
References

- Aaby, B. (1986) Trees as anthropogenic indicators in regional pollen diagrams. In *Anthropogenic Indicators in Pollen Diagrams* (ed. K-E. Behre). A.A. Balkema, Rotterdam, pp. 73–93.
- Abd-Alla, M.A.A. (1988) Mineralogical and geochemical studies of tills in south-western Scotland. Unpublished PhD thesis, University of Glasgow.
- Aber, J.S. (1985) The character of glaciotectionism. *Geologie en Mijnbouw*, 64, 389–95.
- Aber, J.S. (1989) Spectrum of constructional glaciotectionic landforms. In *Genetic Classification of Glacigenic Deposits* (eds R.P. Goldthwait and C.L. Matsch). A.A. Balkema, Rotterdam, pp. 281–92.
- Adamson, J. (1823) Notice of marine deposits on the margin of Loch Lomond. *Memoir of the Wernerian Natural History Society of Edinburgh*, 4, 334–38.
- Affleck, T.L., Edwards, K.J. and Clarke, A. (1988) Archaeological and palynological studies at the Mesolithic pitchstone and flint site of Auchareoch, Isle of Arran. *Proceedings of the Society of Antiquaries of Scotland*, 118, 37–59.
- Agassiz, L. (1841a) On glaciers and boulders in Switzerland. *Report of the British Association for 1840*, 113–4.
- Agassiz, L. (1841b) On glaciers, and the evidence of their having once existed in Scotland, Ireland, and England. *Proceedings of the Geological Society of London*, 3, 327–32. (Also in *Philosophical Magazine*, 18, 1841, 569–74).
- Agassiz, L. (1842) The glacial theory and its recent progress. *Edinburgh New Philosophical Journal*, 33, 217–83.
- Aguirre, E. and Pasini, G. (1985) The Pliocene–Pleistocene boundary. *Episodes*, 8, 116–20.
- Aitken, A.M., Lovell, J.H., Shaw, A.J. and Thomas, C.W. (1984) The sand and gravel resources of the country around Dalkeith and Temple, Lothian Region. Description of 1:25,000 sheets NT25 and 35, and NT26 and 36. *Mineral Assessment Report, British Geological Survey*, No. 140, 170 pp.
- Aitken, J.F. (1990) Glaciolacustrine deposits in Glen Nocht, Grampian Region, Scotland, UK. *Quaternary Newsletter*, 60, 13–20.
- Aitken, J.F. (1991) Sedimentology and palaeoenvironmental significance of Late Devensian to mid Holocene deposits in the Don Valley, north-east Scotland. Unpublished PhD thesis, University of Aberdeen.
- Aitken, T. (1880) The formation of Tomnahurich and Strathnairn. *Transactions of Inverness Scientific Society and Field Club*, 1, 266–9.
- Akpan, E.B. and Farrow, G.E. (1984) Depth of deposition of early Holocene raised sediments at Irvine deduced from algal borings in mollusc shells. *Scottish Journal of Geology*, 20, 237–47.
- Alexander, A.J. (1985) Palynological, stratigraphic and chemical analyses of sediments in the Lothians with particular reference to the Lateglacial. Unpublished PhD thesis, University of Edinburgh.
- Alexander, H. (1928) *The Cairngorms*. Scottish Mountaineering Club, Edinburgh, 218 pp.
- Alley, R.B., Blankenship, D.D., Bentley, C.R. and Rooney, S.T. (1986). Deformation of till beneath ice stream B, West Antarctica. *Nature*, 322, 57–9.
- Ambrose, K. and Brewster, J. (1982) A reinterpretation of parts of the 400 ft bench of south-east Warwickshire. *Quaternary Newsletter*, 36, 21–4.

- Ammann, B. and Lotter, A.F. (1989) Late-Glacial radiocarbon and palynostratigraphy on the Swiss plateau. *Boreas*, 18, 109–26.
- Andersen, B.G. (1968) Glacial geology of western Troms, North Norway. *Norges Geologiske Undersøkelse*, 256, 160 pp.
- Andersen, B.G. (1981) Late Weichselian ice sheets in Eurasia and Greenland. In *The Last Great Ice Sheets* (eds G.H. Denton and T.J. Hughes). John Wiley, New York, pp. 1–65.
- Andersen, S.Th. (1966) Interglacial vegetational succession and lake development in Denmark. *Palaeobotanist*, 15, 117–27.
- Andersen, S.Th. (1969) Interglacial vegetation and soil development. *Meddelelser fra Dansk Geologisk Forening*, 19, 90–102.
- Anderson, F.W. and Dunham, K.C. (1966) *The Geology of Northern Skye*. Memoirs of the Geological Survey of Scotland. HMSO, Edinburgh, 216 pp.
- Anderson, J. (1896) Evidences of the most recent glaciers in the Firth of Clyde district. *Transactions of the Geological Society of Glasgow*, 10, 198–209.
- Anderson, J.B., Brake, C., Domack, E., Myers, N. and Wright, R. (1983) Development of a polar glacial-marine sedimentation model from Antarctic Quaternary deposits and glaciological information. In *Glacial-marine Sedimentation* (ed. B.P. Molnia). Plenum Press, New York, 233–64.
- Anderson, J.G.C. (1940) Glacial drifts near Roslin, Midlothian. *Geological Magazine*, 77, 470–3.
- Anderson, J.G.C. (1941) Glacial drifts. *Geological Magazine*, 78, 470–1.
- Anderson, J.G.C. (1942) Glacial drifts. *Geological Magazine*, 79, 202.
- Anderson, J.G.C. (1948) The fauna of the '100 feet beach' clays. *Transactions of the Edinburgh Geological Society*, 14, 220–9.
- Anderson, J.G.C. (1949) The Gareloch readvance moraine. *Geological Magazine*, 86, 239–44.
- Andrews, I.J., Long, D., Richards, P.C., Thomson, A.R., Brown, S., Chesher, J.A. and McCormac, M. (1990). *United Kingdom Offshore Regional Report: the Geology of the Moray Firth*. British Geological Survey, HMSO, London, 96 pp.
- Andrews, J.T. (1963a) Cross-valley moraines of the Rimrock and Isortoq River valleys, Baffin Island, N.W.T. — a descriptive analysis. *Geographical Bulletin*, 19, 49–77.
- Andrews, J.T. (1963b) The cross-valley moraines of north-central Baffin Island: a quantitative analysis. *Geographical Bulletin*, 20, 82–129.
- Andrews, J.T. (1975) *Glacial Systems An Approach to Glaciers and their Environments*. Duxbury Press, North Scituate, 191 pp.
- Andrews, J.T. and Dugdale, R.E. (1970) Age prediction of glacio-isostatic strandlines based on their gradients. *Geological Society of America Bulletin*, 81, 3769–71.
- Andrews, J.T. and Smithson, B.B. (1966) Till fabrics of the cross-valley moraines of north-central Baffin Island, Northwest Territories, Canada. *Bulletin of the Geological Society of America*, 77, 271–90.
- Andrews, J.T., Clark, P. and Strayers, J.A. (1985) The patterns of glacial erosion across the eastern Canadian Arctic. In *Quaternary Environments Eastern Canadian Arctic, Baffin Bay and Western Greenland* (ed. J.T. Andrews). Allen and Unwin, London, pp. 69–92.

- Andrews, M.V., Beck, R.B., Gilbertson, D.D. and Switsur, V.R. (1987) Palaeobotanical investigations at An t-Aoradh (Oronsay), the Strand and Loch Cholla (Colonsay). In *Excavations on Oronsay: Prehistoric Human Ecology on a Small Island* (ed. P. Mellars). Edinburgh University Press, Edinburgh, pp. 57–71.
- Angus, S. (1987) Lost woodlands of the Western Isles. *Hebridean Naturalist*, 9, 24–30.
- Anon (1840) Tenth Meeting of the British Association for the Advancement of Science. Section C. Geology and physical geography. *The Athenaeum*, No. 677, 823–4.
- Armstrong, M. and Paterson, I.B. (1985) Some recent discoveries of ice-wedge cast networks in north-east Scotland — a comment. *Scottish Journal of Geology*, 21, 107–8.
- Armstrong, M., Paterson, I.B. and Browne, M.A.E. (1975) Late-glacial ice limits are raised shorelines in east central Scotland. In *Quaternary Studies in North East Scotland* (ed. A.M.D. Gemmell). Department of Geography, University of Aberdeen, Aberdeen, pp. 39–44.
- Armstrong, M., Paterson, I.B. and Browne, M.A.E. (1985) *Geology of the Perth and Dundee District*. 1:50,000 geological sheets 48W, 48E, 49. Memoirs of the British Geological Survey (Scotland), London, HMSO, 108 pp.
- Atkinson, K.M. and Haworth, E.Y. (1990) Devoke Water and Loch Sionascaig: recent environmental changes and the post-glacial overview. *Philosophical Transactions of the Royal Society of London*, B327, 349–55.
- Atkinson, T.C., Briffa, K.R. and Coope, G.R. (1987) Seasonal temperatures in Britain during the last 22,000 years, reconstructed using beetle remains. *Nature*, 325, 587–93.
- Atkinson, T.C., Lawson, T.J., Smart, P.L., Harmon, R.S. and Jess, J.W. (1986) New data on speleothem deposition and palaeoclimate in Britain over the last forty thousand years. *Journal of Quaternary Science*, 1, 67–72.
- Auton, C.A. (1990a) Early models for the late-Devensian glaciation and deglaciation of the upland areas. In *Beaully to Nairn: Field Guide* (eds C.A. Auton, C.R. Firth and J.W. Merritt). Quaternary Research Association, Cambridge, PP. 3–5.
- Auton, C.A. (1990b) The middle Findhorn Valley. In *Beaully to Nairn: Field Guide* (eds C.A. Auton, C.R. Firth and J.W. Merritt). Quaternary Research Association, Cambridge, pp. 74–96.
- Auton, C.A. and Crofts, R.G. (1986) The sand and gravel resources of the country around Aberdeen, Grampian Region. Description of 1:25,000 resource sheets NJ71, 80, 81 and 91 with parts of NJ61, 90 and 92 and with parts of N089 and 99. *Mineral Assessment Report of the British Geological Survey*, No. 146, 46 pp. + appendices.
- Auton, C.A., Merritt, J.W. and Ross, D.L. (1988) The sand and gravel resources of the country around Inverurie and Dunecht, and between Banchory and Stonehaven, Grampian Region. Description of 1:25,000 sheets NJ70, 72 and N079, and parts of N088, 89 and 99. *Mineral Assessment Report of the British Geological Survey*, No. 148; *British Geological Survey Technical Report*, No. WF/88/1. Part 1: Report, 89 pp.
- Auton, C.A., Thomas, C.W. and Merritt, J.W. (1990) The sand and gravel resources of the country around Strachan and between Auchenblae and Catterline, Grampian Region. Description of parts of 1:25,000 sheets N068, 69, 77, 78, 87 and 88. *Mineral Assessment Report of the British Geological Survey*, No. 149; *British Geological Survey Technical Report*, No. WF/90/7. Part 1: Report, 75 pp.
- Babbage, C. (1868) Observations on the Parallel Roads of Glen Roy. *Quarterly Journal of the Geological Society of London*, 24, 273–7.
- Baden-Powell, D.F.W. (1938) On the glacial and interglacial marine beds of north Lewis. *Geological Magazine*, 75, 395–409.

