

# INDEX TO VOL. XV.

1912-1915.

- Aberfoyle, 3.  
 Aberfoyle Series, 4, 6, 8.  
 Abden Limestone, 238, 245.  
 Accounts, Treasurer's, 118, 284, 426.  
 Acidification, 129, 132.  
 Acidification, Quantitative estimation of, 132.  
 Agates, 66, 346, 363.  
 Age of composite sill, 123, 145.  
 Age of Loch Long, 297, 304.  
 Ages assigned to Upper Red Rocks of Arran, 174.  
 Agglomerate, 345.  
 Agglomerate, Sandstone in, 320, 346.  
 Alaska Goldfield, 409.  
 Albitization, 321, 355, 361.  
 Allerbeck Sandstone, 377, 382.  
 Allport, 16, 18, 32.  
 Alluvial fan, 11, 12, 13.  
 Alum Shale, 208, 244, 254, 411.  
 Ambrisbeg and Ascog lava, 342, 355.  
 Amphibolite, 336.  
 Analcitisation, 357, 361.  
 Analyses of pitchstones, 29; felsites, 29; basalts, 323; bostonites, mugearite and quartzdolerite, 359; boulders, 96.  
 ANDERSON, E. M., 106, 275.  
 Angular Grains, 176, 376.  
 Annan Red Sandstone Series, 374, 377.  
 Annanlea Sandstone, 377, 378.  
 Anorthosite, 351.  
 Antecedent Rivers, 302.  
 Ardentinnny, 10, 11.  
 Arklestone, 208, 254, 389.  
 Arran, 16, 28, 113, 123, 136, 140, 174, 188, 302, 334, 375, 415.  
 Arrotshole, 390.  
 Atikokania, 273.  
 Auchenback, 201, 217.  
 Auchenhew, 176.  
 Augite-andesite, 72.  
 Ayrshire, 200, 220, 233, 249, 255.  
 Ayrshire, Sequence, 256.  
 BAILEY, E. B., 95, 104, 303, 321, 325, 327, 343, 361.  
 Baldernock Linn, Section exposed at, 45.  
 Baldernock Limestone, 45, 208, 252.  
 Balglass, Corries of, 85.  
 " " Sections across, 86, 87.  
 " " Origin of, 94.  
 Ballymichael Glen, Sections near, 181, 189.  
 Barrier of lava between Ayrshire and Renfrewshire, 263.  
 Barrmill, Section at, 258.  
 Barr Point, 348.  
 Basalt, 3, 17, 60, 72, 188, 317.  
 Basalt, Cooling history of, 323.  
 " Analcitised, 357.  
 " Craiglockhart, 317, 324, 331, 344, 356.  
 " Dunsapie, 317, 320, 322, 343, 344, 356.  
 " Markle, 317, 321, 331, 344, 355.  
 " Origin of different types, 327, 331.  
 " Jedburgh, 355, 317, 324, 331, 344.

