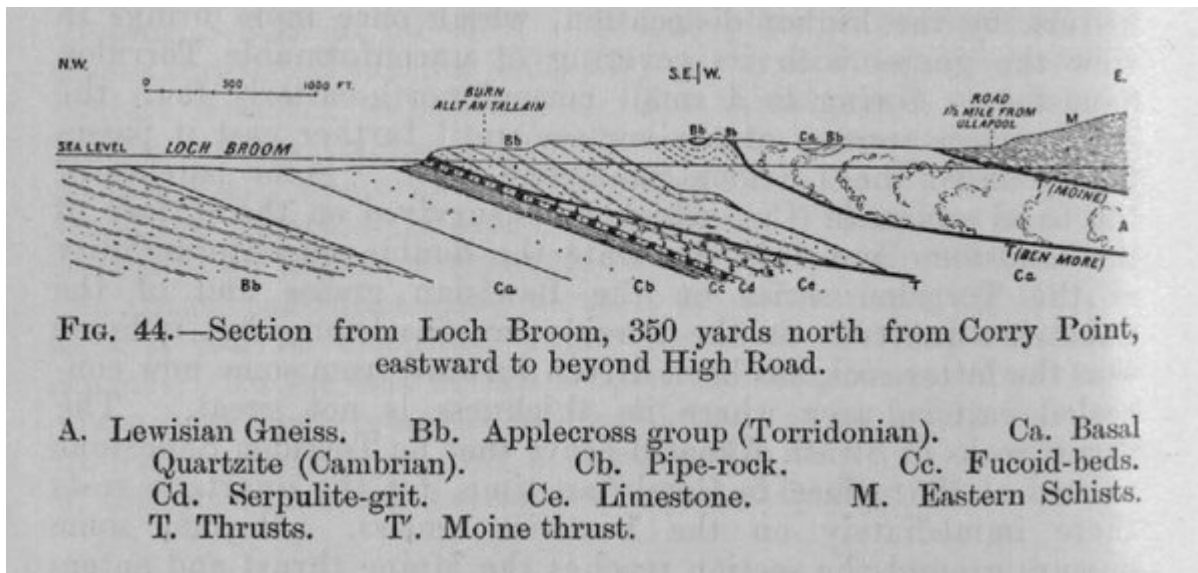
(Figure 41) Section across upper limit of Allatyrne Burn, two miles north of Ullapool. B. Torridon Sandstone. Ca. Basal Quartzite (Cambrian). Cb. Pipe-rock. Cc. Fucoid-beds. Cd. Serpulite-grit. Ce. Limestone. M. Eastern Schists. T. Ben More thrust. T'. Moine thrust. f. Faults.



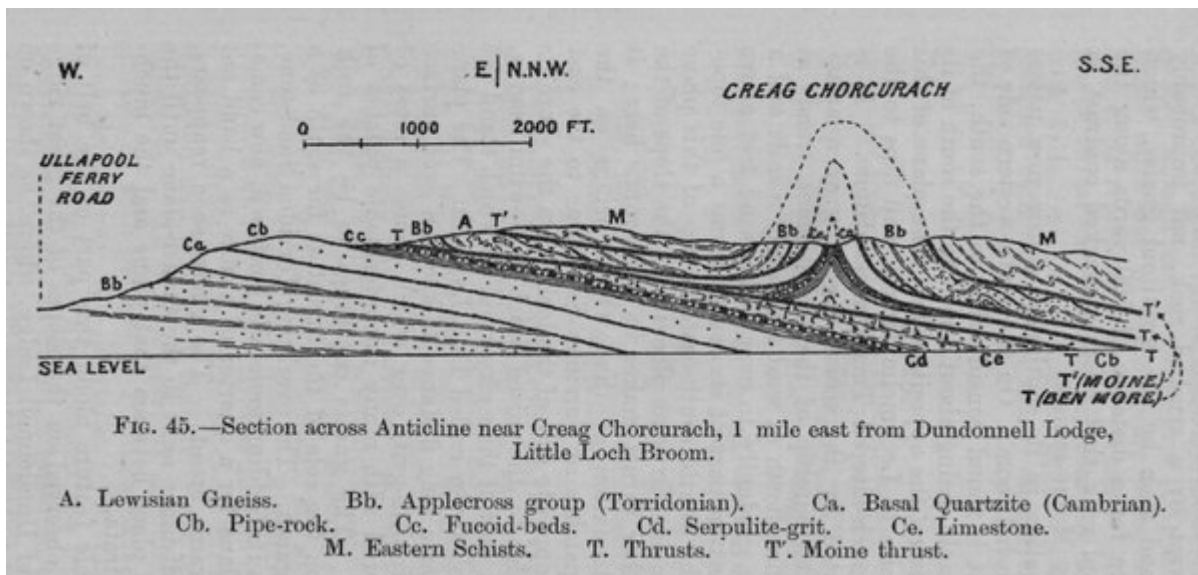
(Figure 42) Section in Achall Valley, 1½ miles N.N.E of Ullapool. A. Lewisian Gneiss. B. Torridon Sandstone. Bb. Applecross group (Torridonian). Ca. Basal Quartzite (Cambrian). Cb. Pipe-rock. Cc. Fucoid-beds. Cd. Serpulite-grit. Ce. Limestone. M. Eastern Schists. T. Thrusts. T'. Moine thrust. f. Faults.



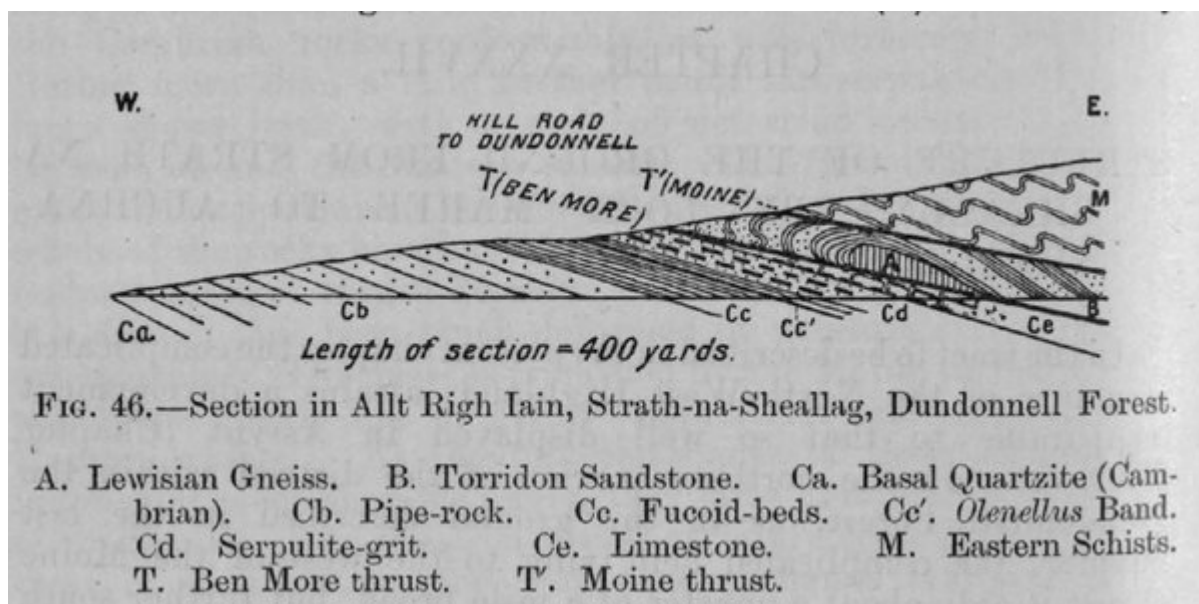
(Figure 43) Section from Loch Broom across the Braes of Unapool to Allt Creagan Buraige. A. Lewisian Gneiss. B. Torridon Sandstone. Bb. Applecross group (Torridonian). Ca. Basal Quartzite (Cambrian). Cb. Pipe-rock. Cc. Fucoid-beds. Cd. Serpulite-grit. Ce. Limestone. M. Eastern Schists. G. Intrusive Igneous Rock in Moine-schist. T. Thrusts. T'. Moine thrust.



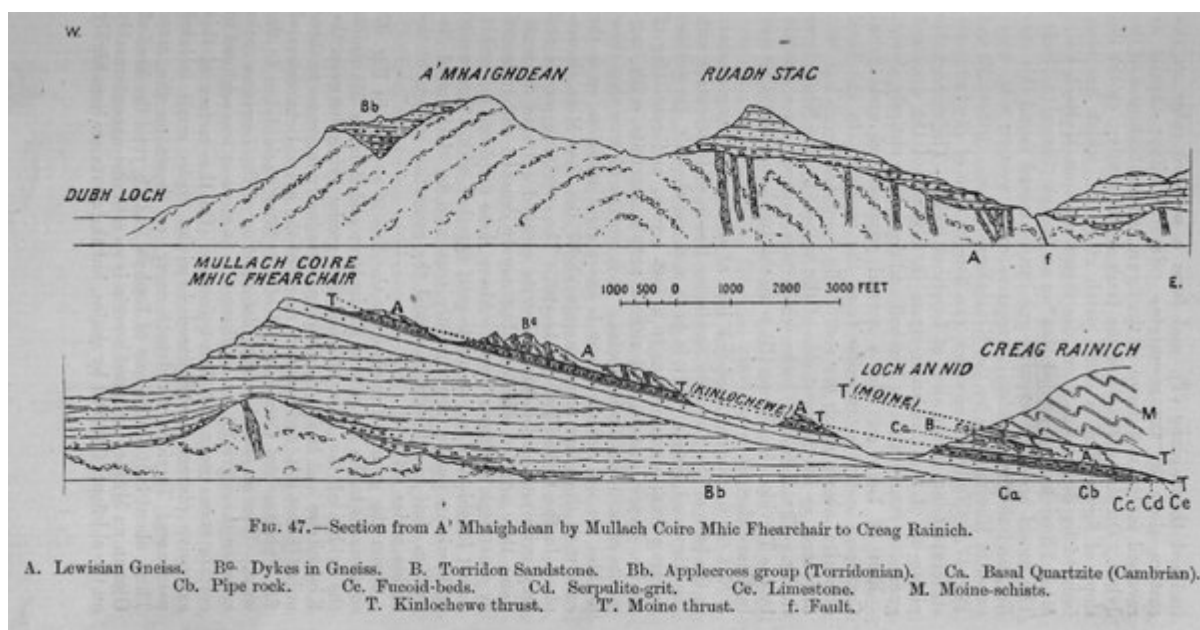
(Figure 44) Section from Loch Broom, 350 yards north from Corry Point, eastward to beyond High Road. A. Lewisian Gneiss. Bb. Applecross group (Torridonian). Ca. Basal Quartzite (Cambrian). Cb. Pipe-rock. Cc. Fucoid-beds. Cd. Serpulite-grit. Ce. Limestone. M. Eastern Schists. T. Thrusts. T'. Moine thrust.



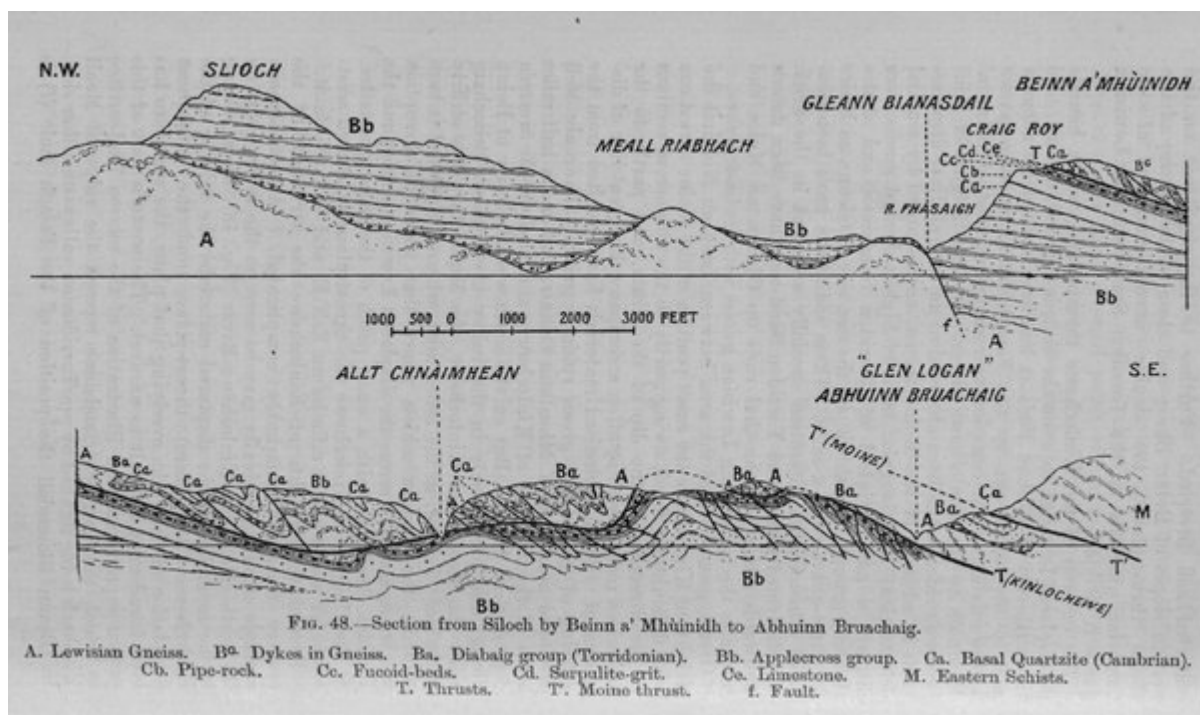
(Figure 45) Section across Anticline near Creag Chorcurchach, 1 mile east from Dundonnell Lodge, Little Loch Broom. A. Lewisian Gneiss. Bb. Applecross group (Torridonian). Ca. Basal Quartzite (Cambrian). Cb. Pipe-rock. Cc. Fucoid-beds. Cd. Serpulite-grit. Ce. Limestone. M. Eastern Schist & T. Thrusts. T'. Moine thrust.