- Baden-Powell, D.F.W. and Elton, C. (1937) On the relation between a raised beach and an Iron Age midden on the Island of Lewis, Outer Hebrides. *Proceedings of the Society of Antiquaries in Scotland*, 71, 347–65.
- Bailey, E.B. and Anderson, E.M. (1925) *The Geology of Staffa, Iona, and Western Mull*. (Description of Sheet 43 of the Geological Map). Memoirs of the Geological Survey of Scotland. HMSO, Edinburgh, 107 pp.
- Bailey, E.B. and Eckford, R.J.A. (1956) Eddleston gravel–moraine. *Transactions of the Edinburgh Geological Society*, 16, 254–61.
- Bailey, E.B. and Maufe, H.B. (1916) *The Geology of Ben Nevis and Glencoe, and the Surrounding Country*. Explanation of Sheet 53. Memoirs of the Geological Survey of Scotland. HMSO, Edinburgh, 247 pp.
- Bailey, E.B., Clough, C.T., Wright, W.B., Richey, J.E. and Wilson, G.V. (1924) *Tertiary and Post-Tertiary Geology of Mull Loch Aline and Oban*. Description of parts of Sheets 43, 44, 51, and 52 of Geological Map. Memoirs of the Geological Survey of Scotland. HMSO, Edinburgh, 445 pp.
- Baird, P.D. and Lewis, W.V. (1957) The Cairngorm floods, 1956: summer solifluction and dis-tributory formation. *Scottish Geographical Magazine*, 73, 91–100.
- Ball, D.F. and Goodier, R. (1974) Ronas Hill, Shetland: a preliminary account of its ground pattern features resulting from the action of frost and wind. In *The Natural Environment of Shetland* (ed. R. Goodier). Nature Conservancy Council, Edinburgh, 89–106.
- Ballantyne, C.K. (1979) A sequence of Lateglacial ice-dammed lakes in east Argyll. *Scottish Journal of Geology*, 15, 153–60.
- Ballantyne, C.K. (1981) Periglacial landforms and environments on mountains in the northern Highlands of Scotland. Unpublished PhD thesis, University of Edinburgh.
- Ballantyne, C.K. (1984) The Late Devensian periglaciation of upland Scotland. *Quaternary Science Reviews*, 3, 311–43.
- Ballantyne, C.K. (1985) Nivation landforms and snowpatch erosion on two massifs in the northern Highlands of Scotland. *Scottish Geographical Magazine*, 101, 40–9.
- Ballantyne, C.K. (1986a) Protalus rampart development and the limits of former glaciers in the vicinity of Baosbheinn, Wester Ross. *Scottish Journal of Geology*, 22, 13–25.
- Ballantyne, C.K. (1986b) Non-sorted patterned ground on mountains in the northern Highlands of Scotland. *Biuletyn Peryglacjalny*, 30, 15–34.
- Ballantyne, C.K. (1986c) Late Flandrian solifluc-tion on the Fannich Mountains, Ross-shire. *Scottish Journal of Geology*, 22, 395–406.
- Ballantyne, C.K. (1986d) Landslides and slope failures in Scotland: a review. *Scottish Geographical Magazine*, 102, 134–50.
- Ballantyne, C.K. (1987a) The present-day peri-glaciation of upland Britain. In *Periglacial Processes and Landforms in Britain and Ireland* (ed. J. Boardman). Cambridge University Press, Cambridge, pp. 113–27.
- Ballantyne, C.K. (1987b) An Teallach. In *Wester Ross Field Guide* (eds C.K. Ballantyne and D.G. Sutherland). Quaternary Research Association, Cambridge, pp. 72–92.
- Ballantyne, C.K. (1987c) The Beinn Alligin 'rock glacier'. In *Wester Ross Field Guide* (eds C.K. Ballantyne and D.G. Sutherland). Quaternary Research Association, Cambridge, pp. 134–7.

- Ballantyne, C.K. (1987d) The Baosbheinn protalus rampart. In *Wester Ross Field Guide* (eds C.K. Ballantyne and D.G. Sutherland). Quaternary Research Association, Cambridge, pp. 167–71.
- Ballantyne, C.K. (1987e) The solifluction features of the Fannich Mountains. In *Wester Ross Field Guide* (eds C.K. Ballantyne and D.G. Sutherland). Quaternary Research Association, Cambridge, pp. 171–2.
- Ballantyne, C.K. (1988) Ice-sheet moraines in southern Skye. *Scottish Journal of Geology*, 24, 301–4.
- Ballantyne, C.K. (1989a) The Loch Lomond Readvance on the Isle of Skye, Scotland; glacier reconstruction and palaeoclimatic implications. *Journal of Quaternary Science*, 4, 95–108.
- Ballantyne, C.K. (1989b) Avalanche impact landforms on Ben Nevis, Scotland. *Scottish Geographical Magazine*, 105, 38–42.
- Ballantyne, C.K. (1990) The late Quaternary glacial history of the Trotternish escarpment, Isle of Skye, Scotland, and its implications for ice-sheet reconstruction. *Proceedings of the Geologists' Association*, 101, 171–86.
- Ballantyne, C.K. (1991a) Late Holocene erosion in upland Britain: climatic deterioration or human influence? *The Holocene*, 1, 81–5.
- Ballantyne, C.K. (1991b) Periglacial features on the mountains of Skye. In *The Quaternary of the Isle of Skye: Field Guide* (eds C.K. Ballantyne, D.I. Benn, J.J. Lowe and M.J.C. Walker). Quaternary Research Association, Cambridge, pp. 68–81.
- Ballantyne, C.K. (1991c) Holocene geomorphic activity in the Scottish Highlands. *Scottish Geographical Magazine*, 107, 84–98.
- Ballantyne, C.K. and Benn, D.I. (1991) The glacial history of the Isle of Skye. In *The Quaternary of the Isle of Skye: Field Guide* (eds C.K. Ballantyne, D.I. Benn, J.J. Lowe and M.J.C. Walker). Quaternary Research Association, Cambridge, pp. 11–34.
- Ballantyne, C.K. and Eckford, J.D. (1984) Characteristics and evolution of two relict talus slopes in Scotland. *Scottish Geographical Magazine*, 100, 20–33.
- Ballantyne, C.K. and Kirkbride, M.P. (1986) The characteristics and significance of some Late-glacial protalus ramparts in upland Britain. *Earth Surface Processes and Landforms*, 11, 659–71.
- Ballantyne, C.K. and Kirkbride, M.P. (1987) Rockfall activity in upland Britain during the Loch Lomond Stadial. *Geographical Journal*, 153, 86–92.
- Ballantyne, C.K. and Wain-Hobson, T. (1980) The Loch Lomond Advance on the Island of Rhum. *Scottish Journal of Geology*, 16, 1–10.
- Ballantyne, C.K. and Whittington, G. (1987) Niveo-aeolian sand deposits on An Teallach, Wester Ross, Scotland. *Transactions of the Royal Society of Edinburgh: Earth Sciences*, 78, 51–63.
- Ballantyne, C.K., Sutherland, D.G. and Reed, W.J. (1987) Introduction. In *Wester Ross Field Guide* (eds C.K. Ballantyne and D.G. Sutherland). Quaternary Research Association, Cambridge, pp. 1–63.
- Banham, P.H. (1975) Glaciotectonic structures: a general discussion with particular reference to the Contorted Drift of Norfolk. In *Ice Ages: Ancient and Modern* (eds A.E. Wright and F. Moseley). Seel House Press, Liverpool, pp. 69–94.
- Bard, E., Arnold, M., Maurice, P., Duprat, J., Moyes, J. and Duplessy, J.-C. (1987) Retreat velocity of the North Atlantic polar front during the last deglaciation determined by ^{14}C accelerator mass spectrometry. *Nature*, 328, 791–4.