- Basification, 135, 137.  
 BATHER, F. A., 170, 277.  
 Bearsden, 37.  
 Begg, J. L., 269; on "Notes on Gothland," 276.  
 Beith, 43, 202, 221.  
 Belfast, 186.  
 Bellerophon, 47, 214, 394.  
 Bannan Head, Sections at, 178.  
 BENNIE, J., 310.  
 Biggar Gap, 301, 302.  
 BINNEY, E. W., 374.  
 Birkwood Glen, 402.  
 Blackband Ironstone, 232, 244.  
 Blackbyre Limestone, 38, 205, 207, 212, 221, 226, 251, 387.  
 Blackhall Limestone, 38, 209, 216, 230, 240, 251, 387, 393, 398.  
 BLAIR, M., 208.  
 Boghead, 395.  
 BONNEY, T. G., 32, 85, 91.  
 Books presented by J. NEILSON, Esq., 422.  
 Bore at Bridge of Weir, 42.  
 Bore at Woodmill Bleachfield, 170.  
 Bone bed, 238, 244.  
 Bosses, 69.  
 Bostonite, 128, 138, 318, 320, 325, 353.  
 Bostonite, Alkali content of, 326.  
 BOUE, A., 341.  
 BOYLE, R., 375.  
 Braehead, 388.  
 Bridge of Weir, 37, 40, 201, 215, 240, 250, 264.  
 British Antarctic Expedition, 109.  
 Broadstone, 43, 217, 221, 223.  
 ,, Strata seen at, 224, 234, 257.  
 Brodick, 175, 183, 198.  
 BROUGH, P., 270.  
 BRYCE, J., 16, 174, 334.  
 BUCHANAN, R. M., 268.  
 Building sites, 13.  
 Bunter, 184.  
 Burican, 26, 35, 149, 176, 196.  
 Buried River Channel at Motherwell, 1.  
 Buried Preglacial Valley of the Kelvin, 309.  
 Bute, 121, 149, 334, 419.  
 CADELL, H. M., 297, 304, 310, 411, 417; on the Alaskan and Klondyke Goldfields, 411.  
 Calciferous Sandstone Series, 37, 86, 109, 122, 151, 174, 259, 317, 327, 334, 387.  
 Calder Water, 12.  
 Calderwood Glen, 43, 158, 391.  
 Calderwood Cement, 219, 230, 236, 240, 261, 387, 388, 398.  
 Calmy Limestone, 152, 406.  
 Cambrian, 58, 414.  
 CAMPBELL, R., 7, 82.  
 Campsie, 37, 214, 240, 396.  
 Campsie Fells, 3, 84, 94, 115, 343.  
 Canadian Shield, 271.  
 Carboniferous Limestone, 3, 37, 110.  
 Carboniferous Igneous activity in Bute, 338.  
 Carluke, 388, 404.  
 Carrick Hills, Ayrshire, 64.  
 Carron River, 95, 315.  
 CARRUTHERS, R. G., 111, 112, 165, 205, 269, 275, 310, 392, 395; on the Carboniferous Sediments around Strathaven, 151; on the Lower Limestones of Renfrewshire and North Ayrshire, 249.  
 Castlereary Limestone, 153.  
 Chætetes, 212.  
 Chalcedony, 346.  
 Chitons, 167.  
 Cir Mhor, 16, 22, 146.  
 Cirques, 84.  
 Classification of Canadian Precambrian Rocks, 271, 272, 273.  
 Clesiophyllid Corals, 152.  
 Cliff and terrace, 65.  
 CLOUGH, C. T., 2, 3, 105.  
 Cloy, Glen, 140.  
 Closeburn, 384.  
 Clyde, 301.  
 Clyde-Kelvin-Forth, 303.