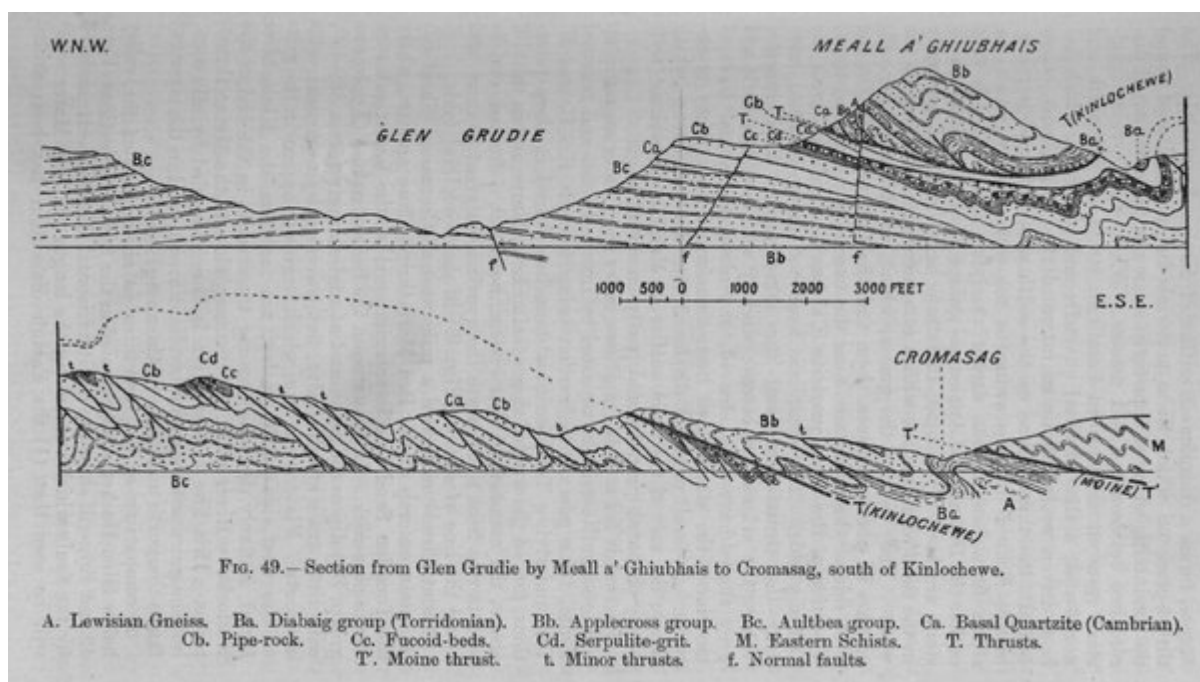
(Figure 46) Section in Allt Righ Iain, Strath-na-Sheallag, Dundonnell Forest. A. Lewisian Gneiss. B. Torridon Sandstone. Ca. Basal Quartzite (Cambrian). Cb. Pipe-rock. Cc. Furoid-beds. Cc. *Olenellus* Band. Cd. Serpulite-grit. Ce. Limestone. M. Eastern Schists. T. Ben More thrust. T'. Moine thrust.



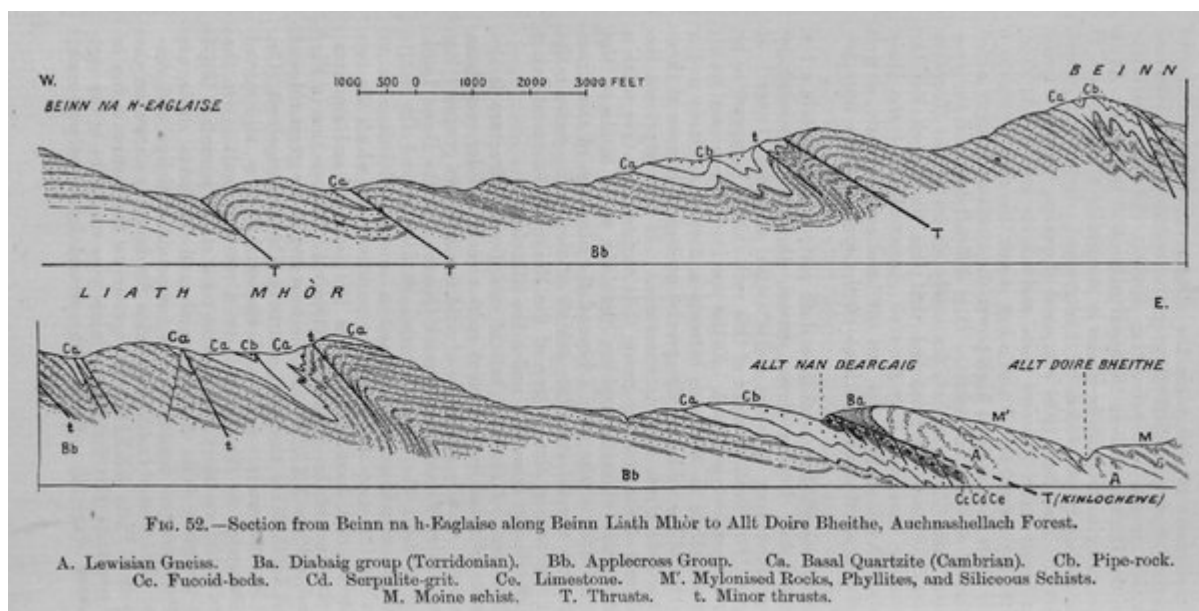
(Figure 47) Section from A' Mhaighdean by Mullach Coire Mhic Fhearchair to Creag Rainich. A. Lewisian Gneiss. B^G. Dykes in Gneiss. B. Torridon Sandstone. Bb. Applecross group (Torridonian). Ca. Basal Quartzite (Cambrian). Cb. Pipe rock. Cc. Furoid-beds. Cd. Serpulite-grit. Ce. Limestone. M. Moine-schists. T. Kinlochewe thrust. T'. Moine thrust. f. Fault.



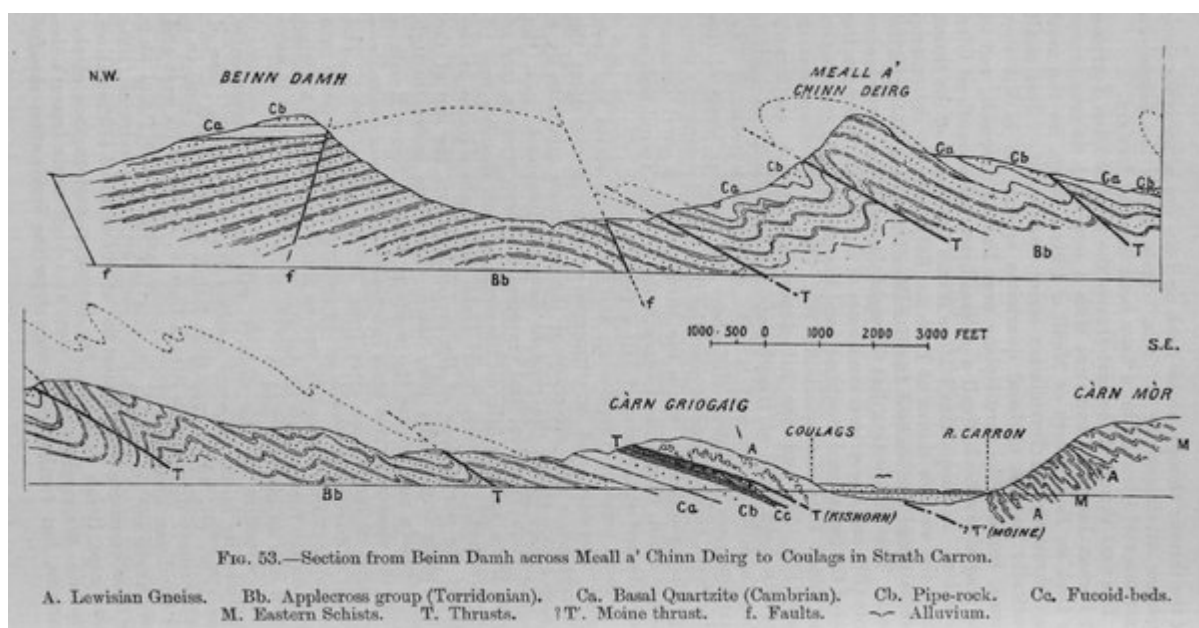
(Figure 48) Section from Siloch by Beinn a' Mhùinidh to Abhuinn Bruachaig. A. Lewisian Gneiss. B^a. Dykes in Gneiss. Ba. Diabaig group (Torridonian). Bb. Applecross group. Ca. Basal Quartzite (Cambrian). Cb. Pipe-rock. Cc. Fucoid-beds. Cd. Serpulite-grit. Ce. Limestone. M. Eastern Schists. T. Thrusts. T'. Moine thrust. f. Fault.



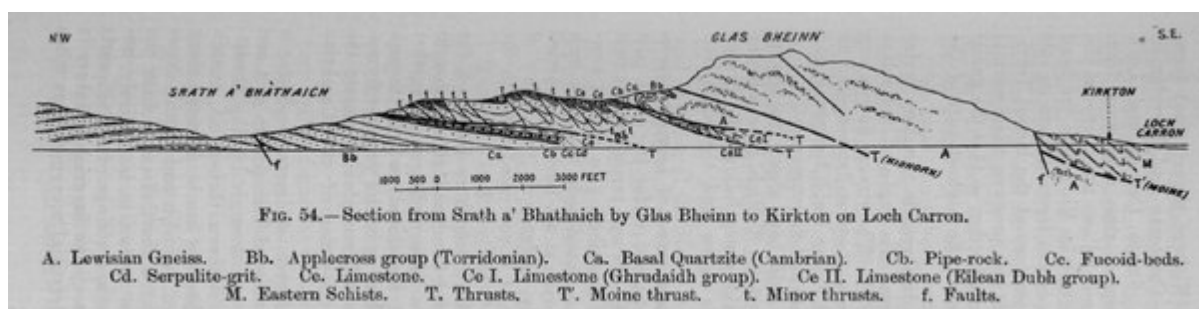
(Figure 49) Section from Glen Grudie by Meall a' Ghiubhais to Cromasag, south of Kinlochewe. A. Lewisian Gneiss. Ba. Diabaig group (Torridonian). Bb. Applecross group. Be. Aultbea group. Ca. Basal Quartzite (Cambrian). Cb. Pipe-rock. Cc. Fucoid-beds. Cd. Serpulite-grit. M. Eastern Schists. T. Thrusts. T'. Moine thrust. t. Minor thrusts. f. Normal faults.



(Figure 52) Section from Beinn na h-Eaglaise along Beinn Liath Mhòr to Allt Doire Bheithie, Auchnashellach Forest. A. Lewisian Gneiss. Ba. Diabaig group (Torridonian). Bb. Applecross Group. Ca. Basal Quartzite (Cambrian). Cb. Pipe-rock. Cc. Fucoïd-beds. Cd. Serpulite-grit. Ce. Limestone. M'. Mylonised Rocks, Phyllites, and Siliceous Schists. M. Moine schist. T. Thrusts. t. Minor thrusts.

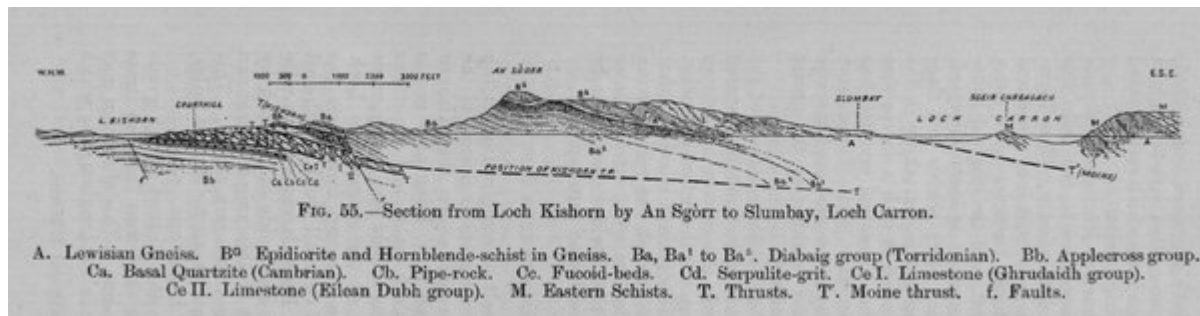


(Figure 53) Section from Beinn Damh across Meall a' Chinn Deirg to Coulags in Strath Carron. A. Lewisian Gneiss. Bb. Applecross group (Torridonian). Ca. Basal Quartzite (Cambrian). Cb. Pipe-rock. Cc. Fucoïd-beds. M. Eastern Schists. T. Thrusts. ?T. Moine thrust. f. Faults. [symbol] Alluvium.

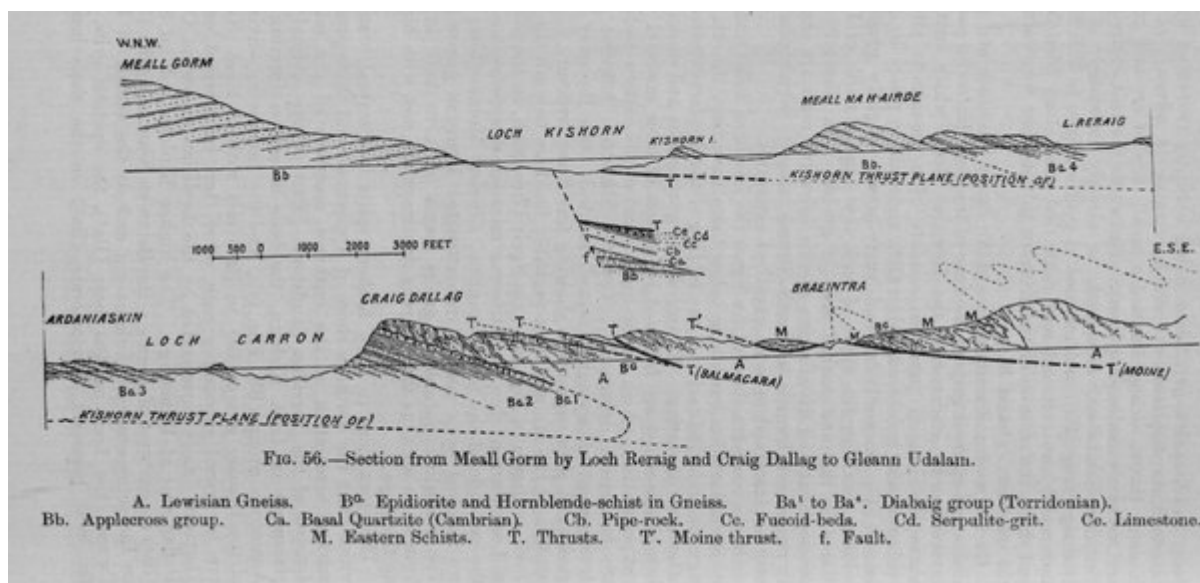


(Figure 54) Section from Srath a' Bhathaich by Glas Bheinn to Kirkton on Loch Carron. A. Lewisian Gneiss. Bb. Applecross group (Torridonian). Ca. Basal Quartzite (Cambrian). Cb. Pipe-rock. Cc. Fucoïd-beds. Cd. Serpulite-grit. Ce. Limestone. Ce I. Limestone (Ghrudaigh group). Ce II. Limestone (Kilean Dubh group). M. Eastern Schists. T. Thrusts. T'. Moine thrust. t. Minor thrusts. f. Faults.