- Bard, E., Hamelin, B., Fairbanks, R.G. and Zindler, A. (1990) Calibration of the ^{14}C timescale over the past 30,000 years using mass spectrometric U–Th ages from Barbados. *Nature*, 345, 405–10.
- Barnett, D.M. and Holdsworth, G. (1974) Origin, morphology and chronology of sublacustrine moraines, Generator Lake, Baffin Island, Northwest Territories, Canada. *Canadian Journal of Earth Sciences*, 11, 380–408.
- Barnola, J.M., Raynaud, D., Korotkevich, Y.S. and Lorius, C. (1987) Vostok ice core provides 160,000-year record of atmospheric CO_2 . *Nature*, 329, 405–14.
- Barrett, P.H. (1973) Darwin's 'gigantic blunder'. *Journal of Geological Education*, 21, 19–28.
- Barrow, G., Grant Wilson, J.S. and Cunningham Craig, B.A. (1905). *The Geology of the Country round Blair Atholl, Pitlochry and Aberfeldy*. Explanation of Sheet 55. Memoirs of the Geological Survey of Scotland. HMSO, Glasgow, 161 pp.
- Barrow, G., Cunningham Craig, E.H. and Hinxman, L.W. (1912) *The Geology of the Districts of Braemar, Ballater and Glen Clova*. Explanation of Sheet 65. Memoirs of the Geological Survey of Scotland. HMSO, Edinburgh, 138 pp.
- Barrow, G., Hinxman, L.W. and Cunningham Craig, E.H. (1913) *The Geology of Upper Strathspey, Gaick and the Forest of Atholl*. Explanation of Sheet 64. Memoirs of the Geological Survey of Scotland. HMSO, Edinburgh, 116 pp.
- Barsch, D. (1969) Studien und Messungen an Blockgletschern in Macun, Unterengadin. *Zeitschrift für Geomorphologie*, Supplementband 8, 11–30.
- Barsch, D. (1988) Rock glaciers. In *Advances in Periglacial Geomorphology* (ed. M.J. Clark). John Wiley, Chichester, 69–90.
- Basham, J.R. (1974) Mineralogical changes associated with deep weathering of gabbro in Aberdeenshire. *Clay Minerals*, 10, 189–202.
- Bassett, D.A. (1958) *Geological Excursion Guide to the Glasgow District*. Geological Society of Glasgow, Glasgow, 104 pp.
- Battarbee, R. and Flower, R.J. (1985) Palaeoecological evidence for the timing and causes of lake acidification in Galloway, south-west Scotland. *Working Paper No. 8*. Palaeoecology Research Unit, Department of Geography, University College London, 79 pp.
- Battarbee, R.W., Stevenson, A.C., Rippey, B., Fletcher, C., Natkanski, J., Wik, M. and Flower, R.J. (1989) Causes of lake acidification in Galloway, south-west Scotland: a palaeoecological evaluation of the relative roles of atmospheric contamination and catchment change for two acidified sites with non-afforested catchments. *Journal of Ecology*, 77, 651–72.
- Battiau-Queney, Y. (1984) The pre-glacial evolution of Wales. *Earth Surface Processes and Landforms*, 9, 229–52.
- Baxter, M.S., Ergin, M. and Walton, A. (1969) Glasgow University radiocarbon measurements I. *Radiocarbon*, 11, 43–52.
- Bayfield, N.G. (1984) The dynamics of heather (*Calluna vulgaris*) stripes in the Cairngorm Mountains, Scotland. *Journal of Ecology*, 72, 515–27.
- Beaumont, P., Turner, J. and Ward, P.F. (1969) An Ipswichian peat raft in glacial till at Hutton Henry, Co. Durham. *New Phytologist*, 68, 797–805.
- Bell, D. (1871) On the aspects of Clydesdale during the glacial period. *Transactions of the Geological Society of Glasgow*, 4, 63–9.

- Bell, D. (1874) Notes on the glaciation of the west of Scotland, with reference to some recently observed instances of cross-striation. *Transactions of the Geological Society of Glasgow*, 4, 300–10.
- Bell, D. (1891a) Phenomena of the glacial epoch: H. The 'great submergence'. *Transactions of the Geological Society of Glasgow*, 9, 100–38.
- Bell, D. (1891b) On a glacial mound in Glen Fruin, Dumbartonshire. *Geological Magazine*, Decade 3, 8, 415–8.
- Bell, D. (1893a) On the alleged proofs of submergence in Scotland during the glacial epoch. *Report of the British Association for 1892*, 713–4.
- Bell, D. (1893b) On the alleged proofs of submergence in Scotland during the glacial epoch — I. Chapelhall, near Airdrie. *Transactions of the Geological Society of Glasgow*, 9, 321–44.
- Bell, D. (1893c) On a glacial mound in Glen Fruin, Dumbartonshire. *Transactions of the Geological Society of Glasgow*, 9, 345–54.
- Bell, D. (1894) On the glaciation of the west of Scotland. *Proceedings of the Philosophical Society of Glasgow*, 25, 118–36.
- Bell, D. (1895a) On the alleged proofs of submergence in Scotland during the glacial epoch — II. Clava and other northern localities. *Transactions of the Geological Society of Glasgow*, 10, 105–20.
- Bell, D. (1895b) The shelly clays and gravels of Aberdeenshire considered in relation to the question of submergence. *Quarterly Journal of the Geological Society*, 51, 472–9.
- Bell, D. (1895c) Reply to Professor Hull on the glacial deposits of Aberdeenshire. *Geological Magazine*, Decade 4, 2, 524–7.
- Bell, D. (1895d) Notes on 'The Great Ice Age' in relation to the question of submergence. *Geological Magazine*, Decade 4, 2, 321–6; 348–55 and 402–5.
- Bell, D. (1896a) The Ayrshire 'shell beds'. *Geological Magazine*, Decade 4, 3, 335–6.
- Bell, D. (1896b) Additional notes on Glen Fruin. *Transactions of the Geological Society of Glasgow*, 10, 380–1.
- Bell, D. (1897a) The 'great submergence' again Clava, etc, Part II. *Geological Magazine*, Decade 4, 4, 63–8.
- Bell, D. (1897b) The high-level shelly clays and Mr Mellard Reade. *Geological Magazine*, Decade 4, 4, 189–90.
- Benn, D.I. (1989a) Controls on sedimentation in a late Devensian ice-dammed lake, Achnasheen, Scotland. *Boreas*, 18, 31–42.
- Benn, D.I. (1989b) Debris transport by Loch Lomond Readvance glaciers in northern Scotland: basin form and within-valley asymmetry of lateral moraines. *Journal of Quaternary Science*, 4, 243–54.
- Benn, D.I. (1990) Scottish Lateglacial moraines: debris supply, genesis and significance. Unpublished PhD thesis, University of St Andrews.
- Benn, D.I. (1991) Glacial landforms and sediments on Skye. In *The Quaternary of the Isle of Skye: Field Guide* (eds C.K. Ballantyne, D.I. Benn, J.J. Lowe and M.J.C. Walker). Quaternary Research Association, Cambridge, pp. 35–67.
- Benn, D.I. (1992) Scottish landform examples — 5. The Achnasheen terraces. *Scottish Geographical Magazine*, 108, 128–31.

- Benn, D.I. and Dawson, A.G. (1987) A Devensian glaciomarine sequence in western Islay, Inner Hebrides. *Scottish Journal of Geology*, 23, 175–87.
- Benn, D.I., Lowe, J.J. and Walker, M.J.C. (1992) Glacier response to climatic change during the Loch Lomond Stadial and early Flandrian: geomorphological and palynological evidence from the Isle of Skye, Scotland. *Journal of Quaternary Science*, 7, 125–44.
- Bennett, K.D. (1984) The post-glacial history of *Pinus sylvestris* in the British Isles. *Quaternary Science Reviews*, 3, 133–55.
- Bennett, K.D. (1989) A provisional map of forest types for the British Isles 5000 years ago. *Journal of Quaternary Science*, 4, 141–4. Bennett, K.D. and Birks, H.J.B. (1990) Postglacial history of alder (*Alnus glutinosa* (L) Gaertn) in the British Isles. *Journal of Quaternary Science*, 5, 123–33.
- Bennett, K.D., Fossitt, J.A., Sharp, M. and Switsur, V.R. (1990) Holocene vegetational and environmental history at Loch Lang, South Uist, Western Isles, Scotland. *New Phytologist*, 114, 281–98.
- Bennett, K.D., Boreham, S., Sharp, M.J. and Switsur, V.R. (1992) Holocene history of environment, vegetation and human settlement on Catta Ness, Lunnasting, Shetland. *Journal of Ecology*, 80, 241–73.
- Bennett, M.R. (1990) The deglaciation of Glen Croulin, Knoydart. *Scottish Journal of Geology*, 26, 41–6.
- Bennett, M.R. (1991) Scottish 'hummocky moraine': its implications for the deglaciation of the north west Highlands during the Younger Dryas or Loch Lomond Stadial. Unpublished PhD thesis, University of Edinburgh.
- Bennett, M.R. and Glasser, N.F. (1991) The glacial landforms of Glen Geusachan, Cairngorms: a reinterpretation. *Scottish Geographical Magazine*, 107, 116–23.
- Bennie, J. (1868) On the surface geology of the district round Glasgow, as indicated by the journals of certain bores. *Transactions of the Geological Society of Glasgow*, 3, 133–48.
- Bennie, J. (1894) Arctic plant beds in the old lake deposits of Scotland. *Annals of Scottish Natural History*, 9, 46–52.
- Bent, A.J.A. (1986) Aspects of Pleistocene glaciomarine sequences in the North Sea. Unpublished PhD thesis, University of Edinburgh.
- Berger, A. (1988) Milankovitch and climate. *Reviews of Geophysics*, 26, 624–57.
- Beveridge, E. (1911) *North Uist: Its Archaeology and Topography, with Notes upon the Early History of the Outer Hebrides*. William Brown, Edinburgh, 348 pp.
- Bindschadler, R. (1983) The importance of pressurised subglacial water in separation and sliding at the glacier bed. *Journal of Glaciology*, 29, 3–19.
- Binns, P.E., Harland, R. and Hughes, M.J. (1974) Glacial and post-glacial sedimentation in the Sea of the Hebrides. *Nature*, 248, 751–4.
- Birks, H.H. (1969) Studies in the vegetational history of Scotland. Unpublished PhD thesis, University of Cambridge.
- Birks, H.H. (1970) Studies in the vegetational history of Scotland I. A pollen diagram from Abernethy Forest, Inverness-shire. *Journal of Ecology*, 58, 827–46.
- Birks, H.H. (1972a) Studies in the vegetational history of Scotland II. Two pollen diagrams from the Galloway Hills, Kirkcudbrightshire. *Journal of Ecology*, 60, 182–217.