- Clyde plateau, 358.  
 Clyde-Tweed River, 302.  
 Clyde-Tweed River, Disruption of, 302.  
 Coileasan Glen, 297.  
 COLE, G. A. J., 91, 367.  
 Columnar Sandstone, 270.  
 Columnar Structure, 70, 122, 340.  
 CONACHER, H. R. J., 105, 109, 112, 200, 239, 263, 275.  
 CONACHER, H. R. J., on the limestones lying just above the lavas in the Glasgow district, 37.  
 Cone-in-cone, 221.  
 Conglomerate of Lewis, 57.  
 Contemporary Breccias, 179.  
 Continuous sedimentation, 197.  
 Continuity, 267.  
 Corals, 39, 225, 226, 394.  
 Corncockle Muir, 374, 376, 384.  
 Corriegills, 18, 20.  
 Corrieburn, Table of Strata, 49.  
 Corries, 84, 115.  
   ,, Synonyms for, 84.  
   ,, Theories of the Formation of, 89.  
   ,, Classification of, 98.  
 Corsehill, 376, 379.  
 Corstorphine, 24, 34.  
 Cot Castle, 156, 392.  
 Cove, 378.  
 Cowal, 9, 13, 14.  
 COWIE, C. R., 269, 413, 415.  
 Craigen Glen, 44.  
 Craigmaddie Sandstone, 45.  
 CRAIG, E. H. CUNNINGHAM, 5.  
 CRAIG, ROBERT, 202, 220, 223.  
 Creag a Mhara lavas, 340, 354; Vent, 340.  
 Crinanite, 60, 366.  
 Croe, Glen, Diagram of, 305.  
 Cross, W., 362.  
 Crossbasket Ironstone, 391.  
 Crystallisation, Court of, 23.  
 Culzean, 64.  
 Cypriocardia, 40.  
 Dalmellington, 82.  
 Dalradian, 4, 6, 7, 327.  
 Dalry, 205.  
 DALY, R. A., 327, 414.  
 Daulrée, 31.  
 Dawson, 412.  
 Day and Shepherd, 34.  
 Dentalium, 160.  
 Desert Conditions, 184.  
 Devitrification, 20, 21, 25, 32, 143, 144.  
 Differentiation, 128.  
 Dippin, 22.  
 Divisional Shales, 223, 225, 232.  
 Dockra, 43, 203, 217, 221, 223, 232, 257, 259, 387, 402.  
 Dolerite, 3, 69, 79, 121, 129, 320, 334, 368.  
 Dolomitic Limestone, 4.  
 Drainage, 94.  
 Drainage of Campsie District, 95.  
 Dreikanter, 183, 191.  
 DRON, R. W., on Buried River Channel at Motherwell, 1.  
 Drumadoon, 16, 18.  
 Drumclog, 387, 398.  
 Drumloch, 394.  
 Dumbarton, 302.  
 Dumfriesshire, Red Sandstone Series of, 374.  
 Dumfries Series, 374, 383.  
 Dunagoil, 342, 346.  
 DUNCANSON, D. B., 419.  
 Dunfermline, 167.  
 Duniflats, 201.  
 Dunite, 351.  
 DUNLOP, R., 111, 167, 276, 279; on Fossil Chitons in Fife, 167; on Dura Den, 278.  
 Dunoon Phyllite, 6.  
 Duntocher, 37.  
 Durness, 7.  
 Dykes, north-west, 60; compound, 350.  
 East Kilsyth Hills, 315.  
 Edmondia, 152.  
 EDWARDS, E. J., 419.

- Eigg, 33.  
 ELLIS, D., on Fossil Moulds and Fossil Bacteria, 420.  
 EMERSON, B. K., 338.  
 Endrick, River, 94.  
 Enstatite-andesite, 72, 73.  
 Epidiorite, 53, 334, 336.  
 Epidiorite, Petrography of, 336.  
 Epidote, 52, 337.  
 ETHERIDGE, R., jun., 168, 255.  
 Euomphalus, 160.  
 Eutectic, 328, 330.  
 Excursions, 115, 280, 423.  
  
 Fairlie, Black Rock, 352.  
 FALCONER, J. D., 104, 416.  
 Faults, 124, 151, 196, 303, 335, 370, 381.  
 Felsite, 3, 16, 17, 28, 69.  
 Felsite-basalt, 188.  
 FENNER, C. N., 328, 370.  
 Fife, 167.  
 Fiord, 297.  
 Fiords of Dalmatia, 114.  
 FLETT, J. S., 52, 60, 321.  
 Flexible Sandstone, 269.  
 Forth, 301.  
 Fruin, Glen, 4.  
 Fucoid, 177.  
  
 Gabbro, 352.  
 Ganoid Fish, 269.  
 Garnets, 54, 59, 362.  
 Garrel Burn, 315.  
 GREER DE, 99.  
 GEIKIE, A., 51, 65, 72, 167, 175, 301, 321, 375.  
 GEIKIE, J., 51, 59, 419.  
 GEMMELL, W., 268.  
 Geodhas, 63.  
 Geological Survey, H.M., 16, 37, 141, 151, 163, 167, 176, 204, 304, 317, 334, 353, 395.  
 Gill Burn, 394.  
 Girvan Landslip, 313.  
 Glacial Erosion in N. Arran, 415.  
 Glacial Excavation, 297, 304.  
  