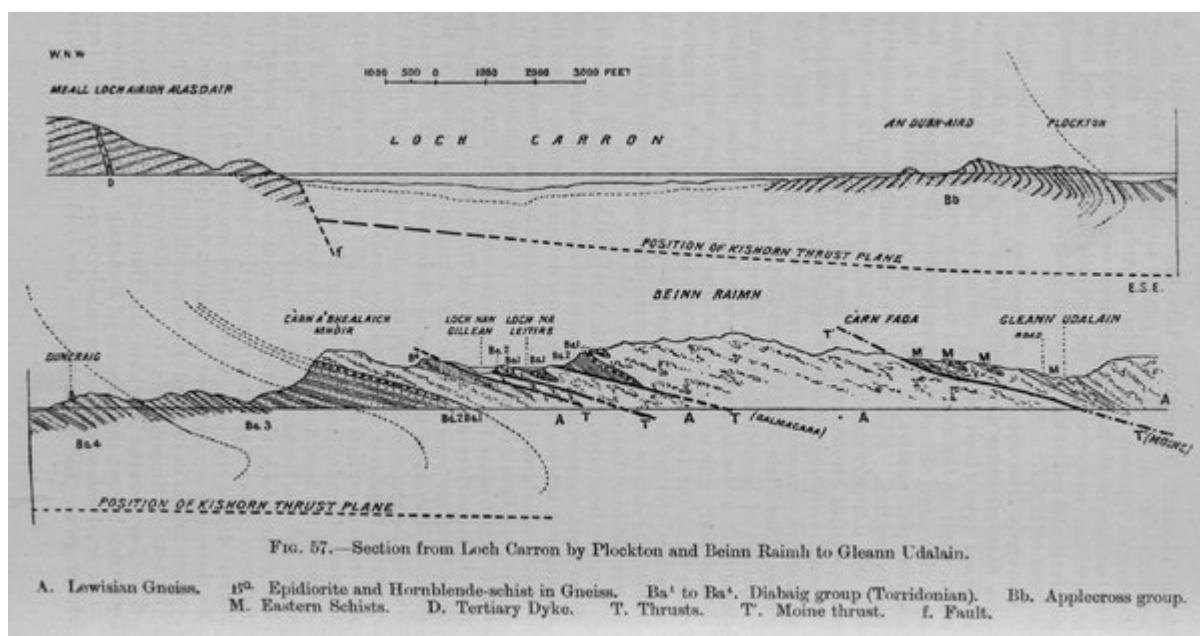
Limestone. *Ce I.* Limestone (Ghrudaidh group). *Ce II.* Limestone (Eilean Dubh group'. *M.* Eastern Schists. *T.* Thrusts. *T'*. Moine thrust. *t.* Minor thrusts. *f.* Faults.



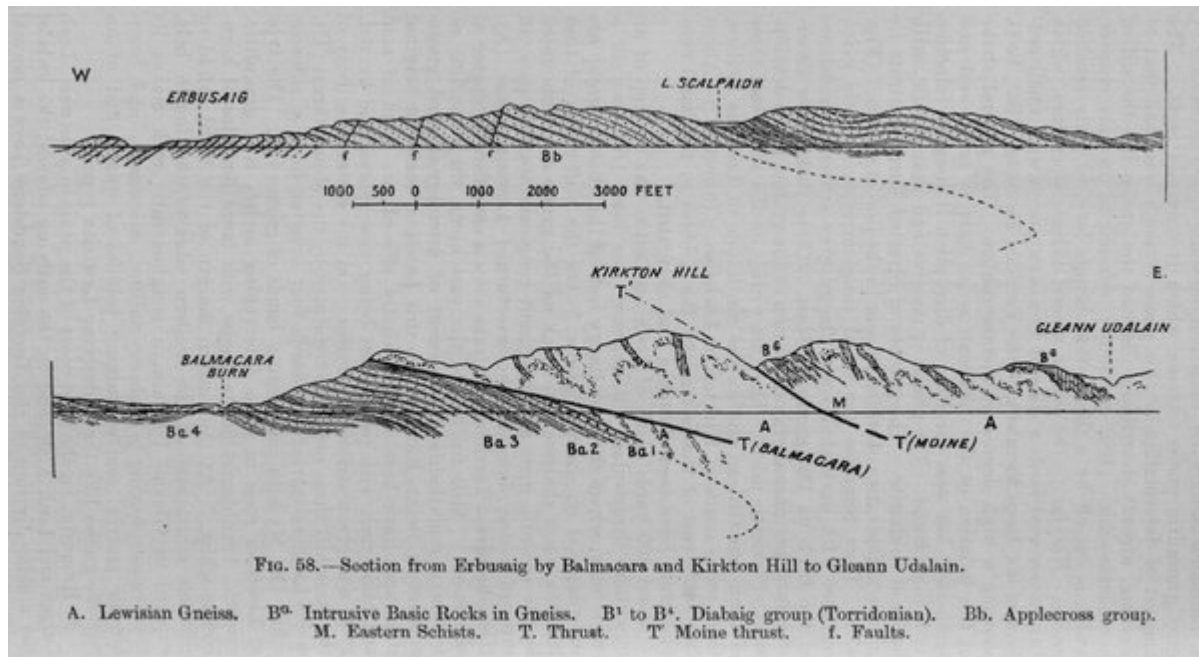
(Figure 55) Section from Loch Kishorn by An Sgòrr to Slumbay, Loch Carron. A. Lewisian Gneiss. Ba Epidiorite and Hornblende-schist in Gneiss. Ba, Ba¹ to Ba³. Diabaig group (Torridonian). Bb. Applecross group. Ca. Basal Quartzite (Cambrian). Cb. Pipe-rock. Cc. Fucoid-beds. Cd. Serpulite-grit. Ce I. Limestone (Ghrudaidh group). Ce H. Limestone (Eilean Dubh group). M. Eastern Schists. T. Thrusts. T'. Moine thrust. f. Faults.



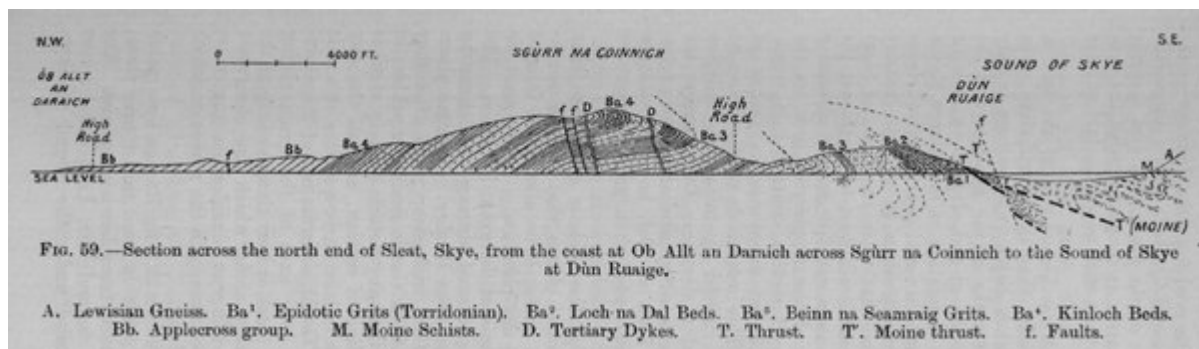
(Figure 56) Section from Meall Gorm by Loch Reraig and Craig Dallag to Gleann Udalain. A. Lewisian Gneiss. B^G Epidiorite and Hornblende-schist in Gneiss. Ba¹ to Ba⁴. Diabaig group (Torridonian). Bb. Applecross group. Ca. Basal Quartzite (Cambrian). Cb. Pipe-rock. Cc. Fucoid-beds. Cd. Serpulite-grit. Ce. Limestone. M. Eastern Schists. T. Thrusts. T'. Moine thrust. f. Fault.



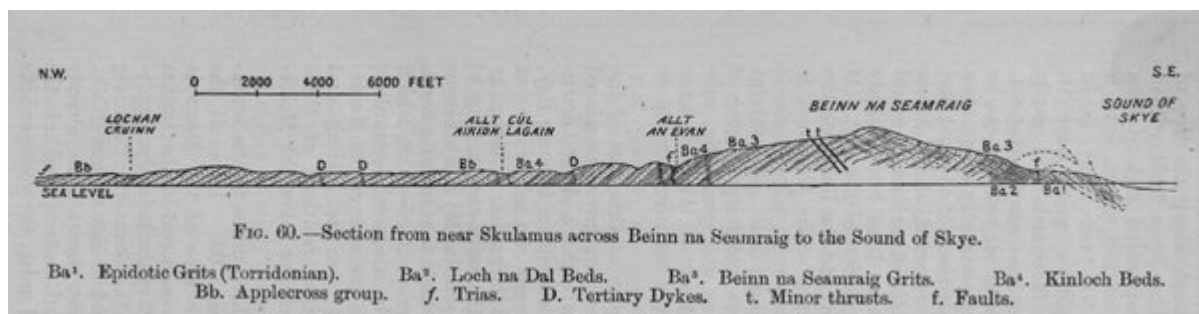
(Figure 57) Section from Loch Carron by Flockton and Beinn Raimh to Gleann Udalain. A. Lewisian Gneiss. ti° Epidiorite and Hornblende-schist in Gneiss. Ba^1 to Ba^4 . Diabaig group (Torridonian). Bb. Applecross group. M. Eastern Schists. D. Tertiary Dyke. T. Thrusts. T'. Moine thrust. f. Fault.



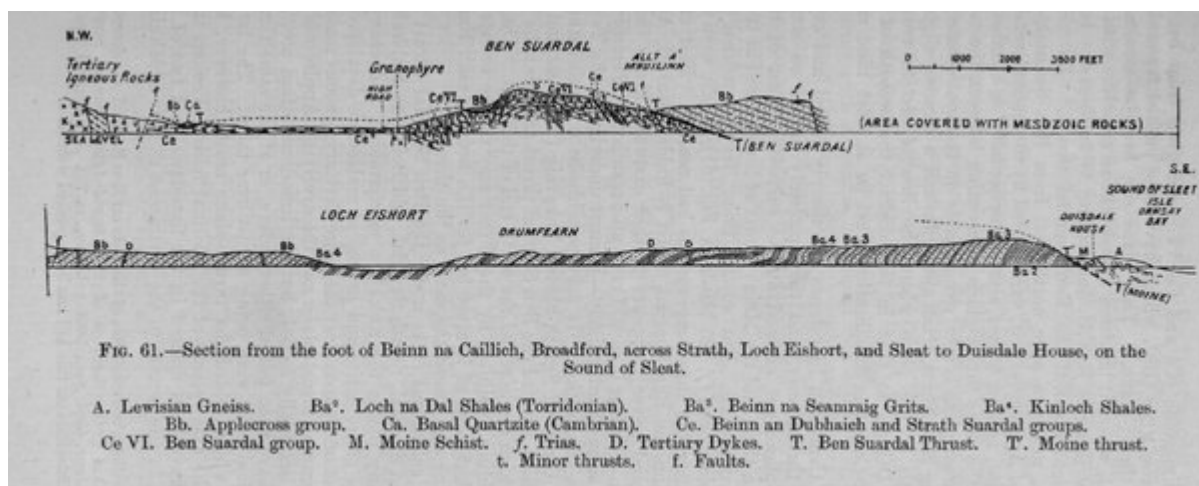
(Figure 58) Section from Erbusaig by Balmacara and Kirkton Hill to Gleann Udalain. A. Lewisian Gneiss. B^G Intrusive Basic Rocks in Gneiss. Bt to B^* . Diabaig group (Torridonian). Bb. Applecross group. M. Eastern Schists. T. Thrust. T' Moine thrust. f. Faults.



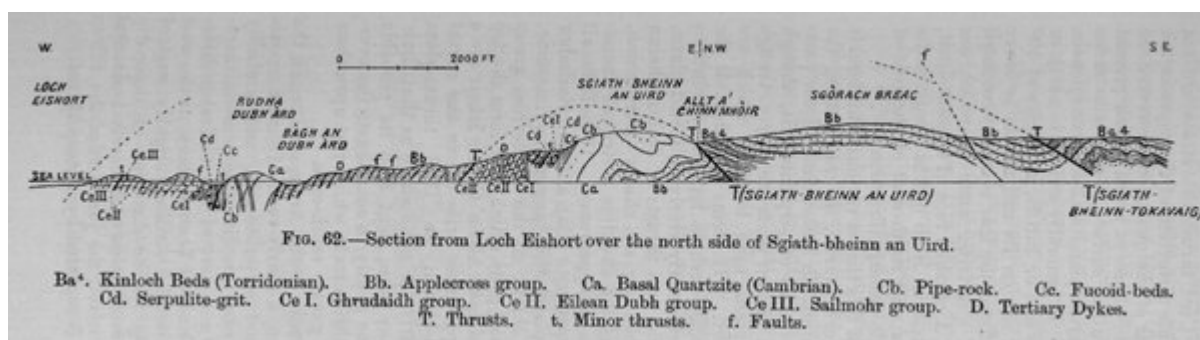
(Figure 59) Section across the north end of Sleat, Skye, from the coast at Ob Allt an Daraich across Sgùrr na Coinnich to the Sound of Skye at Dùn Ruaige. A. Lewisian Gneiss. Ba^1 . Epidotic Grits (Torridonian). Ba^2 . Loch na Dal Beds. Ba^3 . Beinn na Seamraig Grits. Ba^4 . Kinloch Beds. Bb. Applecross group. M. Moine Schists. D. Tertiary Dykes. T. Thrust. T'. Moine thrust. f. Faults.



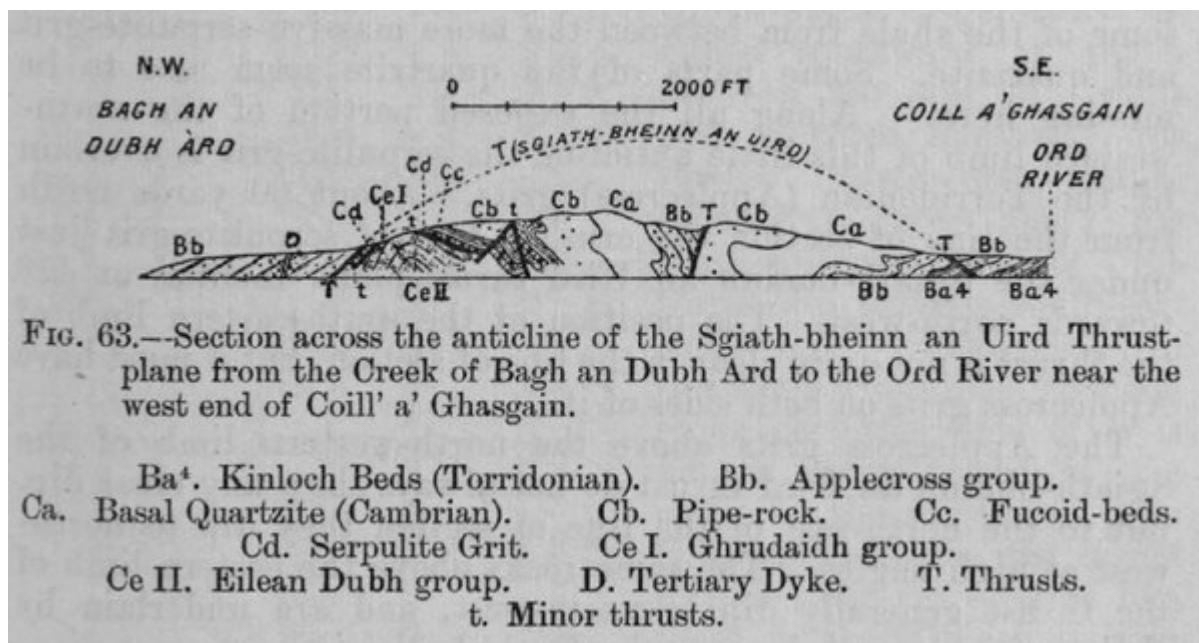
(Figure 60) Section from near Skulamus across Beinn na Seamraig to the Sound of Skye. Ba^1 . Epidotic Grits (Torridonian). Ba^2 . Loch na Dal Beds. Ba^3 . Beinn na Seamraig Grits. Ba^4 . Kinloch Beds. Bb. Applecross group. f. Trias. D. Tertiary Dykes. t. Minor thrusts. f. Faults.