- Birks, H.H. (1972b) Studies in the vegetational history of Scotland III. A radiocarbon dated pollen diagram from Loch Maree, Ross and Cromarty. *New Phytologist*, 71, 731–54.
- Birks, H.H. (1975) Studies in the vegetational history of Scotland IV. Pine stumps in Scottish blanket peats. *Philosophical Transactions of the Royal Society of London*, B270, 181–226.
- Birks, H.H. (1984) Late-Quaternary pollen and plant macrofossil stratigraphy at Lochan an Druim, north-west Scotland. In *Lake Sediments and Environmental History* (eds E.Y. Haworth and J.W.G. Lund). Leicester University Press, Leicester, pp. 377–405.
- Birks, H.H. and Mathewes, R.W. (1978) Studies in the vegetational history of Scotland. V. Late Devensian and early Flandrian pollen and macrofossil stratigraphy at Abernethy Forest, Inverness-shire. *New Phytologist*, 80, 455–84.
- Birks, H.J.B. (1973) *Past and Present Vegetation of the Isle of Skye. A Palaeoecological Study*. Cambridge University Press, Cambridge, 415 pp.
- Birks, H.J.B. (1977) The Flandrian forest history of Scotland: a preliminary synthesis. In *British Quaternary Studies Recent Advances* (ed. F.W. Shotton). Clarendon Press, Oxford, pp. 119–35.
- Birks, H.J.B. (1980) *Quaternary Vegetational History of West Scotland* 5th International Palynological Conference, Guidebook for Excursion C8. The Botany School, University of Cambridge, Cambridge, 70 pp.
- Birks, H.J.B. (1986) Late Quaternary biotic changes in terrestrial and lacustrine environments, with particular reference to north-west Europe. In *Handbook of Holocene Palaeoecology and Palaeohydrology* (ed. B.E. Berglund). John Wiley, Chichester, pp. 1–65.
- Birks, H.J.B. (1987) The vegetational context of mesolithic occupation on Oronsay and adjacent areas. In *Excavations on Oronsay: Prehistoric Human Ecology on a Small Island* (ed. P.A. Mellars). Edinburgh University Press, Edinburgh, pp. 71–7.
- Birks, H.J.B. (1988) Long-term ecological change in the British uplands. In *Ecological Change in the Uplands* (eds M.B. Usher and D.B.A. Thompson). Special Publication of the British Ecological Society, No. 7. Blackwell Scientific Publications, Oxford, 37–56.
- Birks, H.J.B. (1989) Holocene isochrone maps and patterns of tree-spreading in the British Isles. *Journal of Biogeography*, 16, 503–40.
- Birks, H.J.B. (1991) Floristic and vegetational history of the Outer Hebrides. In *Flora of the Outer Hebrides* (eds R.J. Pankhurst and J.M. Mullin). Natural History Museum Publications, London, pp. 32–7.
- Birks, H.J.B. and Birks, H.H. (1980) *Quaternary Palaeoecology*. Edward Arnold, London, 289 pp.
- Birks, H.J.B. and Madsen, B.J. (1979) Flandrian vegetational history of Little Loch Roag, Isle of Lewis, Scotland. *Journal of Ecology*, 67, 825–42.
- Birks, H.J.B. and Peglar, S.M. (1979) Interglacial pollen spectra from Sel Ayre, Shetland. *New Phytologist*, 83, 559–75.
- Birks, H.J.B. and Ransom, M.E. (1969) An interglacial peat at Fugla Ness, Shetland. *New Phytologist*, 68, 777–96.
- Birks, H.J.B. and Williams, W. (1983) Late Quaternary vegetational history of the Inner Hebrides. *Proceedings of the Royal Society of Edinburgh*, 83B, 269–92.
- Birks, H.J.B., Deacon, J. and Peglar, S. (1975) Pollen maps for the British Isles 5000 years ago. *Proceedings of the Royal Society of London*, B189, 87–105.

- Birnie, J. (1981) Environmental changes in Shetland since the end of the last glaciation. Unpublished PhD thesis, University of Aberdeen.
- Birnie, J. (1983) Tolsta Head: further investigations of the interstadial deposit. *Quaternary Newsletter*, 41, 18–25.
- Birnie, J. (1984) Trees and shrubs in the Shetland Islands: evidence for a postglacial climatic optimum. In *Climatic Changes on a Yearly to Millennial Basis* (eds N.A. Morner and W. Karlen). D. Reidel, Dordrecht, pp. 155–61.
- Birse, E.L. (1971) *Assessment of Climatic Conditions in Scotland 3. The Bioclimatic Subregions*. Soil Survey of Scotland. Macaulay Institute for Soil Research, Aberdeen, 12 pp.
- Birse, E.L. (1974) Bioclimatic characteristics of Shetland. In *The Natural Environment of Shetland* (ed. R. Goodier). Nature Conservancy Council, Edinburgh, pp. 24–33.
- Birse, E.L. (1980) Suggested amendments to the world soil classification to accommodate Scottish mountain and aeolian soils. *Journal of Soil Science*, 31, 117–24.
- Bishop, W.W. (1963) Lateglacial deposits near Lockerbie, Dumfriesshire. *Transactions of the Dumfriesshire and Galloway Natural History and Antiquarian Society*, 40, 117–32.
- Bishop, W.W. and Coope, G.R. (1977) Stratigraphical and faunal evidence for Lateglacial and early Flandrian environments in south-west Scotland. In *Studies in the Scottish Lateglacial Environment* (eds J.M. Gray and J.J. Lowe). Pergamon Press, Oxford, pp. 61–88.
- Blackburn, K.B. (1946) On a peat from the island of Barra, Outer Hebrides. Data for the study of post-glacial history. X. *New Phytologist*, 45, 44–9.
- Bloodworth, A.J. (1990) Clay mineralogy of Quaternary sediments from the Dalcharn interglacial site. In *Beaulieu to Nairn: Field Guide* (eds C.A. Auton, C.R. Firth and J.W. Merritt). Quaternary Research Association, Cambridge, pp. 60–61.
- Bohncke, S.J.P. (1988) Vegetation and habitation history of the Callanish area, Isle of Lewis, Scotland. In *The Cultural Landscape — Past, Present and Future* (eds H.H. Birks, H.J.B. Birks, P.E. Kaland and D. Moe). Cambridge University Press, Cambridge, pp. 445–61.
- Bonney, T.G. (1871) On a cirque in the syenite hills of Skye. *Geological Magazine*, 8, 535–40.
- Bonsall, C. and Smith, C. (1990) Bone and antler technology in the British Late Upper Palaeolithic and Mesolithic: the impact of accelerator dating. In *Contributions to the Mesolithic in Europe: Papers Presented at the Fourth International Symposium The Mesolithic in Europe, Leuven 1990* (eds P.M. Vermeersch and P. Van Peer). Leuven University Press, Leuven, pp. 359–68.
- Boulton, G.S. (1968) Flow tills and related deposits on some Vestspitsbergen glaciers. *Journal of Glaciology*, 7, 391–412.
- Boulton, G.S. (1970) On the origin and transport of englacial debris in Svalbard glaciers. *Journal of Glaciology*, 9, 213–29.
- Boulton, G.S. (1972a) The role of thermal regime in glacial sedimentation. *Institute of British Geographers Special Publication*, 4, 1–19. Boulton, G.S. (1972b) Modern Arctic glaciers as depositional models for former ice sheets. *Quarterly Journal of the Geological Society of London*, 128, 361–93.
- Boulton, G.S. (1974) Processes and patterns of glacial erosion. In *Glacial Geomorphology* (ed. D.R. Coates). State University of New York, Binghamton, pp. 41–87.
- Boulton, G.S. (1975) Processes and patterns of subglacial sedimentation: a theoretical approach. In *Ice Ages: Ancient and Modern* (eds A.E. Wright and F. Moseley). Seel House Press, Liverpool, pp. 7–42.

- Boulton, G.S. and Dent, D.L. (1974) The nature and rates of post-depositional changes in recently deposited till from south-east Iceland. *Geografiska Annaler*, 56A, 121–34.
- Boulton, G.S. and Hindmarsh, R. (1987) Sediment deformation beneath glaciers: rheology and geological consequences. *Journal of Geophysical Research*, 92, 90 59–82.
- Boulton, G.S. and Jones, A.S. (1979) Stability of temperate ice caps and ice sheets on beds of deformable sediment. *Journal of Glaciology*, 24, 29–42.
- Boulton, G.S. and Paul, M.A. (1976) The influence of genetic processes on some geotechnical properties of glacial tills. *Quarterly Journal of Engineering Geology*, 9, 159–94.
- Boulton, G.S. and Worsley, P. (1965) Late Weichselian glaciation in the Cheshire–Shropshire basin. *Nature*, 207, 704–6.
- Boulton, G.S., Jones, A.S., Clayton, K.M. and Kenning, M.J. (1977) A British ice-sheet model and patterns of glacial erosion and deposition in Britain. In *British Quaternary Studies. Recent Advances* (ed. F.W. Shotton). Clarendon Press, Oxford, pp. 231–46.
- Boulton, G.S., Chroston, P.N. and Jarvis, J. (1981) A marine seismic study of late Quaternary sedimentation and inferred glacier fluctuations along western Inverness-shire, Scotland. *Boreas*, 10, 39–51.
- Boulton, G.S., Smith, G.D., Jones, A.S. and Newsome, J. (1985) Glacial geology and glaciology of the last mid-latitude ice sheets. *Journal of the Geological Society*, 142, 447–74.
- Boulton, G.S., Peacock, J.D. and Sutherland, D.G. (1991) Quaternary. In *Geology of Scotland*, 3rd edn (ed. G.Y. Craig). Geological Society, London, pp. 503–43.
- Bourcart, J. (1938) La marge continentale. Essai sur les régressions et transgressions marines. *Bulletin de la Société Géologique de France*, Ser. 5, 8, 393–474.
- Bowen, D.Q. (1978) *Quaternary Geology. A Stratigraphic Framework for Multidisciplinary Work*. Pergamon Press, Oxford, 221 pp.
- Bowen, D.Q. (1989) The last interglacial–glacial cycle in the British Isles. *Quaternary International*, 3/4, 41–7.
- Bowen, D.Q. (1991) Time and space in the glacial sediment systems of the British Isles. In *Glacial Deposits in Great Britain and Ireland* (eds J. Ehlers, P.L. Gibbard and J. Rose). A.A. Balkema, Rotterdam, pp. 3–11.
- Bowen, D.Q. and Sykes, G.A. (1988) Correlation of marine events and glaciations on the northeast Atlantic margin. *Philosophical Transactions of the Royal Society of London*, B318, 619–35.
- Bowen, D.Q., Rose, J., McCabe, A.M. and Sutherland, D.G. (1986) Correlation of Quaternary glaciations in England, Ireland, Scotland and Wales. *Quaternary Science Reviews*, 5, 299–340.
- Boyd, W.E. (1982) The stratigraphy and chronology of Late Quaternary raised coastal deposits in Renfrewshire and Ayrshire, western Scotland. Unpublished PhD thesis, University of Glasgow.
- Boyd, W.E. (1986a) Late Devensian shoreline position in north Ayrshire. *Scottish Journal of Geology*, 22, 412–6.
- Boyd, W.E. (1986b) Fossil *Lithothamnium* (calcareous algae) rhodoliths from Late Quaternary raised coastal sediments, Irvine, Ayrshire. *Scottish Journal of Geology*, 22, 165–77.
- Boyd, W.E. (1986c) Vegetation history at Linwood Moss, Renfrewshire, central Scotland. *Journal of Biogeography*, 13, 207–23.