 Glacial and Post-Glacial Time, 99.  
 Glen Ashdale, 16, 22, 26, 30, 32, 189, 192.  
 Glen Callum lavas and fault, 341, 355.  
 Glen Cloy, 32.  
 Glen Croe, 298, 305; Pre-glacial age of, 304; Diagram of Mouth of, 305; Sketch Map of, 307.  
 Glen Douglas, 298.  
 Glen Falloch, 298.  
 Glen Fruin, 298.  
 Glenlora, 217.  
 Glen Luss, 298.  
 Glen Wynd, 44, 238.  
 Glomeroporphyritic, 23, 27, 79, 142, 148.  
 Gneiss, 51, 52.  
 GOODCHILD, J. G., 7, 8, 9, 175, 244.  
 GRABHAM, G. W., 361.  
 Granite, 3.  
 Granulitic, 130.  
 GREGORY, J. W., 4, 6, 111, 114, 188, 275, 280, 297, 315, 332, 363, 415, 417; on Corries, 84; on the Permian and Triassic Rocks of Arran, 174; on the Age of Loch Long, and the Valley system of Southern Scotland, 297; on the Annan Red Sandstone Series of Dumfriesshire, 374, 421.  
 Grit, schistose, 3.  
 GUNN, W., 175, 179, 338, 371.  
 Gurdie Cutting, 228; Plan of Table of Strata, 228.  
 GWINNELL, R. F., on Dolomitic Limestone in Glen Fruin, 4.  
  
 Hæmatite, impregnations of, 67.  
 Hanging Valleys, 297, 415.  
 Hanging Valleys due to lateral erosion, 309.  
 HARKER, A., 28, 30, 32, 60, 122, 128, 325, 353.  
 HARKNESS, R., 374.  
 HARRISON, J. V., 134, 270, 360, 371, 416; on the Girvan Landslip, 313, 419; on the Geology of the Kilsyth Hills, 315, 419.