(Figure 61) Section from the foot of Beinn na Caillich, Broadford, across Strath, Loch Eishort, and Sleat to Duisdale House, on the Sound of Sleat. A. Lewisian Gneiss. Ba². Loch na Dal Shales (Torridonian). Ba³. Beinn na Seamraig Grits. Ba⁴. Kinloch Shales. Bb. Applecross group. Ca. Basal Quartzite (Cambrian). Ce. Beinn an Dubhaich and Strath Suardal groups. Ce VI. Ben Suardal group. M. Moine Schist. f. Trias. D. Tertiary Dykes. T. Ben Suardal Thrust. T'. Moine thrust. t. Minor thrusts. f. Faults.

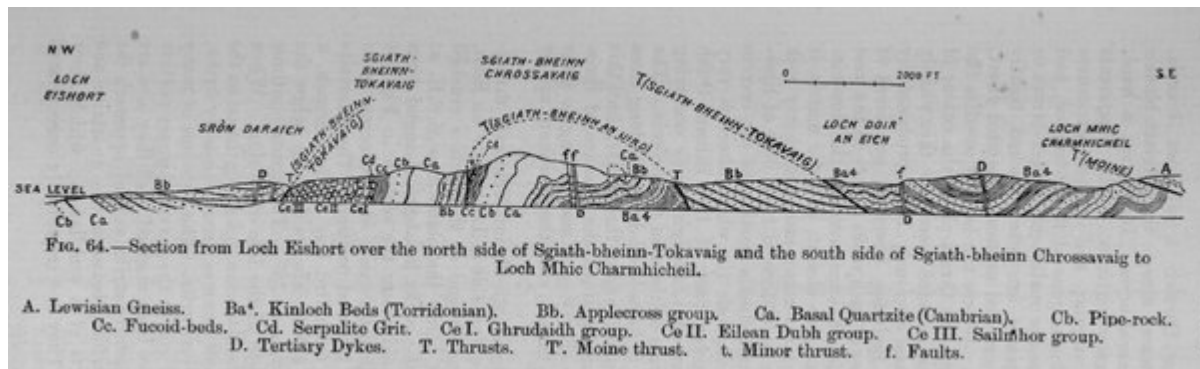


(Figure 62) Section from Loch Eishort over the north side of Sgiath-bheinn an Uird. Ba⁴. Kinloch Beds (Torridonian). Bb. Applecross group. Ca. Basal Quartzite (Cambrian). Cb. Pipe-rock. Cc. Fucoid-beds. Cd. Serpulite-grit. Ce I. Ghrudaidh group. Ce II. Eilean Dubh group. Ce III. Sailmohr group. D. Tertiary Dykes. T. Thrusts. t. Minor thrusts. f. Faults.

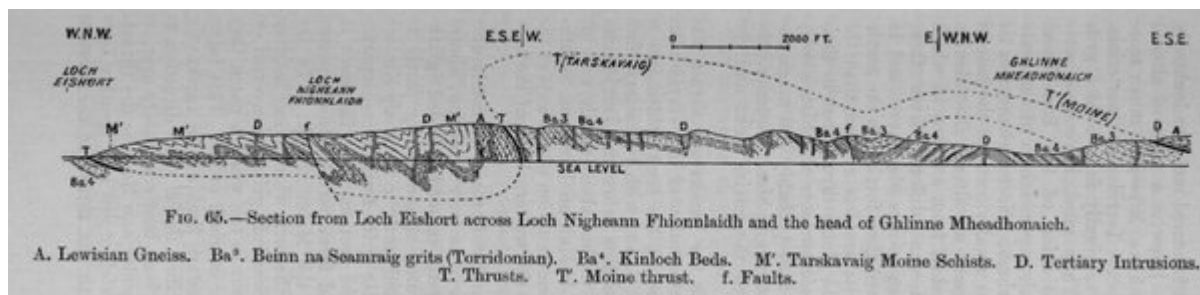


(Figure 63) Section across the anticline of the Sgiath-bheinn an Uird Thrust-plane from the Creek of Bagh an Dubh Ard to the Ord River near the west end of Coill' a' Ghasgain. Ba⁴. Kinloch Beds (Torridonian). Bb. Applecross group. Ca. Basal Quartzite (Cambrian). Cb. Pipe-rock. Cc. Fucoid-beds. Cd. Serpulite Grit. Ce I. Ghrudaidh group. Ce II. Eilean Dubh

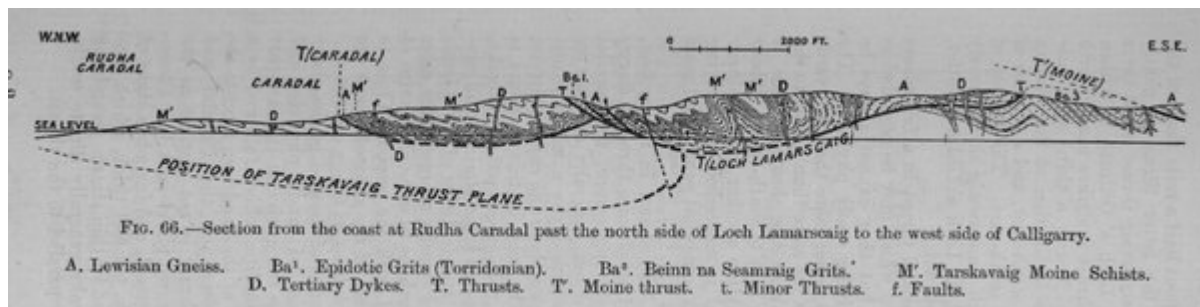
group. D. Tertiary Dyke. T. Thrusts. t. Minor thrusts.



(Figure 64) Section from Loch Eishort over the north side of Sgiath-bheinn-Tokavaig and the south side of Sgiath-bheinn Chrossavaig to Loch Mhic Charmhicheil. A. Lewisian Gneiss. Ba⁴. Kinloch Beds (Torridonian). Bb. Applecross group. Ca. Basal Quartzite (Cambrian). Cb. Pipe-rock. Cc. Fucoid-beds. Cd. Serpulite Grit. Ce I. Ghrudaidh group. Ce II. Eilean Dubh group. Ce III. Sailthor group. D. Tertiary Dykes. T. Thrusts. T'. Moine thrust. t. Minor thrust. f. Faults.



(Figure 65) Section from Loch Eishort across Loch Nigheann Fhionnlaidh and the head of Ghlinne Mheadhonaich. A. Lewisian Gneiss. Ba³. Beinn na Seamraig grits (Torridonian). Ba⁴. Kinloch Beds. M'. Tarskavaig Moine Schists. D. Tertiary Intrusions. T. Thrusts. T'. Moine thrust. f. Faults.



(Figure 66) Section from the coast at Rudha Caradal past the north side of Loch Lamarscaig to the west side of Calligarry. A. Lewisian Gneiss. Ba¹. Epidotic Grits (Torridonian). Ba³. Beinn na Seamraig Grits. M'. Tarskavaig Moine Schists. D. Tertiary Dykes. T. Thrusts. T'. Moine thrust. t. Minor Thrusts. f. Faults.

The geological structure of the North-West Highlands of Scotland



(Front cover) [Supplied for GeoGuide] Stac Pollaidh (Stac Polly)

MEMOIRS OF THE GEOLOGICAL SURVEY
OF GREAT BRITAIN.

THE GEOLOGICAL STRUCTURE
OF THE
NORTH-WEST HIGHLANDS
OF SCOTLAND.



BY
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JOHN HORNE, LL.D., F.R.S.; THE LATE W. GUNN;
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WITH
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BY
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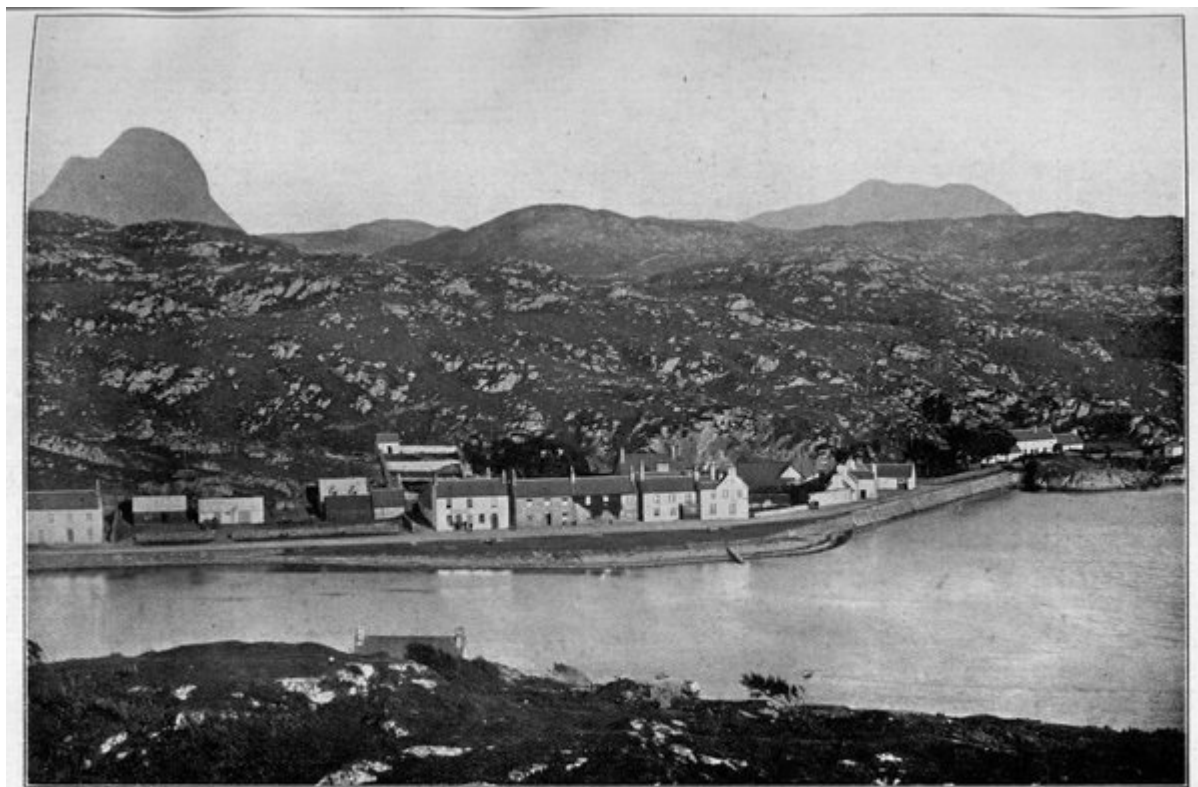
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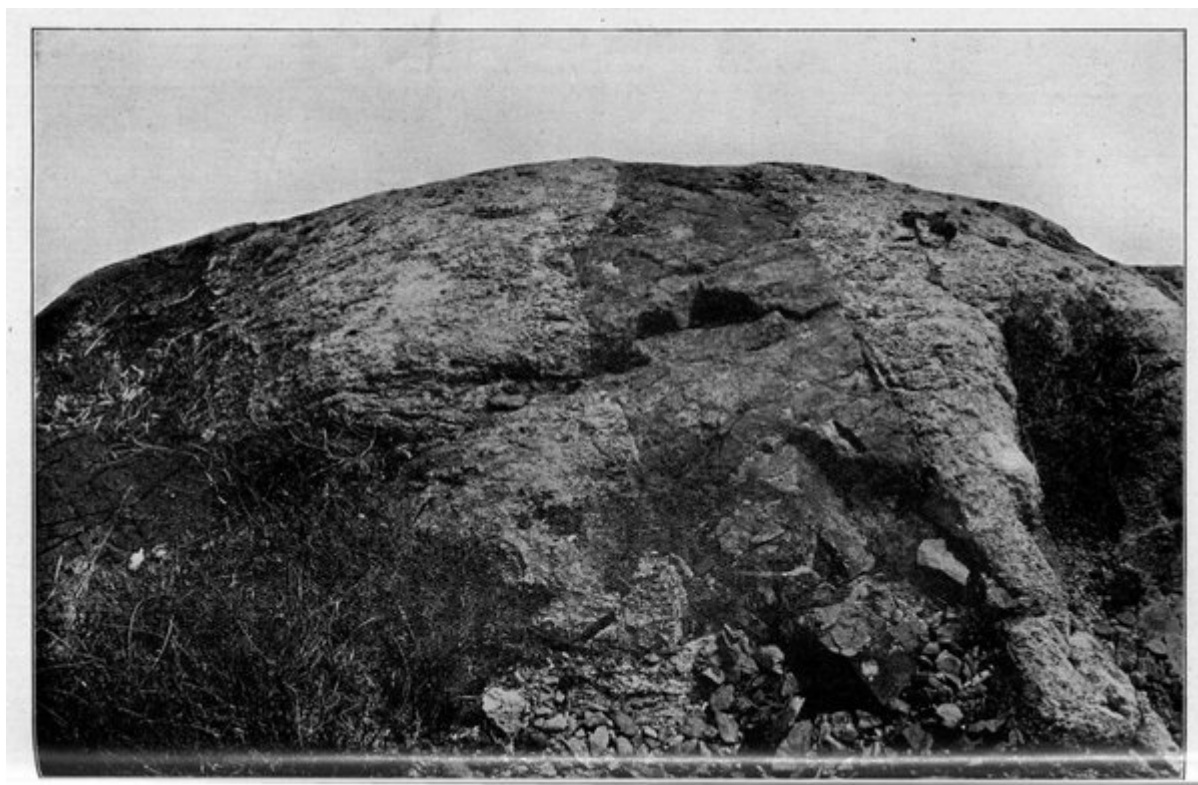
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Plateau of Lewisian Gneiss, south-east of Lochinver, Sutherlandshire. Suilven and Cùl Mòr in distance.

(Plate 1) Plateau of Lewisian gneiss, south-east of Lochinver, Sutherlandshire; Suilven and Cùl Mòr in distance. B40.



(Plate 2) Epidiorite dykes in thrust Lewisian gneiss, Heights of Kinlochewe, Ross-shire. B62.



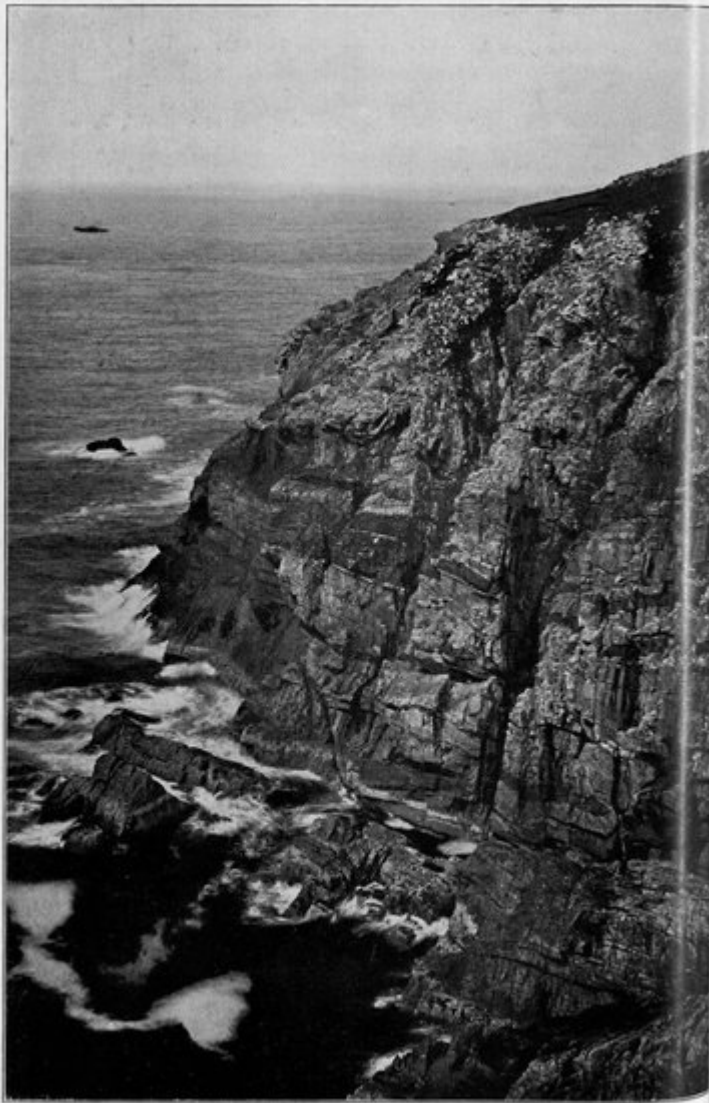
Torridonian Precipices : Sgurr na Caorach, Applecross, Ross-shire.