- Boyd, W.E. (1988) Early Flandrian vegetational development on the coastal plain of north Ayrshire, Scotland: evidence from multiple pollen profiles. *Journal of Biogeography*, 15, 325–37.
- Boyd, W.E. and Dickson, J.H. (1986) Patterns in the geographical distribution of the early Flandrian *Corylus* rise in south-west Scotland. *New Phytologist*, 102, 615–23.
- Boyd, W.E. and Dickson, J.H. (1987) A post-glacial pollen sequence from Loch a' Mhuil-linn, North Arran: a record of vegetation history with special reference to the history of endemic *Sorbus* species. *New Phytologist*, 107, 221–44.
- Boyer, S.J. and Pheasant, D.R. (1974) Delimitation of weathering zones in the fjord area of eastern Baffin Island, Canada. *Bulletin of the Geological Society of America*, 85, 805–10.
- Bradley, R.S. (1985) *Quaternary Palaeoclimatology. Methods of Palaeoclimatic reconstruction*. Allen and Unwin, Boston, 472 pp.
- Brady, G.S., Crosskey, H.W. and Robertson, D. (1874) *A Monograph of the Post-Tertiary Entomostraca of Scotland*. Palaeontographical Society Monograph, London, 229 pp.
- Bramwell, D. (1977) Archaeology and palaeontology. In *Limestones and Caves of the Peak District* (ed. T.D. Ford). Geo Abstracts, Norwich, pp. 263–91.
- Brazier, V. (1987) Late Quaternary alluvial fans, debris cones and talus cones in the Grampian Highlands, Scotland. Unpublished PhD thesis, University of St Andrews.
- Brazier, V. and Ballantyne, C.K. (1989) Late Holocene debris cone evolution in Glen Feshie, western Cairngorm Mountains Scotland. *Transactions of the Royal Society of Edinburgh: Earth Sciences*, 80, 17–24.
- Brazier, V., Whittington, G. and Ballantyne, C.K. (1988). Holocene debris cone formation in Glen Etive, Western Grampian Highlands, Scotland. *Earth Surface Processes and Landforms*, 13, 525–31.
- Bremner, A. (1912) *The physical geology of the Dee Valley*. Aberdeen Natural History and Antiquarian Society. Survey of the Natural History and Antiquities of the Valley of the Dee, Vol. 1, Part 2. The University Press, Aberdeen, 89 pp.
- Bremner, A. (1915) The capture of the Geldie by the Feshie. *Scottish Geographical Magazine*, 31, 589–96.
- Bremner, A. (1916a) The Vat near Loch Kinord, Aberdeenshire. Is it a giant's kettle (moulin pot-hole) or a stream pot-hole. *Transactions of the Edinburgh Geological Society*, 10, 326–33.
- Bremner, A. (1916b) Problems in the glacial geology of northeast Scotland and some fresh facts bearing on them. *Transactions of the Edinburgh Geological Society*, 10, 334–47.
- Bremner, A. (1919) A geographical study of the high plateau of the south-eastern Highlands. *Scottish Geographical Magazine*, 35, 331–51.
- Bremner, A. (1920) Limits of valley glaciation in the basin of the Dee. *Transactions of the Edinburgh Geological Society*, 11, 61–8.
- Bremner, A. (1921) The physical geology of the Don Basin. *Aberdeen University Studies*, 83, 129 pp.
- Bremner, A. (1922) Deeside as a field for the study of geology. *The Deeside Field*, 1, 33–6. Bremner, A. (1925a) The Vat. *The Deeside Field*, 2, 40–4.
- Bremner, A. (1925b) The glacial geology of the Stonehaven district. *Transactions of the Edinburgh Geological Society*, 11, 25–41.

- Bremner, A. (1928) Further problems in the glacial geology of north-eastern Scotland. *Transactions of the Edinburgh Geological Society*, 12, 147–64.
- Bremner, A. (1929) The glaciation of the Cairngorms. *The Deeside Field*, 4, 29–37.
- Bremner, A. (1931) The valley glaciation in the district round Dinnet, Cambus o'May, and Ballater. *The Deeside Field*, 5, 15–24.
- Bremner, A. (1934a) The glaciation of Moray and ice movements in the north of Scotland. *Transactions of the Edinburgh Geological Society*, 13, 17–56.
- Bremner, A. (1934b) Meltwater drainage channels and other glacial phenomena of the Highland border belt from Cortachy to the Bervie Water. *Transactions of the Edinburgh Geological Society*, 13, 174–5.
- Bremner, A. (1936) The glaciation of Glenesk. *Transactions of the Edinburgh Geological Society*, 13, 378–82.
- Bremner, A. (1938) The glacial epoch in northeast Scotland. *The Deeside Field*, 8, 64–8.
- Bremner, A. (1939a) The Late-glacial geology of the Tay basin from Pass of Birnam to Grandtully and Pitlochry. *Transactions of the Edinburgh Geological Society*, 13, 473–4.
- Bremner, A. (1939b) Notes on the glacial geology of East Aberdeenshire. *Transactions of the Edinburgh Geological Society*, 13, 474–5.
- Bremner, A. (1939c) The River Findhorn. *Scottish Geographical Magazine*, 55, 65–85.
- Bremner, A. (1942) The origin of the Scottish river system. Parts I, II and III. *Scottish Geographical Magazine*, 58, 15–20; 54–59; 99–103.
- Bremner, A. (1943a) The glacial epoch in the north-east. In *The Book of Buchan* (Jubilee volume) (ed. J.F. Tocher). Aberdeen University Press, Aberdeen, pp. 10–30.
- Bremner, A. (1943b) The later history of the Tilt and Geldie drainage. *Scottish Geographical Magazine*, 59, 92–7.
- Bretz, J.H. (1935) Physiographic studies in East Greenland. In *The Fjord Region of East Greenland* (ed. L.A. Boyd). *American Geographical Society, Special Publication*, 18, 161–266.
- Brewster, D. (1829) *The New Edinburgh Encyclopaedia* (American Edition). Joseph Parker, Philadelphia.
- Brickenden, L (1851) On the occurrence of the boulder clay in the limestone quarry, Linksfield, Elgin, N.B. *Quarterly Journal of the Geological Society*, 7, 289–92.
- Bridge, M.C., Haggart, B.A. and Lowe, J.J. (1990) The history and palaeoclimatic significance of subfossil remains of *Pinus sylvestris* in blanket peats from Scotland. *Journal of Ecology*, 78, 77–99.
- Broccoli, A.J. and Manabe, S. (1987) The influence of continental ice, atmospheric CO₂, and land albedo on the climate of the last glacial maximum. *Climate Dynamics*, 1, 87–99.
- Broecker, W.S. and Denton, G.H. (1989) The role of ocean-atmosphere reorganizations in glacial cycles. *Geochimica et Cosmochimica Acta*, 53, 2465–501.
- Broecker, W.S. and Denton, G.H. (1990) What drives glacial cycles? *Scientific American*, 262(1), 43–50.
- Brooks, C.L. (1972) Pollen analysis and the Main Buried Beach in the western part of the Forth Valley. *Transactions of the Institute of British Geographers*, 55, 161–70.

- Brown, D.J. (1868) On the glaciation of Loch Skene and surrounding districts; being a journey across the hills from Moffat to Tweedsmuir. *Transactions of the Edinburgh Geological Society*, 1, 81–5.
- Brown, D.J. (1874) On some of the glacial phenomena of the neighbourhood of Edinburgh, as observed in the Pentlands, Blackford Hill, Bruntsfield Links, and Tynecastle Sandpit. *Transactions of the Edinburgh Geological Society*, 2, 351–7.
- Brown, T. (1867) On the arctic shell clay of Elie and Errol, viewed in connection with our other glacial and more recent deposits. *Transactions of the Royal Society of Edinburgh*, 24, 617–33.
- Brown, T. (1875) On the Parallel Roads of Glen Roy. *Proceedings of the Royal Society of Edinburgh*, 8, 339–42.
- Browne, M.A.E. (1977) Sand and gravel resources of the Fife Region. *Report of the Institute of Geological Sciences*, 77/5, 14 pp.
- Browne, M.A.E. (1980) Late-Devensian marine limits and the pattern of deglaciation of the Strathearn area, Tayside. *Scottish Journal of Geology*, 16, 221–30.
- Browne, M.A.E. (1987) The physical geography and geology of the estuary and Firth of Forth, Scotland. *Proceedings of the Royal Society of Edinburgh*, 93B, 235–44.
- Browne, M.A.E. and Graham, D.K. (1981) Glacio-marine deposits of the Loch Lomond stade glacier in the Vale of Leven between Dumbarton and Balloch, west-central Scotland. *Quaternary Newsletter*, 34, 1–7.
- Browne, M.A.E. and Jarvis, J. (1983) Late-Devensian marine erosion in St Andrews Bay, east-central Scotland. *Quaternary Newsletter*, 41, 11–7.
- Browne, M.A.E. and McMillan, A.A. (1984) Shoreline inheritance and coastal history in the Firth of Clyde. *Scottish Journal of Geology*, 20, 119–20.
- Browne, M.A.E. and McMillan, A.A. (1989) Quaternary geology of the Clyde Valley. *British Geological Survey Research Report SA/89/1*, Onshore Geology Series, HMSO, London, 63 pp.
- Browne, M.A.E., Harkness, D.D., Peacock, J.D. and Ward, R.G. (1977) The date of deglaciation of the Paisley–Renfrew area. *Scottish Journal of Geology*, 13, 301–3.
- Browne, M.A.E., McMillan, A.A. and Hall, I.H.S. (1983) Blocks of marine clay in till near Helensburgh, Strathclyde. *Scottish Journal of Geology*, 19, 321–5.
- Browne, M.A.E., Graham, D.K. and Gregory, D.M. (1984) Quaternary estuarine deposits in the Grangemouth area, Scotland. *Report of the British Geological Survey*, 16/3, 14 pp.
- Brunsdon, D. (1964) The origin of decomposed granite on Dartmoor. In *Dartmoor Essays* (ed. I.G. Simmons). The Devonshire Association for the Advancement of Science, Literature and Art, Torquay, pp. 97–116.
- Bryce, J. (1855) On the Parallel Roads of Lochaber. *Proceedings of the Philosophical Society of Glasgow*, 3, 99–109.
- Bryce, J. (1859) *Geology of Clydesdale and Arran*. Griffin, London, pp. 199.
- Bryce, J. (1865a) On the order of succession in the drift-beds of the Island of Arran. *Quarterly Journal of the Geological Society of London*, 21, 204–13.
- Bryce, J. (1865b) On the occurrence of beds in the west of Scotland beneath the boulder-clay. *Quarterly Journal of the Geological Society of London*, 21, 213–8.
- Bryden, J. (1845) United parishes of Sandsting and Aithsting. Presbytery of Lerwick, Synod of Shetland. *The New Statistical Account of Scotland*, Vol. 15. William Blackwood and Sons, Edinburgh and London, pp. 97–144. Buck, S.G.