- HATCH, F. H., 321, 325.  
 HEIM, A., 314.  
 Hells Glen, 299.  
 HERBERTSON, A. J., 84.  
 HERDSMAN, W. H., on New Theory of the Earth, Geologically Considered, 107, 108.  
 Hesselhead, 221, 225; Plan of, 222.  
 HICKLING, G. W., 375, 376.  
 Highland Boundary Fault, 334.  
 Hindog Glen, 232.  
 HIND, Dr. WHEELTON, 165, 169.  
 History of Cooling, 144.  
 Hole Burn, 160, 396.  
 Hollybush Limestone, 37, 205, 206, 212, 215, 221, 234, 252.  
 HOLMES, T. V., 375.  
 Holy Loch, 298.  
 HORNE, J., 51, 81, 103, 111, 271, 301, 414; on Sweden in Glacial and Post-Glacial Time, 99; on the "Canadian Shield," 271; on the Tectonics of the Rocky Mountains and the Selkirks, 414; on the Annan Sandstone Series of Dumfriesshire, 374, 421.  
 Hosie Limestones, 37, 157, 210, 217, 219, 230, 250, 251, 263, 387.  
 Hourglass structure, 60.  
 Howood, 37, 39, 201, 213, 249, 264.  
 HUNTER, J., 404.  
 Hurler, 37, 38, 49, 159, 167, 200, 251, 262, 387.  
 Huronian, 271, 272.  
 Hyalopilitic, 74.  
 Hypersthene-andesite, 72.
- IDDINGS, J. P., 27, 325.  
 Iddingsite, 321, 356.  
 Igneous Rocks of Bute, 334, 367.  
 Igneous Rocks of Bute, Age of, 335.  
 Inclusions of augite in felspar, 75.  
 Incorporation of oligoclase and Xenocrysts, 131.  
 Index Limestone, 152.  
 Intramorainic Lakes, 316, 331.  
 Intrusion of composite sill, 135.
- Jasper, 346, 363.  
 JEHU, PROF., 7.  
 JOHNSON, W. D., 90.  
 Johnstone Clay Band Ironstone, 219, 221, 250.  
 Johnstone Shell Bed, 250, 260.  
 JUDD, J. W., 16, 22, 34, 54, 59, 130, 136, 146, 267, 367.  
 JUKES BROWN, A. J., 176, 375.
- Kainozoic Times in W. Scotland, 297.  
 Kainozoic Igneous Rocks of Bute, 367.  
 Keewatin Schists, 273.  
 Kelvin, River, 94, 303.  
 Keuper, 7, 175, 176, 375.  
 Kilchattan, 335, 340, 349.  
 Kilmichael, 141, 146.  
 Kilpatrick Hills, 315, 344.  
 Kilsyth, 37, 315.  
 Kilsyth Hills, 315.  
 Kingshaw Limestone, 156.  
 Kirkby, J. W., 168.  
 Kittoch Water, 390.  
 Klondyke Goldfield, 411.  
 Kolk, Schroeder von der, 5.
- Labile region, 145.  
 Lagg, Sections North of, 179.  
 Lagoon conditions, 184.  
 Lamprophyre, 82.  
 Lanarkshire, 387.  
 "Landslip," 9, 14, 313.  
 Largybeg, 189; Section across, 191.  
 Leptodomus, 47.  
 Lesmahagow, 387, 397, 402.  
 Level of the Old Valleys, 299.  
 Levenorroch, 176.  
 Lavern, 218.  
 Lewis, the island of, 51.  
 Lillie's Shale Coal, 210, 250, 251, 261.  
 Limekilburn, 152.  
 Lipari, 27.  
 List of Fossils from Cot Castle, 165; from Hole Burn, 166; from Lyne Burn, Fife, 171, 172, 173; by Robert Craig, 203.  
 List of Members, 286.

- Lithostratation, 206, 212, 220, 225, 389.  
 Loch Eck, 9, 12, 298.  
 Loch Fyne, 299.  
 Loch Goil, 298.  
 Loch Katrine, 299.  
 Loch Lomond, 3, 4.  
 Loch Long, 9, 12, 297, 417.  
 Lochwinnoch, 217, 249.  
 LOGAN, W., 271.  
 LOTHIAN, A. V., 317.  
 Lower Division of Red Rocks in Arran, 182.  
 Lower Limestone Series, 37, 109, 164, 201, 260, 387.  
 Lugton, 202, 220, 249, 257.
- MACCONACHIE, A., 238, 240.  
 MACCULLOCH, J., 51, 334.  
 MACKINDER, H. J., 301.  
 M'LEAN, ALEX., on the Geology of the North Berwick Coast, 418.  
 MACNAIR, P., 105, 112, 263, 268, 275, 280, 417, 421; on the Limestones lying immediately above the Calciferous Lavas in the Glasgow District, 37; on the Hurler Sequence in North Ayrshire, 200; on the Hurler Sequence in North Lanarkshire, 387.  
 M'PHAIL, HUGH, 204.  
 MACVEAN, D. A., 419.  
 Main Limestone, 205.  
 Main Limestone of N. Lanarkshire, 408.  
 March Burn, 316, 317, 331; Section in, 318; Map of, 319.  
 Mauchline, 375.  
 Maybole, 65, 69.  
 Meikle Corseford, 213.  
 Metamorphism, 55, 70.  
 Metasomatic replacement, 363.  
 Meteoric Origin of Corries, 91, 93, 97.  
 Micrographic intergrowths, 135.  
 Midhill Glen, 308.  
 Millstone Grit, 8, 153.  
 Minerals in the Bute Lavas, 362.  
 Minor Intrusives of Bute, 347.  
 Mode, 323, 326.
- Monamore, 16, 21, 30.  
 Moraine, 86, 308, 316, 331.  
 MORT, F., on Glacial Erosion in N. Arran, 415, 416.  
 Motherwell, 1, 2.  
 Mount Stephen, 414.  
 Mugarite, 325, 331, 344, 354, 362.  
 Muir Glacier, 411.  
 MURCHISON, R. L., 51, 59, 276, 375.  
 Mylonite, 55.
- Naidites, 224.  
 Negative dykes, 348.  
 NEILSON, A. T. 351.  
 NEILSON, J., 104, 105, 111, 112, 209, 275, 280, 406, 412, 416, 418, 421.  
 Neilson Shell Bed, 159, 251, 254, 406.  
 Neilston, 201, 249, 389.  
 Nethercraigs, 39, 201, 211.  
 New Red Sandstone, 174; Classification of, 184, 186.  
 Norm, 324, 359.  
 North Brae of Campsie, 48.
- Oak tree from drift, 268.  
 Obsequent Streams, 94.  
 Office-Bearers, 120, 285, 428.  
 Oil Shale, 161, 162.  
 Oil Shale Group, 163.  
 Old Red Sandstone, 7, 8, 64, 109, 163, 175, 327, 335, 358, 387, 402.  
 Oligoclase, 134, 138.  
 Oligocene Valleys, 300.  
 Olivine-Dolerite, 363, 365, 368.  
 Olivine in Pitchstone, 26, 148.  
 Ophitic texture, 322, 330, 332, 365, 366, 370.  
 Orchard Limestone, 152.  
 Origin of Valley System of Loch Long District, 297.  
 Orthophyre, 77.  
 Orthophyric, 78.  
 Overflow channels, 316, 331.  
 Over-lap, 163, 232, 258, 402.  
 Overthrusts, 414.