(Plate 3) Torridonian precipices, Sgurr na Caorach, Applecross, Ross-shire. C49-50.



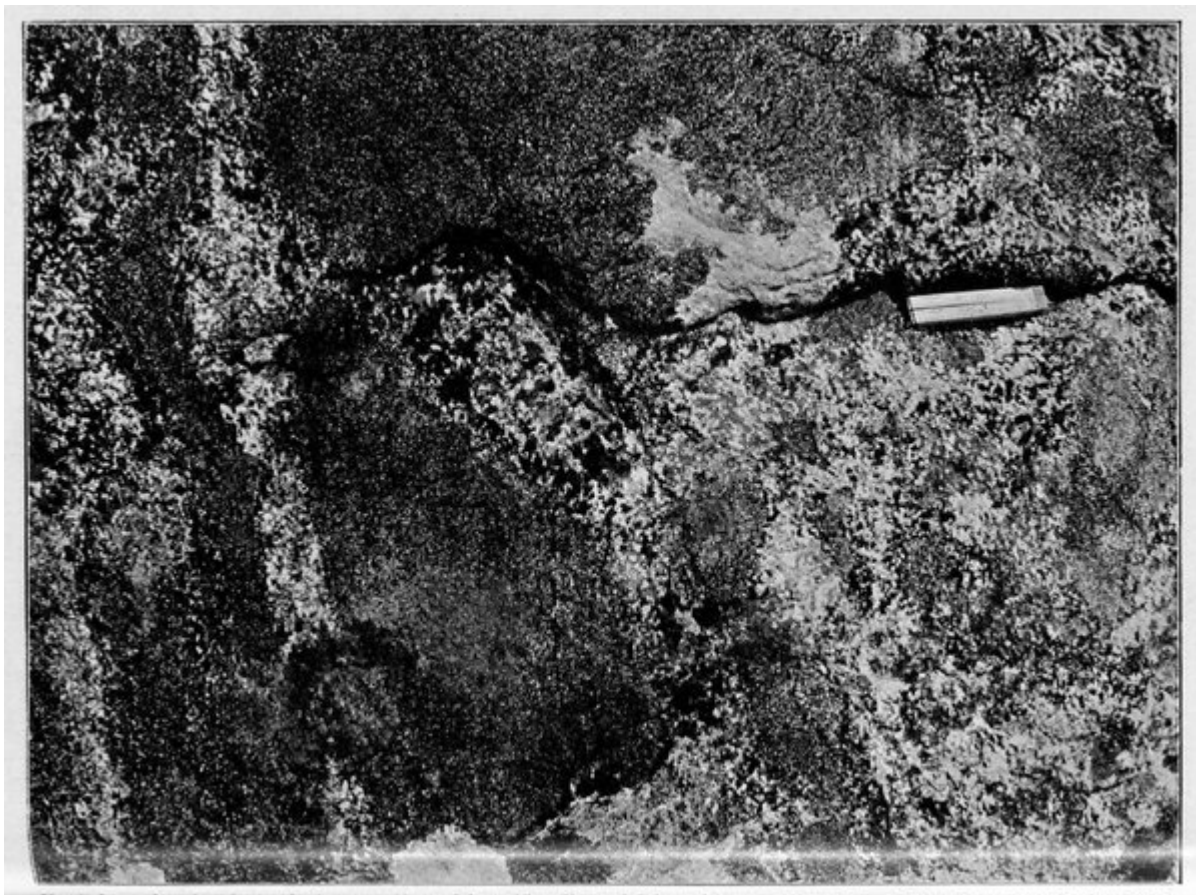
Unconformability of Cambrian Quartzites on Torridon Sandstone. Loch Coire Mhic Fhearchair,
Beinn Eighe, Ross-shire.

(Plate 4) Unconformability of Cambrian quartzites on Torridon sandstone; Loch Coire Mhic Fhearchair, Beinn Eighe, Ross-shire. C31.



Cliffs of Lewisian Gneiss, Cape Wrath, showing alternating bands of granite gneiss with veins of pegmatite.

(Plate 5) Cliffs of Lewisian gneiss, Cape Wrath, showing alternating bands of granite gneiss, with veins of pegmatite.



(Plate 6) Rock face showing imperfect separation of hornblendic and felspathic constituents, Cadha Beag, Little Gruinard, Ross-shire



Lumps of basic rock mainly composed of hornblende, separated by quartz-felspathic material.
Cadha Beag, Little Gruinard, Ross-shire.

(Plate 7) Lumps of basic rock, mainly composed of hornblende, separated by quartz-felspathic material; Cadha Beag, Little Gruinard, Ross-shire.



Basic Hornblende-Gneiss traversed by quartzo-felspathic veins. Cadha Beag, Little Gruinard, Ross-shire.

(Plate 8) Basic hornblende-gneiss traversed by quartzo-felspathic veins; Cadha Beag, Little Gruinard, Ross-shire. B60.



Hornblende-Gneiss with veins of pegmatite, showing transition from brecciated condition on left to banded condition on right. Ard Shildaig, Loch Torridon.

(Plate 9) Hornblende-gneiss with veins of pegmatite, showing transition from brecciated condition on left to banded condition on right; Ard Shildaig, Loch Torridon. B116.



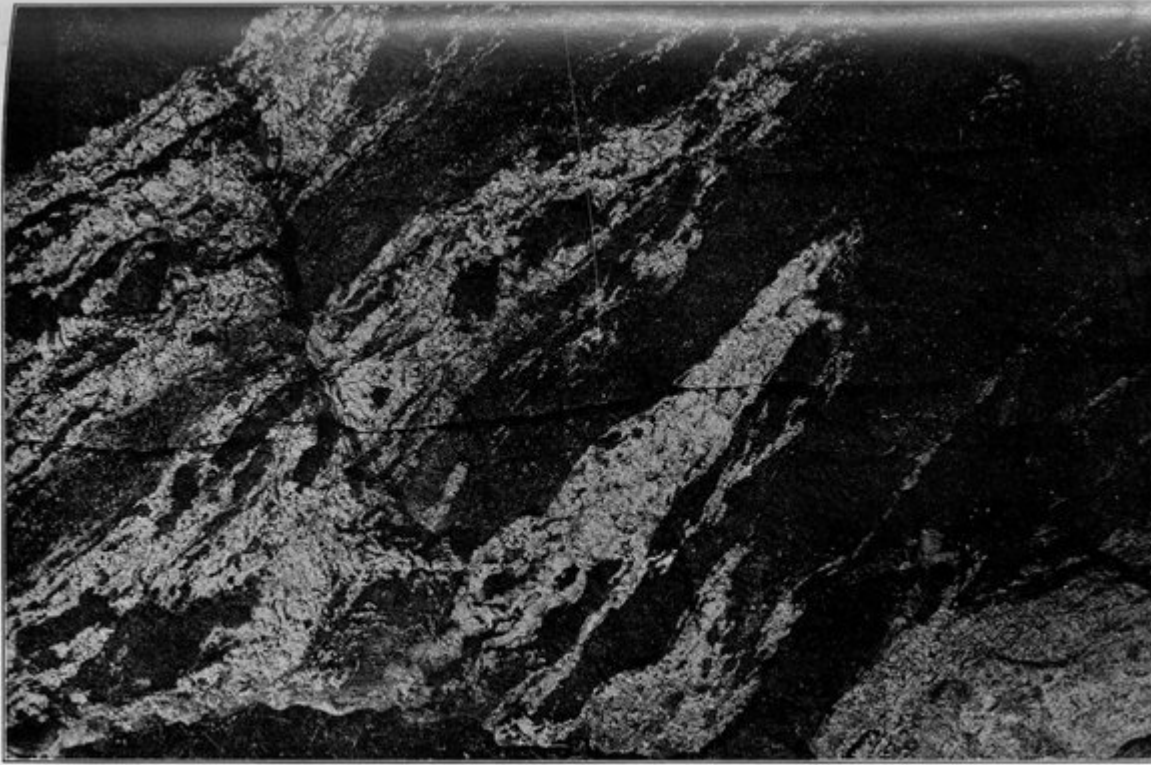
Fragments of banded Hornblende-biotite-gneiss in more acid material : a plutonic breccia.
Near Creag Mhor Thollie, Poolewe, Ross-shire.

(Plate 10) Fragments of banded hornblende-biotite-gneiss in more acid material — a plutonic breccia; near Creag Mhor Thollie, Poolewe, Ross-shire. B100–B101.



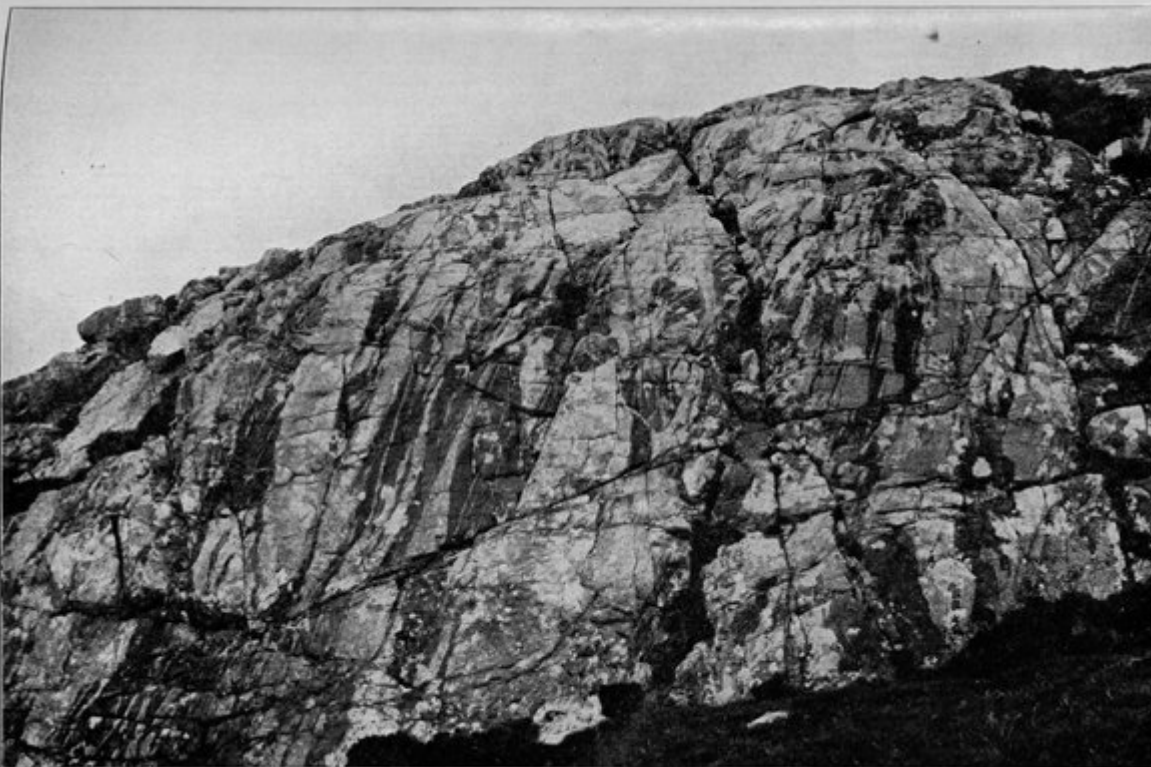
Junction of one of the included fragments with the matrix shown in Plate X. 1200 yards S.E. of the top of
Creag Mhor Thollie, two miles south of Poolewe, Ross-shire.

(Plate 11) Junction of one of the included fragments with the matrix shown in



Imperfect banded structure in Hornblende-Gneiss. Creag a' Mhail, north side of Scourie Bay, Sutherlandshire.

(Plate 12) *Imperfect banded structure in hornblende-gneiss; Crew a' Mhail, north side of Scourie Bay, Sutherlandshire. B9.*



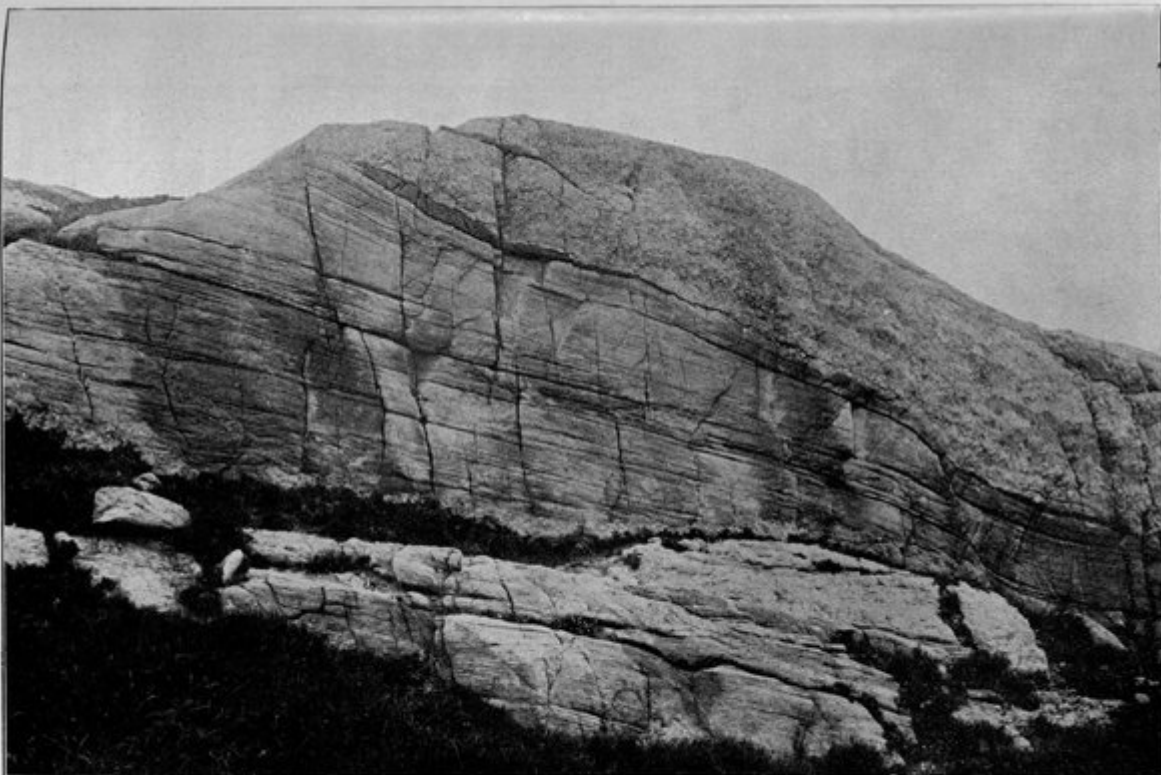
Felspathic Gneiss with streaks and lenticles of basic (hornblendic) rock. Cliff face about 20 feet high.