- (1978) The sedimentology of a coarse bed-load braided river, the It Feshie, Inverness-shire, Scotland. Unpublished MSc thesis, University of Reading.
- Buckland, W. (1841a) On the evidences of glaciers in Scotland and the north of England. *Proceedings of the Geological Society of London*, 3, 332–7.
- Buckland, W. (1841b) Address delivered on the anniversary, February 19th, by the Rev. Professor Buckland, D.D., P.G.S. *Proceedings of the Geological Society of London*, 3, 468–540.
- Buckley, J. and Willis, E.H. (1972) Isotopes' radiocarbon measurements IX. *Radiocarbon*, 14, 114–39.
- Buist, G. (1841) Outline of the geology of the south-east district of Perthshire. *Transactions of the Royal Highland Agricultural Society of Scotland*, 13, 17–49.
- Bugge, T. (1983) Submarine slides on the Norwegian continental margin, with special emphasis on the Storegga area. *Institutt for Kontinentalsokkelundersokkelser (Trondheim)*, Publication no. 110, 152 pp.
- Buller, A.T. and McManus, J. (1971) Channel stability in the Tay estuary, control by bedrock and unconsolidated postglacial sediments. *Engineering Geology*, 5, 227–37.
- Burke, M.J. (1968) Some stone-orientation results from the Forth Valley. *Scottish Journal of Geology*, 5, 286–92.
- Burke, M.J. (1969) The Forth Valley: an ice-moulded lowland. *Transactions of the Institute of British Geographers*, 48, 51–9.
- Busby, J. (1802) Minutes of observations drawn up in the course of a mineralogical survey of the county of Caithness in 1802. Edinburgh. (Cited by Crampton *et al.*, 1914, p. 118.)
- Cadell, H.M. (1913) *The Story of the Forth*. James Maclehose and Sons, Glasgow, 299 pp.
- Caine, N. (1967) The tors of Ben Lomond, Tasmania. *Zeitschrift für Geomorphologie*, 11, 418–29.
- Callender, J.G., Cree, J.E. and Ritchie, J. (1927) Preliminary report on caves containing Palaeolithic relics, near Inchnadamph, Sutherland. *Proceedings of the Society of Antiquaries of Scotland*, 61, 169–72.
- Cambridge, P.G. (1982) A note on the supposed Crag shells from the Kippit Hills, Aberdeenshire. *Bulletin of the Geological Society of Norfolk*, 32, 37–8.
- Cameron, D. (1882a) The glaciers of lower Strathnairn. *Transactions of the Edinburgh Geological Society*, 4, 160–3.
- Cameron, D. (1882b) Notes on the submergence of Scotland. *Transactions of the Edinburgh Geological Society*, 4, 263–8.
- Cameron, I.B., Forsyth, I.H., Hall, I.H.S. and Peacock, J.D. (1977) Sand and gravel resources of the Strathclyde Region of Scotland. *Report of the Institute of Geological Sciences*, 77/8, 51 pp.
- Cameron, T.D.J., Stoker, M.S. and Long, D. (1987) The history of Quaternary sedimentation in the UK sector of the North Sea. *Journal of the Geological Society*, 144, 43–58.
- Campbell, A.C. and Anderson, E.M. (1909) Notes on a transported mass of igneous rock at Comiston sand-pit, near Edinburgh. *Transactions of the Edinburgh Geological Society*, 9, 219–24.
- Campbell, J.F. (1865) *Frost and Fire. Natural Engine Tooaks and Chips with Sketches Taken at Home and Abroad by a Traveller*, Vol. 2. Edmonston and Douglas, Edinburgh, 519 pp.

- Campbell, J.F. (1873) Notes on the glacial phenomena of the Hebrides. *Quarterly Journal of the Geological Society*, 29, 545–8.
- Campbell, J.F. (1877) *Glen Roy. The Parallel Roads of Lochaber*. Privately printed, London, 28 pp.
- Campbell, R. (1913) The geology of southeastern Kincardineshire. *Transactions of the Royal Society of Edinburgh*, 48, 923–60.
- Campbell, R. (1934) On the occurrence of shelly boulder clay and interglacial deposits in Kincardineshire. *Transactions of the Edinburgh Geological Society*, 13, 176–83.
- Campbell, R. (1935) The seaboard of the Mearns: a geological sketch. *The Deeside Field*, 7, 86–90.
- Campbell, R. (1951) Geology. In *Scientific Survey of South-eastern Scotland*. British Association, Edinburgh, 184–99.
- Campbell, S. and Bowen, D.Q. (1989) *Quaternary of Wales. Geological Conservation Review*. Nature Conservancy Council, Peterborough, 237 pp.
- Carling, P.A. (1987) A terminal debris flow lobe in the northern Pennines, United Kingdom. *Transactions of the Royal Society of Edinburgh: Earth Sciences*, 78, 169–76.
- Carlsson, A. and Olsson, T. (1982) High rock stresses as a consequence of glaciation. *Nature*, 298, 739–42.
- Carruthers, R.G. (1911) On the occurrence of a Cretaceous Boulder of unusual size, at Leavad, in Caithness. *Summary of Progress of the Geological Survey of Great Britain for 1910*. HMSO, London, 80–4.
- Carruthers, R.G. (1939) On northern glacial drifts: some peculiarities and their significance. *Quarterly Journal of the Geological Society*, 95, 299–333.
- Carruthers, R.G. (1941) Glacial drifts. *Geological Magazine*, 78, 317–8.
- Carruthers, R.G. (1942) Glacial drifts. *Geological Magazine*, 79, 153–4.
- Carter, S.P., Proctor, J. and Slingsby, D.R. (1987) Soil and vegetation of the Keen of Hamar serpentine, Shetland. *Journal of Ecology*, 75, 21–41.
- Caseldine, C.J. (1980a) A Lateglacial site at Stormont Loch, near Blairgowrie, eastern Scotland. In *Studies in the Lateglacial of North-west Europe* (eds J.J. Lowe, J.M. Gray and J.E. Robinson). Pergamon Press, Oxford, pp. 69–88.
- Caseldine, C.J. (1980b) Aspects of the vegetation history of south-east Perthshire. Unpublished PhD thesis, University of St Andrews.
- Caseldine, C.J. and Edwards, K.J. (1982) Interstadial and last interglacial deposits covered by till in Scotland: comments and new evidence. *Boreas*, 11, 119–22.
- Caseldine, C.J. and Whittington, G. (1976) Pollen analysis of material from the Stones of Stenness, Orkney. In *The Stones of Stenness, Orkney* (ed. J.W.G. Ritchie). *Proceedings of the Society of Antiquaries of Scotland*, 107, 37–40.
- Chambers, F.M. and Elliott, L. (1989) Spread and expansion of *Alnus Mill.* in the British Isles: timing, agencies and possible vectors. *Journal of Biogeography*, 16, 541–50.
- Chambers, R. (1848) *Ancient Sea-margins as Memorials of Changes in the Relative Level of Sea and Land*. W. and R. Chambers, Edinburgh, 338 pp.
- Chambers, R. (1853) On glacial phenomena in Scotland and parts of England. *Edinburgh New Philosophical Journal*, 54, 229–81.

- Chambers, R. (1855a) Further observation on glacial phenomena in Scotland and the north of England. *Edinburgh New Philosophical Journal*, NS 1, 97–103.
- Chambers, R. (1855b) On glacial phenomena in Peebles and Selkirk Shires. *Edinburgh New Philosophical Journal*, NS 2, 184.
- Chambers, R. (1857) Geological notes on Banffshire. *Proceedings of the Royal Society of Banffshire*, 3, 332–3.
- Chapelhowe, R. (1965) On glaciation in North Roe, Shetland. *Geographical Journal*, 131, 60–71.
- Chapman, C.A. and Rioux, R.L. (1958) Statistical study of topography, sheeting and jointing in granite, Acadia National Park, Maine. *American Journal of Science*, 256, 111–27.
- Charlesworth, J.K (1926a) The glacial geology of the Southern Uplands of Scotland, west of Annandale and Upper Clydesdale. *Transactions of the Royal Society of Edinburgh*, 55, 1–23.
- Charlesworth, J.K (1926b) The readvance, marginal kame-moraine of the south of Scotland, and some later stages of retreat. *Transactions of the Royal Society of Edinburgh*, 55, 25–50.
- Charlesworth, J.K (1956) The late-glacial history of the Highlands and Islands of Scotland. *Transactions of the Royal Society of Edinburgh*, 62, 769–928.
- Charlesworth, J.K (1957) *The Quaternary Era*, 2 Vols. Edward Arnold, London, 591 pp and 1700 pp.
- Charman, D.J. (1990) Origins and development of blanket mire in the flow country, northern Scotland, with special reference to patterned fens. Unpublished PhD thesis, University of Southampton.
- Charman, D.J. (1992) Blanket mire formation at the Cross Lochs, Sutherland, northern Scotland. *Boreas*, 21, 53–72.
- Chattopadhyay, G.P. (1982) Periglacial geomorphology of parts of the Grampian Highlands of Scotland. Unpublished PhD thesis. University of Edinburgh.
- Chattopadhyay, G.P. (1984) A fossil valley-wall rock glacier in the Cairngorm mountains. *Scottish Journal of Geology*, 20, 121–5.
- Chattopadhyay, G.P. (1986) Ploughing block movement on the Drumochter Hills in the Grampian Highlands, Scotland. *Biuletyn Peryglacjalny*, 30, 57–60.
- Chester, D.K (1974) Description of the section exposed by the BP oil pipeline trench between Stonehaven and the River Don. Unpublished Report, Department of Geography University of Aberdeen, 7 pp.
- Chester, D.K (1975) Bay of Nigg section. *Aberdeen Field Excursion Guide*. Quaternary Research Association, Aberdeen, pp. 2–4.
- Chisholm, J.I. (1966) An association of raised beaches with glacial deposits near Leuchars, Fife. *Bulletin of the Geological Survey of Great Britain*, 24, 163–74.
- Chisholm, J.I. (1971) The stratigraphy of the post-glacial marine transgression in NE Fife. *Bulletin of the Geological Survey of Great Britain*, 37, 91–107.
- Chorley, R.J., Schumm, S.C. and Sugden, D.E. (1984) *Geomorphology*. Methuen, London, 605 pp.
- Christie, J. (1830) Blackpotts Clay, near Banff. *Edinburgh New Philosophical Journal*, 9, 382.
- Christie, J. (1831) On the occurrence of chalk-flints in Banffshire. *Edinburgh New Philosophical Journal*, 10, 163–4.