- Paduff Burn, 202, 230, 255, 399; Plan and section of, 231.
- Paisley, 37, 421.
- Palaeontology of Lower Limestones, 236.
- Pay streak, 412.
- PEACH, B. N., 51, 59, 81, 301.
- PENCK, A., 84.
- Pendleside, 392.
- Penrith Sandstone, 374, 377.
- Peridotite, 54.
- Permian, 123, 174, 188.
- Permo-Carboniferous Rocks of Bute, 363.
- Petrographical Province, 81.
- Petrography, 71, 321, 353.
- Petrological, relationships of the Bute Lavas, 360.
- Petrology, 80, 128, 144, 327, 358.
- Phillipshill, 390.
- Physical Conditions of Deposition of Lower Limestones, 241.
- Pitchstone, 16, 127, 135, 141.
- Pitchstone porphyry, 127, 136, 147, 268.
- Pitchstone porphyry containing pyroxene, 137.
- Plagiophyre, 77.
- Pliocene uplift, 300, 311.
- Plucking, glacial, 89.
- Plumose structure, 33.
- Plutonic fragments in Carboniferous sill, 351.
- Pneumatolytic action, 363.
- Poikilitic, 59.
- Port Uisg lava, 341.
- Posidonomya, 43, 47, 48, 156, 158, 206, 217, 219, 240, 250, 257, 263, 269, 391.
- Posidonomya corrugata Index bed in Ayrshire, 275.
- Potato Stones, 177.
- Preglacial valleys, 304, 308.
- Proceedings for 1912-1913, 102; 1913-1914, 265; 1914-1915, 410.
- Productus, 38, 46, 158, 167, 206, 212, 216, 220, 225, 250, 389, 395.
- Profile of Beds of Rivers, 62.
- Pyrolusite, 376.
- Pyroxene-andesite with olivine, 72, 74.
- Pyroxenite, 352.
- Quartzite, 70.
- Quartz-Breccia, 384.
- Quartz-dolerite, 320, 326, 334, 363.
- Quartz-plagiophyre, 78.
- Quartz-porphyre, 121, 134, 188, 368.
- Rainy Lake Section, 272.
- RAMSAY, A. C., 174, 415.
- RANKIN, Dr., 404.
- Reaction Rims, 130.
- Reid Glacier, 411.
- Relation between hornblende and pyroxene, 32.
- Renfrewshire Sections, 206, 233, 249.
- RITCHIE, J. W., 108, 267, 274, 305, 371.
- Report of Council for 1911-12, 102; 1912-13, 264; 1913-14, 410.
- Rhætic, 175.
- Rhipidomella, 239.
- RICHIE, J. E., 275; on Lower Limestone of Renfrewshire and North Ayrshire, 249.
- ROBERTS, J. G., 108, 269, 420.
- Robgill Marls, 377, 380.
- Rosebery Topping landfall, 314.
- ROSENBUSCH, H., 18, 325.
- Rothsay, 334.
- Rum, 28.
- Run-nan-Eun Lavas, 340, 355, 362, 365.
- Saccamina, 406.
- St. Bee's Sandstone, 374, 377.
- Sanguinolites, 214, 227, 237, 251.
- Sapphires from Mull, 268.
- Sapping, 90.
- Saxonite, 54.
- Scalpsie Bay, 334, 336.
- Schizophoria, 237.
- SCOTT, A., 96, 108, 138, 274, 417; on the Pitchstones of S. Arran, 16; on Composite Sill in Glen Cloy, Arran, 140.