(Plate 13) *Felspathic gneiss with streaks and lenticles of basic (hornblendic) rock; Meall Buidhe, Cadha Beag, Little Gruinard, Ross-shire. B54-B55*



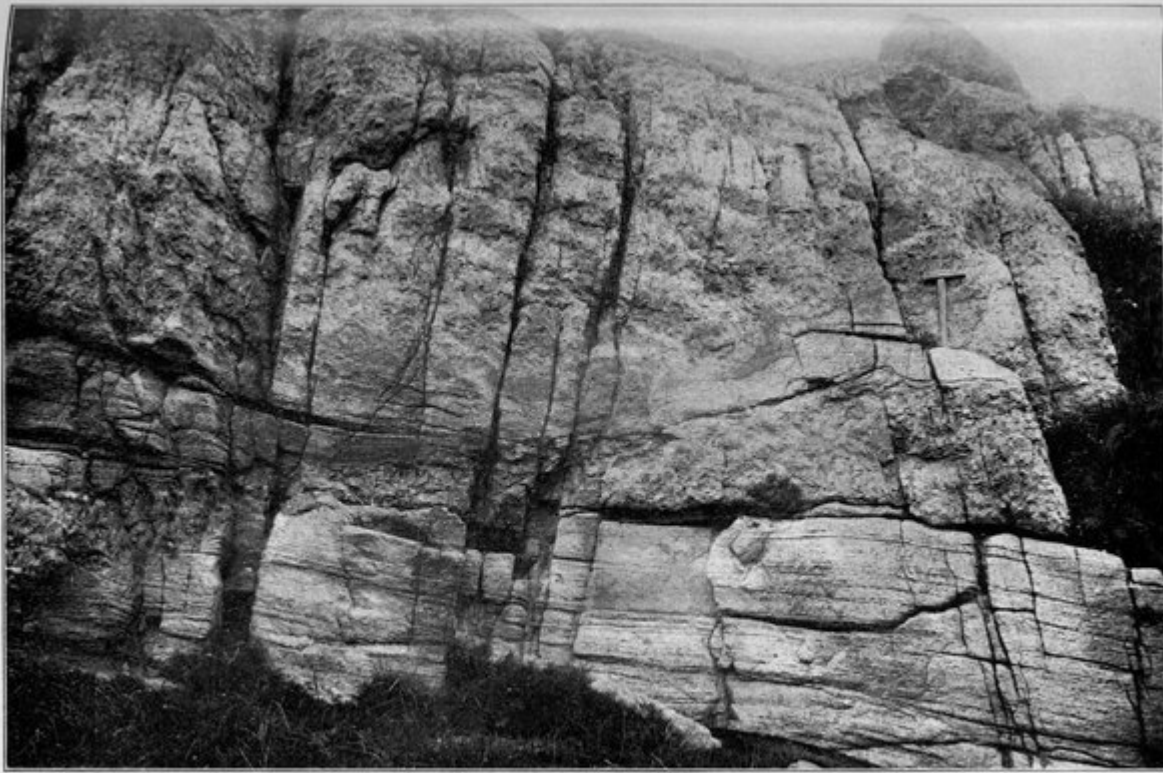
Bands and fragments of foliated basic material in more acid gneiss, near Loch a Bhaid Daraich, Scourie, Sutherlandshire.

(Plate 14) Bands and fragments of foliated basic material in more acid gneiss, near Loch a' Bhaid Daraich, Scourie, Sutherlandshire.



Rock face—upper part consists of coarse pegmatite, lower part of Hornblende-Gneiss with parallel structure.
About one mile south of Rhiconich, Sutherlandshire.

(Plate 15) Rock face — upper part consists of coarse pegmatite, lower part of hornblende-gneiss with parallel structure; about one mile south of Rhiconich, Sutherlandshire. B18



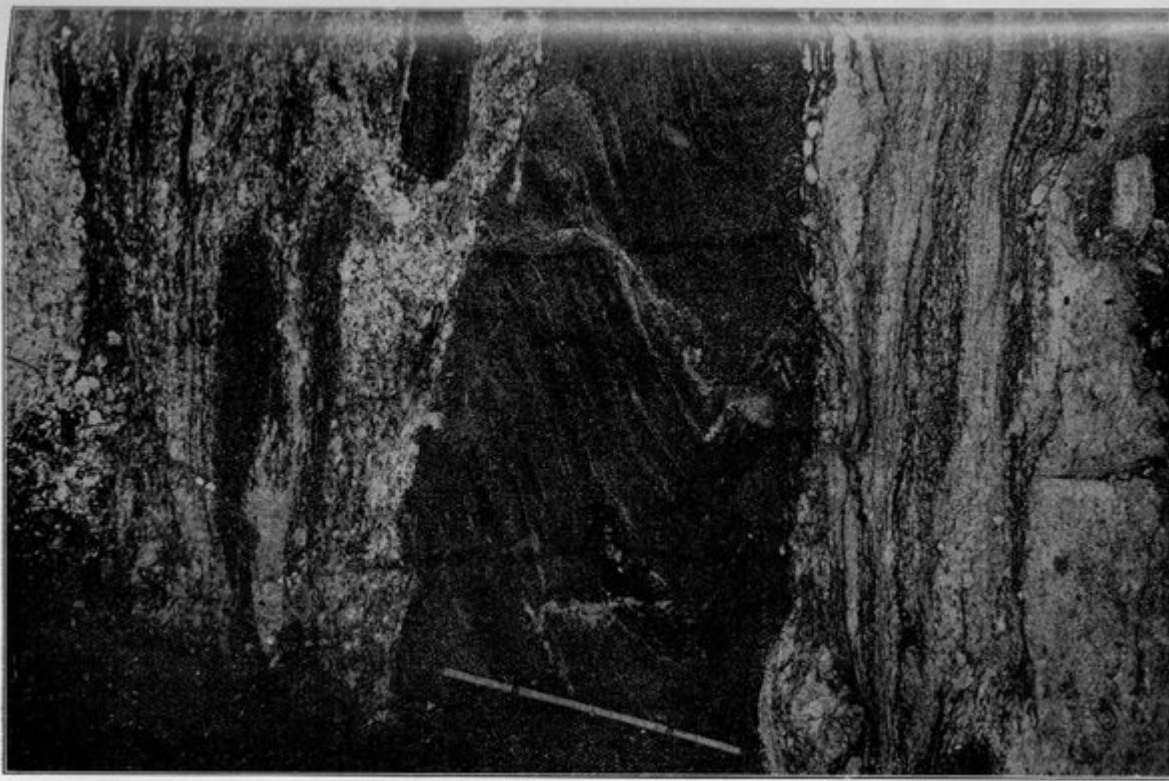
A portion of the rock shown in Plate XV., exhibiting the intrusive character of the pegmatite.
One mile south of Rhiconich, Sutherlandshire.

(Plate 16) A portion of the rock shown in



Foliated pegmatite containing large "eyes" of microcline. Ard Shildaig, Loch Torridon, Ross-shire.

(Plate 17) Foliated pegmatite containing large "eyes" of microcline; Ard Shildaig, Loch Torridon, Ross-shire. B114



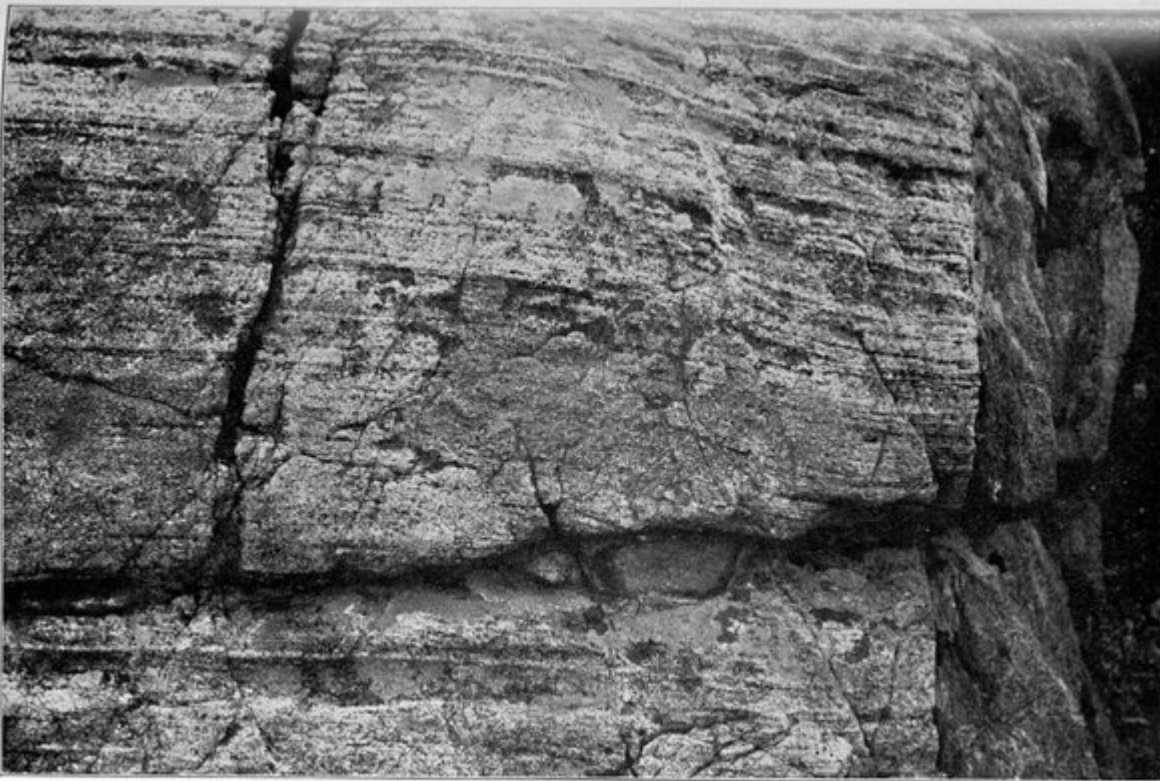
Fragment of banded and contorted Hornblende-Gneiss, enclosed in foliated pegmatitic Gneiss.
Ard Shildaig, Loch Torridon, Ross-shire.

(Plate 18) Fragment of banded and contorted hornblende-gneiss, enclosed in foliated pegmatitic gneiss; Ard Shildaig, Loch Torridon, Ross-shire. B117



Dyke in Gneiss, Creag a' Mhail, Scourie. The notch in distant promontory, the small bay in middle distance, and notch in foreground, are due to the dyke.

(Plate 19) Dyke in gneiss, Creag a' Mhail, Scourie. The notch in distant promontory, the small bay in middle distance, and notch in foreground are due to the dyke. B8



Junction of basic dyke with banded pyroxenic or hornblende Gneiss, $\frac{1}{4}$ -mile south-west of Loch a Bhaid Daraich, Scourie, Sutherlandshire.

(Plate 20) Junction of basic dyke with banded pyroxenic or hornblende gneiss; quarter of a mile south-west of Loch a' Bhaid Daraich, Scourie, Sutherlandshire. B6



Junction of Gneiss and dyke ; dyke on the right, Gneiss on the left. Secondary movement has taken place along the nearly vertical junction plane. Creag a' Mhail, north side of Scourie Bay, Sutherlandshire.

(Plate 21) Junction of gneiss and dyke — dyke on the right, gneiss on the left. Secondary movement has taken place along the nearly vertical junction plane. Creag a' Mhail, north side of Scourie Bay, Sutherlandshire. B10



Portion of the dyke shown in Plate XXI. where it is crossed by a zone of disturbance. The lower part is composed of massive Epidiorite ; the upper part of Hornblende-schist. Creag a' Mhail, north side of Scourie Bay, Sutherlandshire.

(Plate 22) Portion of the dyke shown in



Granulitic Gneiss with quartz veins in secondary shear zone in Lewisian Gneiss. Duart Beg, $1\frac{1}{4}$ miles south of Badcall Bay, near Scourie, Sutherlandshire.

(Plate 23) Granulitic gneiss with quartz veins in secondary shear zone in Lewisian gneiss; Duart Beg, $1\frac{1}{4}$ mile south of Badcall Bay, near Scourie, Sutherlandshire. B14



Fine grained granulitic Biotite-Gneiss. About $\frac{1}{2}$ mile W.S.W. of Loch Tollie, near the road between Poolewe and Gairloch.

(Plate 24) *Fine-grained granulitic biotite-gneiss, about half a mile W.S.W. of Loch Tollie, near the road between Poolewe and Gairloch. B113*



Rod-like or mullion structure in Lewisian Gneiss, Poolewe anticline, produced by movements later than the dykes. Half-mile north-east of Meall an Spardain, Poolewe, Ross-shire.

(Plate 25) *Rod-like or mullion structure in Lewisian gneiss, Poolewe anticline, produced by post-dyke movements; half a mile north-east of Meall an Spardain, Poolewe, Ross-shire. B103*



Convoluted Hornblende-Gneiss. Striations on surface to right are parallel to the slope of the mullion surface in Plate XXV.
Meall an Spardain, Poolewe, Ross-shire.

(Plate 26) Convoluted hornblende-gneiss. Striations on surface to right are parallel to the slope of the mullion surface in



Junction of Hornblende-Schist with banded Hornblende-Gneiss.
Meall an Spardain, Poolewe, Ross-shire.