- Church, M. (1978) Palaeohydrological reconstructions from a Holocene valley fill. In *Fluvial Sedimentology* (ed. A.D. Miall). *Memoir of the Canadian Society of Petroleum Geologists, Calgary*, 5, 743–72.
- Church, M. and Ryder, J.M. (1972) Paraglacial sedimentation: a consideration of fluvial processes conditioned by glaciation. *Bulletin of the Geological Society of America*, 83, 305–972.
- Clapperton, C.M. (1968) Channels formed by the superimposition of glacial meltwater streams with special reference to the east Cheviot Hills, north-east England. *Geografiska Annaler*, 50A, 207–20.
- Clapperton, C.M. (1970) The evidence for a Cheviot ice cap. *Transactions of the Institute of British Geographers*, 50, 115–27.
- Clapperton, C.M. (1971a) The pattern of deglaciation in part of north Northumberland. *Transactions of the Institute of British Geographers*, 53, 67–78.
- Clapperton, C.M. (1971b) The location and origin of glacial meltwater phenomena in the eastern Cheviot Hills. *Proceedings of the Yorkshire Geological Society*, 38, 361–80.
- Clapperton, C.M. (ed). (1977) *The Northern Highlands of Scotland*. INQUA X Congress. Guidebook for Excursions A10 and C10. Geo Abstracts, Norwich, 44 pp.
- Clapperton, C.M. (1986) Glacial geomorphology of north-east Lochnagar. In *Essays for Professor R.E.H. Mellor* (ed. W. Ritchie, J.C. Stone and A.S. Mather). Department of Geography, University of Aberdeen, Aberdeen, pp. 390–6.
- Clapperton, C.M. and Crofts, R.S. (1969) Physiography and terrain analysis. In *Royal Grampian Country* (ed. K Walton). Department of Geography, University of Aberdeen, Aberdeen, PP. 1–8.
- Clapperton, C.M. and Sugden, D.E. (1972) The Aberdeen and Dinnet glacial limits reconsidered. In *North-east Scotland Geographical Essays* (ed. C.M. Clapperton). Department of Geography, University of Aberdeen, Aberdeen, pp. 5–11.
- Clapperton, C.M. and Sugden, D.E. (1975) The glaciation of Buchan — a reappraisal. In *Quaternary Studies in North East Scotland* (ed. A.M.D. Gemmell). Department of Geography, University of Aberdeen, Aberdeen, pp. 19–22.
- Clapperton, C.M. and Sugden, D.E. (1977) The Late Devensian glaciation of north-east Scotland. In *Studies in the Scottish Lateglacial Environment* (ed. J.M. Gray and J.J. Lowe). Pergamon Press, Oxford, pp. 1–13.
- Clapperton, C.M., Gunson, A.R. and Sugden, D.E. (1975) Loch Lomond Readvance in the eastern Cairngorms. *Nature*, 253, 710–12.
- Clark, R. (1962) Some landforms and processes of Southern Rhum. Unpublished report. Nature Conservancy Council, Edinburgh.
- Clark, R. (1970) Aspects of glaciation in Northumberland. *Proceedings of the Cumberland Geological Society*, 2, 133–56.
- Clark, R. (1971) Periglacial landforms and landscapes in Northumberland. *Proceedings of the Cumberland Geological Society*, 3, 5–20.
- Clayton, K.M. (1965) Glacial erosion in the Finger Lakes region (New York State, U.S.A.). *Zeitschrift für Geomorphologie*, 9, 50–62.
- Clayton, K.M. (1974) Zones of glacial erosion. *Institute of British Geographers Special Publication*, 7, 163–76.
- Cleghorn, J. (1850) On the till near Wick in Caithness. *Quarterly Journal of the Geological Society of London*, 6, 385–6.
- Cleghorn, J. (1851) On the till of Caithness. *Quarterly Journal of the Geological Society of London*, 7, 200–1.

- Clement, P. (1984) The drainage of a marginal ice-dammed lake at Nordbogletscher, Johan Dahl Land, south Greenland. *Arctic and Alpine Research*, 16, 209–16.
- Clough, C.T. and Harker, A. (1904) *The Geology of West-central Skye, with Soay*. Explanation of Sheet 70. Memoirs of the Geological Survey of Scotland. HMSO, Glasgow, 59 pp.
- Clough, C.T., Barrow, G., Crampton, C.B., Maufe, H.R., Bailey, E.B. and Anderson, E.M. (1910) *The Geology of East Lothian, including parts of the Counties of Edinburgh and Berwick*. Explanation of Sheet 33, with parts of 34 and 31. 2nd edn. Memoirs of the Geological Survey of Scotland. HMSO, Edinburgh, 226 pp.
- Clough, C.T., Hinxman, L.W., Wright, W.B., Anderson, E.M. and Carruthers, R.G. (1916) *The Economic Geology of the Central Coalfield of Scotland*. Area V. Memoirs of the Geological Survey of Scotland. HMSO, Edinburgh, 146 pp.
- Clough, C.T., Wilson, J.S.G., Anderson, E.M. and Macgregor, M. (1920) *The Economic Geology of the Central Coalfield of Scotland*. Area VII. Memoirs of the Geological Survey of Scotland. HMSO, Edinburgh, 144 pp.
- Clough, C.T., Hinxman, L.W., Wilson, J.S.G., Crampton, C.B., Wright, W.B., Bailey, E.B., Anderson, E.M. and Carruthers, R.G. (1925) *The Geology of the Glasgow District* Glasgow District Map, including parts of Sheets 30, 31, 22 and 23. (Revised edition by M. Macgregor, C.H. Dinham, E.B. Bailey and E.M. Anderson). Memoirs of the Geological Survey of Scotland, HMSO, Edinburgh, 299 pp.
- Cockburn, A.M. (1935) The geology of St Kilda. *Transactions of the Royal Society of Edinburgh*, 58, 511–47.
- Colhoun, E.A. (1981) A protalus rampart from the western Mourne Mountains, Northern Ireland. *Irish Geography*, 14, 85–90.
- Comber, D.P.M. (1991) Holocene coastal evolution of Culbin Sands and Forest. In *Late Quaternary Coastal Evolution in the Inner Moray Firth. Field Guide* (eds C.R. Firth and B.A. Haggart). West London Press, London, pp. 23–9.
- Common, R. (1954a) A report on the Lochaber, Appin and Benderloch floods, May, 1953. *Scottish Geographical Magazine*, 70, 6–20.
- Common, R. (1954b) The geomorphology of the east Cheviot area. *Scottish Geographical Magazine*, 70, 124–38.
- Common, R. and Galloway, R.W. (1958) Ice wedges in Midlothian: a note. *Scottish Geographical Magazine*, 74, 44–6.
- Conacher, H.R.J. (1932) A group of 'kettle-holes' near Connel Ferry. *Transactions of the Geological Society of Glasgow*, 19, 152–7.
- Connell, E.R. (1984a) Kirkhill. Stratigraphy. B. Deposits between the lower and upper palaeosols. In *Buchan Field Guide* (ed. A.M. Hall). Quaternary Research Association, Cambridge, pp. 62–4.
- Connell, E.R. (1984b) Kirkhill. Chronology. In *Buchan Field Guide* (ed. A.M. Hall). Quaternary Research Association, Cambridge, pp. 78–9.
- Connell, E.R. and Hall, A.M. (1984a) Kirkhill Quarry: correlation. In *Buchan Field Guide* (ed. A.M. Hall). Quaternary Research Association, Cambridge, pp. 80.
- Connell, E.R. and Hall, A.M. (1984b) Boyne Bay Quarry. In *Buchan Field Guide* (ed. A.M. Hall). Quaternary Research Association, Cambridge, pp. 97–101.
- Connell, E.R. and Hall, A.M. (1987) The periglacial stratigraphy of Buchan. In *Periglacial Processes and Landforms in Britain and Ireland* (ed. J. Boardman). Cambridge University Press, Cambridge, pp. 277–85.