- Scyelite, 54.  
 Seasonal sedimentation, 100.  
 Section along the Gryfe, 41 ; at Corrie-  
 burn, 48 ; along the Avon nr. Cot  
 Castle, 157 ; at Calderwood Glen,  
 393 ; in Monamore Glen, 31 ; across  
 Limestones at Nethercraigs, 39.  
 Sedimentation above the Dockra, 260.  
 Sedimentation above the Hurlet, 245,  
 255.  
 Selkirk Series, 414.  
 Sericitisation, 52.  
 Serpentine, 336.  
 Sequence of Annan Series in the  
 Western and Central Districts, 384.  
 Sequence of Lavas in Bute, 343.  
 Shurig, Glen, 147.  
 Shetlands, 81.  
 Shingle bars, 61, 64.  
 Sill, 41, 71, 121, 140, 144, 188, 364, 367.  
 Skye, 7, 28, 30, 32, 122, 149, 353.  
 Slaty Ironstone, 153.  
 Slidderly Water, 180, 188, 196.  
 Slingstone Limestone, 387, 388, 407.  
 SMELLIE, W. R., 96, 107, 177, 270,  
 332 ; on the Cowal "Landslip," 9 ;  
 on Tertiary Composite Sill of South  
 Bute, 121 ; on Igneous Rocks of  
 Bute, 334, 419.  
 SMITH, BAILIE, 279.  
 SMITH, DUNCAN, 268, 420.  
 SMITH, JOHN, 38, 205 ; on Carbonifer-  
 ous System in Scotland, 109.  
 South Brae of Campsie, 44.  
 Sphaerosiderite, 212, 220.  
 Spheue, 78.  
 Spherulitic, 19, 21, 22, 24, 135, 140,  
 144.  
 Spirifera, 390.  
 Spirophyton caudagalli, 48, 408.  
 Spotted Rock, 142.  
 STARK, J., 279, 412.  
 Star Ruby, 278.  
 STEEL, J., 104.  
 STEVENS, A., 138 ; on the Geology of  
 the Stornoway district of Lewis, 51,  
 113.
- Stornoway, Geology, 51.  
 Strachur Gap, 301.  
 Strathaven, 151, 156, 387, 395, 403.  
 Strike faults, 340.  
 Subaqueous eruptions, 67.  
 Submerged Peat Bed, 61.  
 Subsequent Valleys, 300, 303.  
 Subsidence, 61.  
 Sudbury nickel ore, 274.  
 SUESS, E., 271.  
 Suidhe vent, 335.
- Table comparing Limestones of Hurlet  
 and N. Ayrshire, 211.  
 Table comparing Limestones of Hurlet  
 and N. Lanarkshire, Carluke, 404.  
 Tachylite, 363, 366, 369.  
 TEALL, J. J. H., 52, 81, 321.  
 Terrestrial eruption, 68.  
 Tertiary, 59, 61, 121, 147.  
 Teschenite, 188.  
 THOMSON, JAMES, 168, 175.  
 Thorntonhall, 210, 240, 387, 388.  
 Thousand foot platform, 415.  
 Tidal Action on Fossils, 169.  
 Tighvein, 16, 24, 150, 189.  
 Tillon Burn, 1.  
 Tinto Hill, 3, 82.  
 Tormore, 18.  
 Torridonian, 7, 58.  
 Trachyte, 353.  
 TRAQUAIR, R. H., 240, 245.  
 Trias, 17, 26, 59, 140, 174, 188, 374.  
 Tridymite, 34.  
 Tuff, 331, 345.  
 Turnberry, 64, 75.  
 Tweed, 301.  
 TYRRELL, G. W., 35, 51, 60, 106, 113,  
 181, 269, 270, 280, 321, 332, 345, 358,  
 361 ; on a Petrographical Sketch of  
 the Carrick Hills, Ayrshire, 64 ; on  
 the Boundary between the Upper  
 and Lower Divisions of the Red  
 Rocks, Arran, 188.
- Unconformity, 233, 339.