*(Plate 27) Junction of hornblende-schist with banded hornblende-gneiss; Meall an Spardain, Poolewe, Ross-shire.
B106-B107*



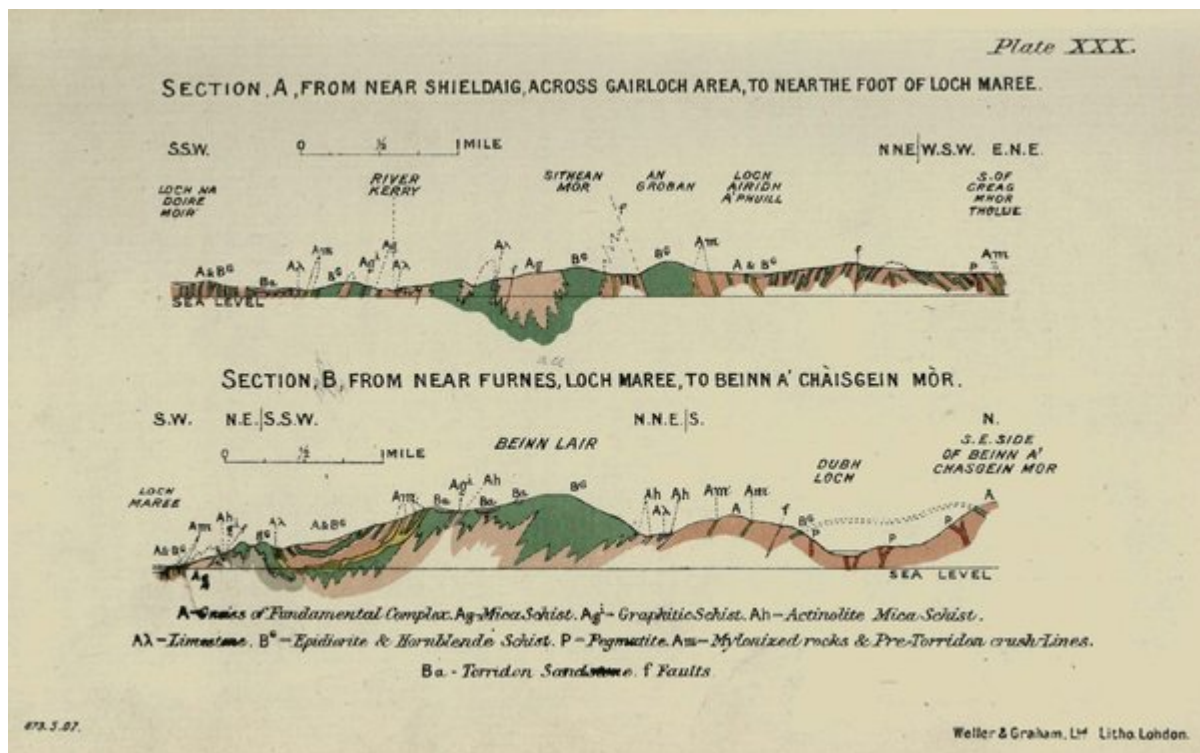
Lenticles of saussurite in a matrix of Hornblende-Schist, near the summit of Pass, between Letterewe and Carnmore, Loch Maree, Ross-shire. /A.293

(Plate 28) Lenticles of saussurite in a matrix of hornblende-schist, near the summit of Pass, between Letterewe and Carnmore, Loch Maree, Ross-shire. B71

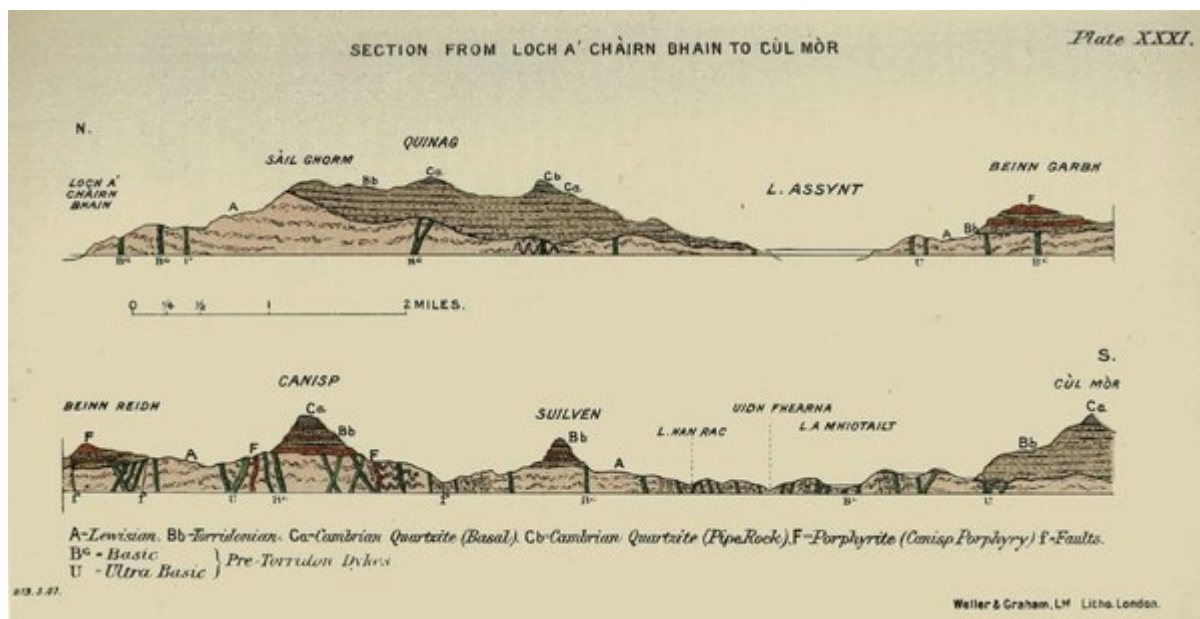


Phacoidal structure in Biotite-Gneiss and pegmatite, produced by post-Cambrian movements. Three-quarters of a mile west of Stromeferry Railway Station, Ross-shire.

(Plate 29) Phacoidal structure in biotite-gneiss and pegmatite, produced by post-Cambrian movements; three-quarters of a mile west of Stromeferry Railway Station, Ross-shire. C64



(Plate 30) Coloured sections across Lewisian series; Loch Maree and Gairloch.

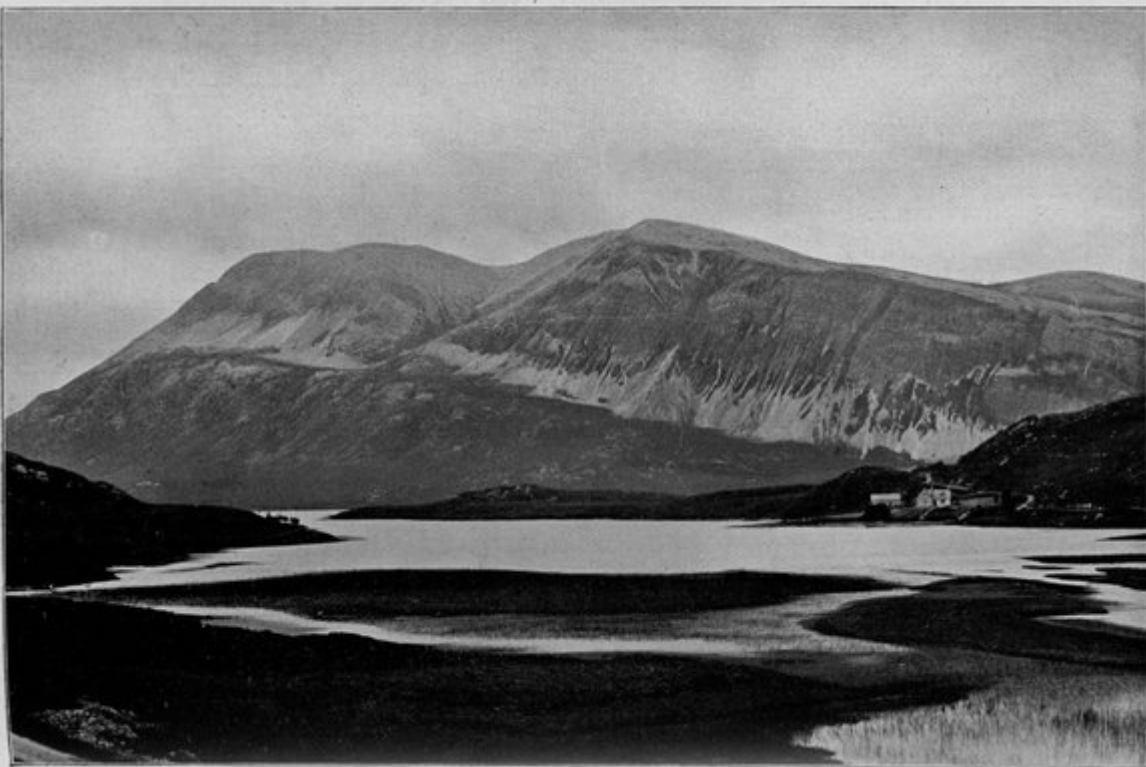


(Plate 31) Coloured section from Loch a' Chairn Bhain to Cùl Mòr, showing denudation of the Torridon sandstone on the plateau of Lewisian gneiss.



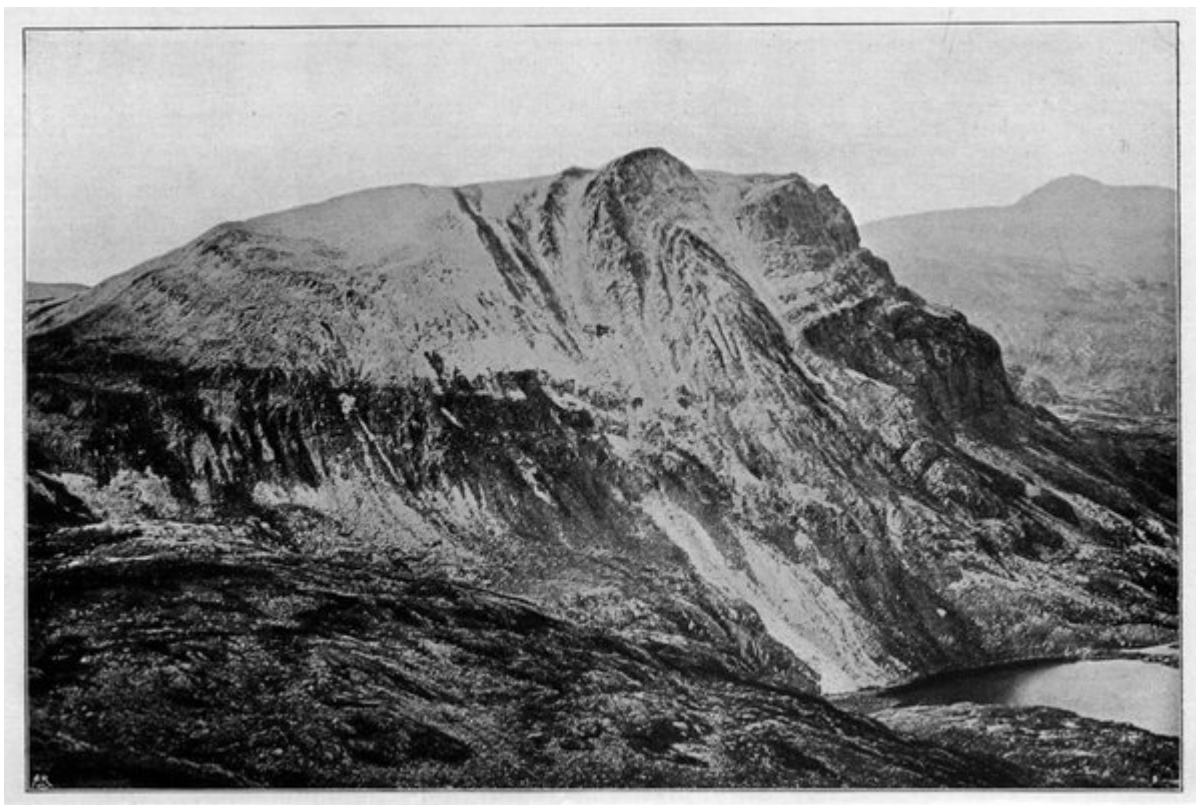
Precipices of Torridon Sandstone. Beinn Bhan, Applecross, Ross-shire.

(Plate 32) *Precipices of Torridon sandstone; Beinn Bhan, Applecross, Ross-shire. C61–C62*



Cambrian Quartzite resting unconformably on eroded platform of Lewisian Gneiss. Beinn Arkle, Sutherlandshire.

(Plate 33) *Cambrian quartzite resting unconformably on eroded platform of Lewisian gneiss; Beinn Arkle, Sutherlandshire. B29*

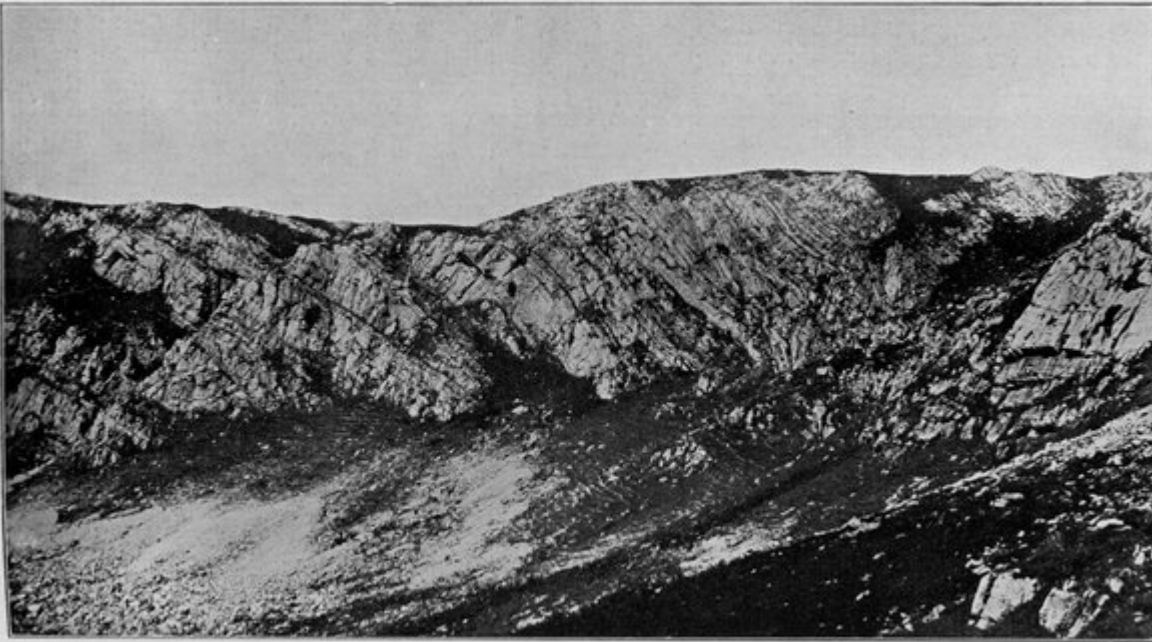


(Plate 34) Overfolding of Cambrian quartzites above Ben More thrust-plane; Na Tuadhan, north of Ben More, Assynt, Sutherlandshire.



Lewisian Gneiss forming lowest part of cliff (I.), covered by Torridon Sandstone in middle distance (II.), capped by basal quartzites (III.) on crest of Ben More, Coire Dubh Loch Mòr, Sutherlandshire.