- Unconformity below Hurllet Limestone, 39, 44, 212, 243, 402; between Upper and Lower Old Red Sandstone, 65; between Lower and Upper New Red Sandstones, 185, 198; between Annan Series and Carboniferous, 377.
- Uplawmoor, Section at, 218.
- Upper Division of Red Rocks in Arran, 176.
- URE, D., 395.
- U-shaped Valley, 306.
- Valley Extension across Loch Fyne to the Tweed, 300.
- Valley System between Crianlarich and Dunoon, 298.
- Valley System of Southern Scotland, 297.
- Veins of calcite, felspar, quartz, 336.
- Vogt, 29.
- Volcanic ash, 69, 325.
- Volcanic vent, 68, 94, 327.
- V-shaped gorges, 10, 306, 308.
- Water falls, confluent, 91.
- WALCOTT, Dr., 273, 415.
- Water transport, 9.
- WATSON, G. C., 269; on Cretaceous fossils from Aberdeenshire, 279.
- Warmanbie Sandstone, 377, 378.
- WATTS, W. W., 321.
- Wave-like ridges, 314.
- Whiting Bay, 182, 188.
- WILSON, G. V., 268.
- Windgaps, 301.
- Windworn sand grains, 183, 191, 376.
- Woodhouse Tower Sandstone, 377, 379.
- WOODWARD, H. B., 375.
- Worm tubes, 59.
- WRIGHT, J., on "Notes on Gothland," 276.
- WUNSCH, E. A., 175.
- Xenocrysts, 121, 124.
- Xenoliths, 121, 124, 134.
- YOUNG, J., 37, 168, 209, 352.
- Yukon, 412.
- Zoisite, 337.
- Zoning in felspar crystals, 60, 73, 75, 80, 143, 321; origin of, 329, 332.

---

*The Editors desire to acknowledge their indebtedness to Mr. J. V. Harrison, B.Sc., for compiling the Index.*

TRANSACTIONS  
OF THE  
GEOLOGICAL SOCIETY OF GLASGOW.



TRANSACTIONS  
OF THE  
GEOLOGICAL SOCIETY  
OF GLASGOW.

VOL. XV.  
1912-1915.



GLASGOW: PUBLISHED BY THE SOCIETY,  
AT ITS ROOMS, 207 BATH STREET.  
1916.

The Editors beg to state that the Authors alone are responsible for the facts and opinions contained in their respective papers.

PETER MACNAIR, F.R.S.E., F.G.S.  
HARRY R. J. CONACHER.