(Plate 35) Lewisian gneiss forming lowest part of cliff (I.), covered by Torridon sandstone in middle distance (II.), capped by basal quartzites (III.), on crest of Ben More, Coire Dubh Loch Mòr., Sutherlandshire. B34



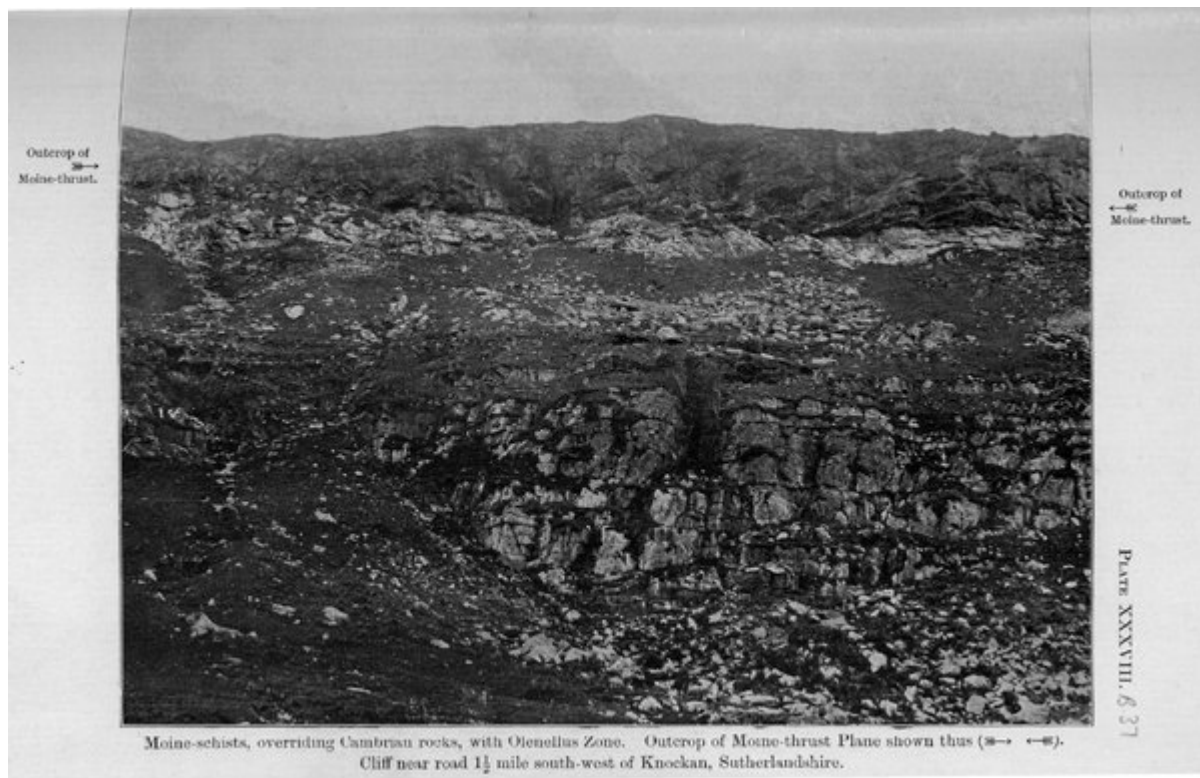
Thrust Dolomite and Limestones. Stronechrubie Cliffs, Inchnadamff, Sutherlandshire.

(Plate 36) Thrust dolomite and limestones, Stronechrubie Cliffs, Inchnadamff, Sutherland-shire B36



Bare inclined thrust-plane or "sole" in Cambrian Limestone. Traligill River, Inchnadamff, Sutherlandshire.

(Plate 37) Bare inclined thrust-plane or "sole" in Cambrian limestone; Traligill River, Inchnadamff, Sutherlandshire.



(Plate 38) Moine-schists overriding Cambrian rocks, with Olenellus zone — outcrop of Moine-thrust shown thus (→ ←); cliff near road 1½ mile south-west of Knockan, Sutherland-shire. B37



(Plate 39) Folded Torridonian and Cambrian strata on left; thrust Torridon sandstone on right t above bare thrust-plane of quartzite; south face, Beinn Liath Mhor, Ross-shire B135



Fig. 1. Hornblende Rock. x 35.



Fig. 2. Hornblende Rock x 35.



Fig. 1. Hornblende-anthophyllite rock. x 35.

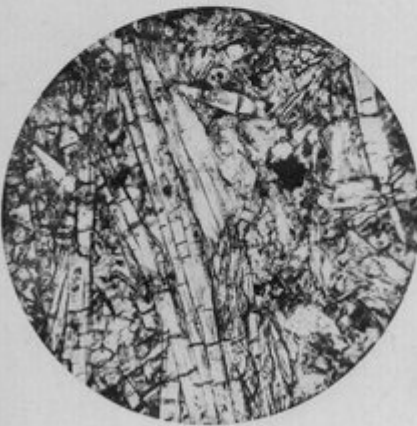


Fig. 2. Calc-anthophyllite rock. x 35.



Fig. 1. Hornblende-gneiss (basic) x 22.

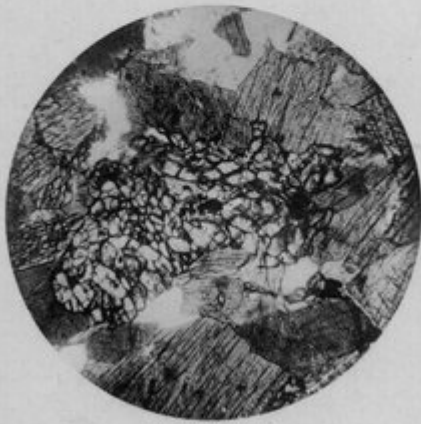


Fig. 2. Hornblende-gneiss. x 35.



Fig. 1. Epidote - amphibolite. x 35.



Fig. 2. Zoisite - amphibolite. x 35.

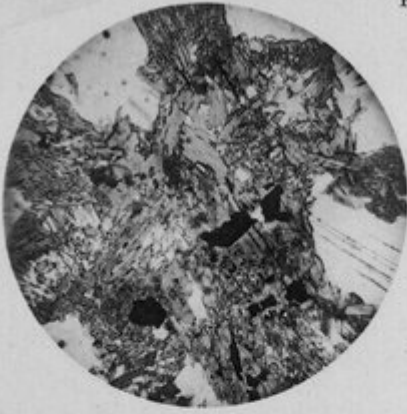


Fig. 1. Hornblende-biotite-gneiss. x 35.

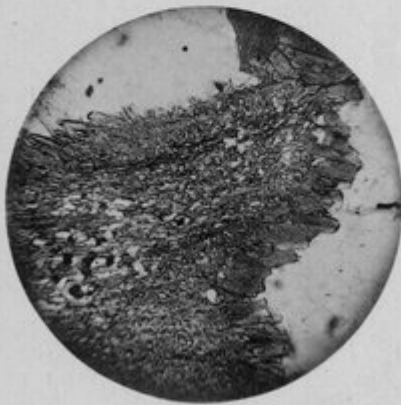


Fig. 2. Hornblende-biotite-gneiss x 60.



Fig. 1. Granulitic hornblende-gneiss $\times 35$.

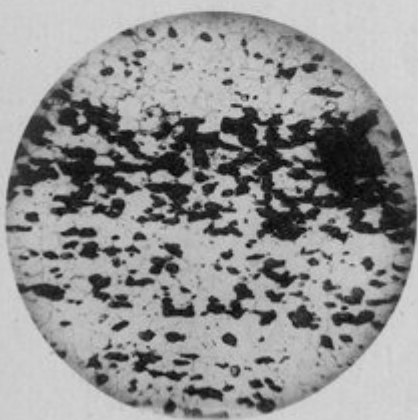


Fig. 2. Granulitic hornblende-gneiss. $\times 35$.

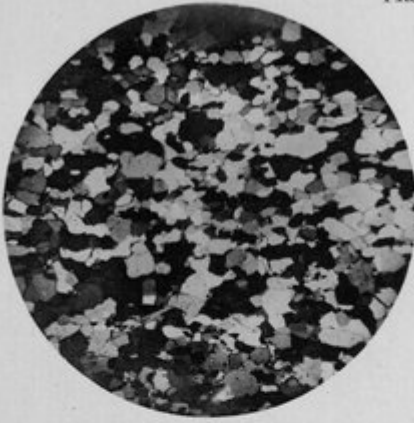


Fig. 1. Quartz - felspar - mosaic. $\times 35$.

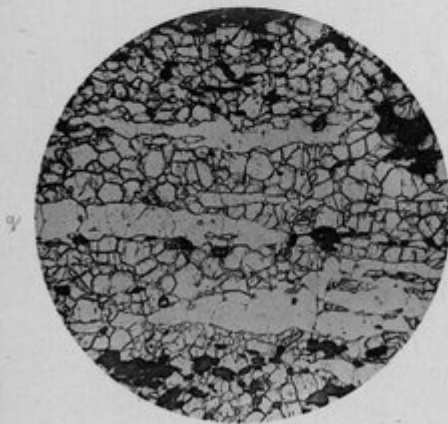


Fig. 2. Quartz - felspar - mosaic. $\times 35$.



Fig. 1. Diabase x 15.



Fig 2. Hornblende - enstatite-diabase. x 35.

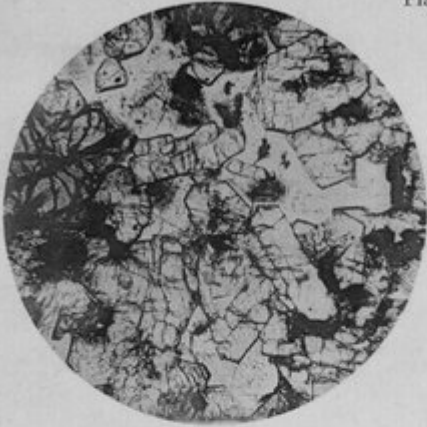


Fig. 1. Olivine-norite. $\times 35$.

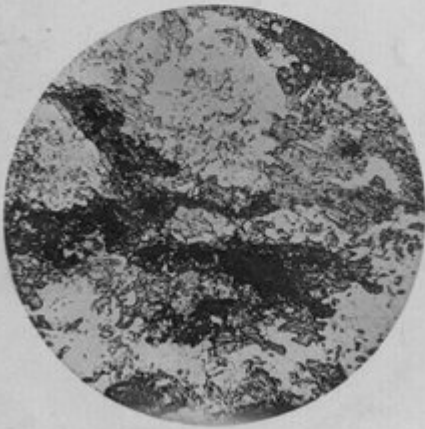


Fig. 2. Epidote-amphibolite. $\times 35$.

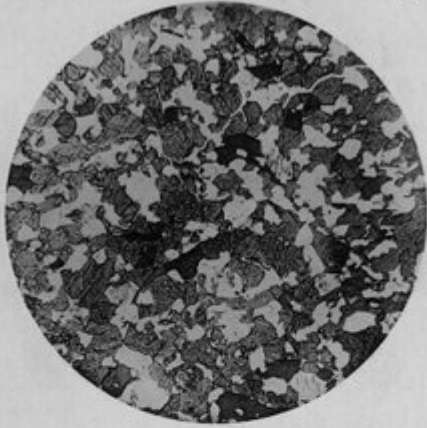


Fig. 1. Hornblende-schist $\times 15$.

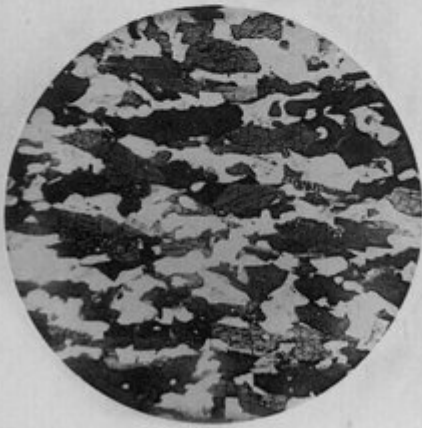


Fig. 2. Hornblende-schist $\times 15$.

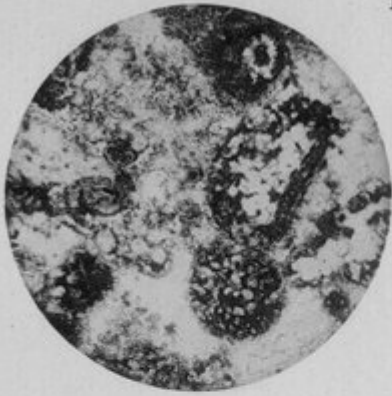


Fig. 1. Chert. x 30.

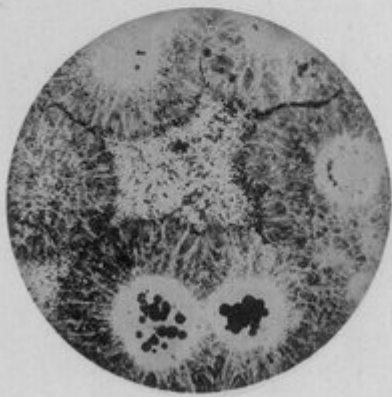


Fig. 2. Jasper. x 30.

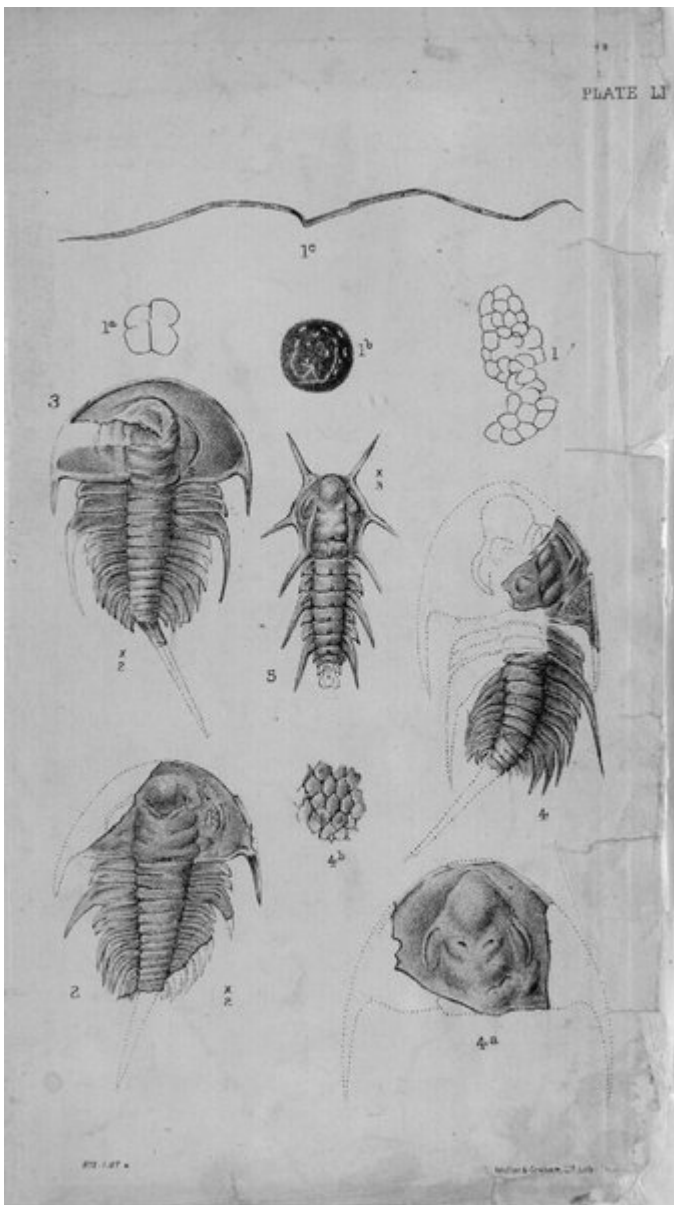
Plate LI.



Fig. 1. Spherulitic Felsite. x 30.



Fig. 2. Spherulitic Felsite. x 30.



(Plate 52) The figures 1, 1a, 1b, 1c represent traces of supposed organisms in phosphatic nodules from the Upper Torridon shales of Cailleach Head, Loch Broom; magnified about 60 diameters. See page 288. 1. Irregular mass showing cellular structure. 1a. Group of four cells. 1b. Black sphere with perforations. 1c. Brown fibre. 2. *Olenellus lapworthi*, Peach. Enlarged 2 diameters. 3. *Olenellus lapworthi*, var. *elongatus*, Peach. 79 4. *Olenellus reticulatus*, Peach. Natural size. 4A. *Olenellus reticulatus*, Peach. Natural size. 4B. *Olenellus reticulatus*, Peach. Test enlarged to show nature of ornamentation. 5. *Olenelloides armatus*, Peach. Enlarged 4 diameters. Figs. 2–5 from "Furoid beds," Cambrian, Meall Ghiubhais, Kinlochewe, Ross-shire. Copied hypermission of the Geological Society from Quart. Jour. Geol. Soc., Vol. L., 1894. Pls. XXIX., XXX., XXXI., and XXXII., pp. 674, 675.