- Connell, E.R. and Romans, J.C.C. (1984) Kirkhill. Palaeosols. In *Buchan Field Guide* (ed. A.M. Hall). Quaternary Research Association, Cambridge, pp. 70–6.
- Connell, E.R., Edwards, K.J. and Hall, A.M. (1982) Evidence for two pre-Flandrian palaeosols in Buchan, Scotland. *Nature*, 297, 570–2.
- Connell, E.R., Hall, A.M., Shaw, D. and Riley, L.A. (1985) Palynology and significance of radiocarbon dated organic materials from Cruden Bay Brick Pit, Grampian Region, Scotland. *Quaternary Newsletter*, 47, 19–25.
- Connolly, A.P. (1957) The occurrence of seeds of *Papaver* sect. *Scapillora* in a Scottish Late Glacial site. *Veroffentlichungen Geobotanischen Instituts, Zurich*, 34, 27–9.
- Coope, G.R. (1959) A Late Pleistocene insect fauna from Chelford, Cheshire. *Proceedings of the Royal Society of London*, B151, 70–86.
- Coope, G.R. (1968) Fossil beetles collected by James Bennie from Late Glacial silts at Corstorphine, Edinburgh. *Scottish Journal of Geology*, 4, 339–48.
- Coope, G.R. (1975) Climatic fluctuations in northwest Europe since the last interglacial, indicated by fossil assemblages of coleoptera. In *Ice Ages: Ancient and Modern* (eds A.E. Wright and F. Moseley). Seel House Press, Liverpool, pp. 153–68.
- Coope, G.R. (1977) Fossil coleopteran assemblages as sensitive indicators of climatic changes during the Devensian (Last) cold stage. *Philosophical Transactions of the Royal Society of London*, B280, 313–40.
- Coope, G.R. (1981) Episodes of local extinction of insect species during the Quaternary as indicators of climatic change. In *The Quaternary in Britain* (eds J. Neale and J. Flenley). Pergamon Press, Oxford, pp. 216–21.
- Coope, G.R. and Brophy, J.A. (1972) Lateglacial environmental changes indicated by a coleopteran succession from north Wales. *Boreas*, 1, 97–142.
- Coope, G.R. and Joachim, M.J. (1980) Lateglacial environmental changes interpreted from fossil coleoptera from St Bees, Cumbria, NW England. In *Studies in the Lateglacial of North-west Europe* (eds J.J. Lowe, J.M. Gray and J.E. Robinson). Pergamon Press, Oxford, pp. 556–8.
- Coque-Delhuille, B. and Veyret, Y. (1988) Recherches geomorphologiques preliminaires dans l'archipel des Shetland (G.B.). *Hommes et Terres du Nord*, 3, 137–54.
- Cornish, R. (1979) Glacial Geomorphology of the west-central Southern Uplands of Scotland, with particular reference to 'rogen moraines'. Unpublished PhD thesis, University of Edinburgh.
- Cornish, R. (1981) Glaciers of the Loch Lomond Stadial in the western Southern Uplands of Scotland. *Proceedings of the Geologists' Association*, 92, 105–14.
- Cornish, R. (1982) Glacier flow at a former ice-divide in SW Scotland. *Transactions of the Royal Society of Edinburgh: Earth Sciences*, 73, 31–41.
- Cornish, R. (1983) Glacial erosion in an ice-divide zone. *Nature*, 301, 413–5.
- Coward, M.P. (1977) Anomalous glacial erratics in the southern part of the Outer Hebrides. *Scottish Journal of Geology*, 13, 185–8.
- Cox, R. and Nicol, J. (1869) *Select Writings, Political, Scientific, Topographical and Miscellaneous, of the Late Charles Maclaren, FRSE*, 2 Vols. Edmonston and Douglas, Edinburgh.

- Craig, A.J. (1978) Pollen percentage and influx analyses in south-east Ireland: a contribution to the ecological history of the Late-glacial period. *Journal of Ecology*, 66, 297–324.
- Craig, R. (1873) On the glacial deposits of north Ayrshire and Renfrewshire. *Transactions of the Geological Society of Glasgow*, 4, 138–64.
- Craig, R. (1888) On the post-Pliocene beds of the Irvine valley, Kilmaurs and Dreghorn districts. *Transactions of the Geological Society of Glasgow*, 8, 214–26.
- Crampton, C.B. (1911) *The Vegetation of Caithness considered in relation to the Geology*. Published under the auspices of the Committee for the Survey and Study of British Vegetation, Edinburgh, 132 pp.
- Crampton, C.B. and Carruthers, R.G. (1914) *The Geology of Caithness*. Sheets 110 and 116, with parts of 109, 115 and 117. Memoirs of the Geological Survey of Scotland, HMSO, Edinburgh, 194 pp.
- Cranwell, P.A. (1977) Organic geochemistry of Cam Loch (Sutherland) sediments. *Chemical Geology*, 20, 205–21.
- Cree, J.E. (1927) Palaeolithic Man in Scotland. *Antiquity*, 1, 169–72.
- Crofts, R.S. (1971) Coastal process and evolution around St Cyrus, Angus–Kincardine. Unpublished MLitt thesis, University of Aberdeen.
- Crofts, R.S. (1972) Coastal sediments and process around St Cyrus. In *North East Scotland Geographical Essays* (ed. C.M. Clapperton). Department of Geography, University of Aberdeen, Aberdeen, pp. 15–9.
- Crofts, R.S. (1974) A method to determine shingle supply to the coast. *Transactions of the Institute of British Geographers*, 62, 115–27.
- Crofts, R.S. (1975) Sea bed topography off northeast Scotland. *Scottish Geographical Magazine*, 91, 52–64.
- Croll, J. (1867) On the excentricity of the Earth's orbit, and its physical relations to the glacial epoch. *Philosophical Magazine*, 33, 119–31.
- Croll, J. (1870a) The boulder-clay of Caithness a product of land-ice. *Geological Magazine*, 7, 209–14 and 271–8.
- Croll, J. (1870b) On two river channels buried under drift, belonging to a period when the land stood several hundred feet higher than at present. *Transactions of the Edinburgh Geological Society*, 1, 330–45.
- Croll, J. (1875) *Climate and Time in their Geological Relations A Theory of Secular Changes of the Earth's Climate*. Daldy, Isbister and Co., London, 577 pp.
- Croll, J. (1885) *Climate and Cosmology*. Adam and Charles Black, Edinburgh, 327 pp.
- Crosskey, H.W. (1864) On the recent discovery of the remains of a cetacean in the banks of the River Irvine. *Proceedings of the Philosophical Society of Glasgow*, 5, 243–6.
- Crosskey, H.W. (1865) On the *Tellina calcarea* bed at Chappel Hall, near Airdrie. *Quarterly Journal of the Geological Society*, 21, 219–21.
- Crosskey, H.W. (1887) Dr Crosskey on the Clava shell bed. *Transactions of the Inverness Scientific Society and Field Club*, 3, 277–85.
- Crosskey, H.W. and Robertson, D. (1867) The post-Tertiary fossiliferous beds of Scotland. *Transactions of the Geological Society of Glasgow*, 2, 267–82.
- Crosskey, H.W. and Robertson, D. (1868a) The post-Tertiary fossiliferous beds of Scotland. II. Cumbrae College. *Transactions of the Geological Society of Glasgow*, 3, 113–8.

- Crosskey, H.W. and Robertson, D. (1868b) The post-Tertiary fossiliferous beds of Scotland. III. Loch Gilp. *Transactions of the Geological Society of Glasgow*, 3, 118–25.
- Crosskey, H.W. and Robertson, D. (1868c) The post-Tertiary fossiliferous beds of Scotland. IV. Boulder Clay — Caithness. *Transactions of the Geological Society of Glasgow*, 3, 125–7.
- Crosskey, H.W. and Robertson, D. (1868d) The post-Tertiary fossiliferous beds of Scotland. V. Lucknow Pit, Ardeer Iron Works, Ayrshire. *Transactions of the Geological Society of Glasgow*, 3, 127–9.
- Crosskey, H.W. and Robertson, D. (1869a) The post-Tertiary fossiliferous beds of Scotland. VI. East Tarbert — Loch Fyne. *Transactions of the Geological Society of Glasgow*, 3, 321–4.
- Crosskey, H.W. and Robertson, D. (1869b) The post-Tertiary fossiliferous beds of Scotland. **VII.** West Tarbert. *Transactions of the Geological Society of Glasgow*, 3, 324–7.
- Crosskey, H.W. and Robertson, D. (1869c) The post-Tertiary fossiliferous beds of Scotland. **VIII** Crinan. *Transactions of the Geological Society of Glasgow*, 3, 327–8.
- Crosskey, H.W. and Robertson, D. (1869d) The post-Tertiary fossiliferous beds of Scotland. IX. Duntroon. *Transactions of the Geological Society of Glasgow*, 3, 328–31.
- Crosskey, H.W. and Robertson, D. (1869e) The post-Tertiary fossiliferous beds of Scotland. X. Old Mains, Renfrew. *Transactions of the Geological Society of Glasgow*, 3, 331–4.
- Crosskey, H.W. and Robertson, D. (1869f) The post-Tertiary fossiliferous beds of Scotland. XI. Paisley. *Transactions of the Geological Society of Glasgow*, 3, 334–41.
- Crosskey, H.W. and Robertson, D. (1871) The post-Tertiary fossiliferous beds of Scotland. XII. Garvel Park New Dock, Greenock. *Transactions of the Geological Society of Glasgow*, 4, 32–45.
- Crosskey, H.W. and Robertson, D. (1873a) The post-Tertiary fossiliferous beds of Scotland. XIII Kilchattan Tile-Works, Bute. *Transactions of the Geological Society of Glasgow*, 4, 128–33.
- Crosskey, H.W. and Robertson, D. (1873b) The post-Tertiary fossiliferous beds of Scotland. XIV. Tangy Glen, near Campbeltown. *Transactions of the Geological Society of Glasgow*, 4, 134–7.
- Crosskey, H.W. and Robertson, D. (1874a) The post-Tertiary fossiliferous beds of Scotland. XV. Jordanhill Brick Works. *Transactions of the Geological Society of Glasgow*, 4, 241–5.
- Crosskey, H.W. and Robertson, D. (1874b) The post-Tertiary fossiliferous beds of Scotland. XVI. Stobcross. *Transactions of the Geological Society of Glasgow*, 4, 245–51.
- Crosskey, H.W. and Robertson, D. (1874c) The post-Tertiary fossiliferous beds of Scotland. XVII. Fairfield, near Govan. *Transactions of the Geological Society of Glasgow*, 4, 251–2.
- Crosskey, H.W. and Robertson, D. (1874d) The post-Tertiary fossiliferous beds of Scotland. XVIII .Paisley Canal. *Transactions of the Geological Society of Glasgow*, 4, 252–4.
- Crosskey, H.W. and Robertson, D. (1874e) The post-Tertiary fossiliferous beds of Scotland. XIX. Dipple Tile-Works. *Transactions of the Geological Society of Glasgow*, 4, 255–6.
- Crosskey, H.W. and Robertson, D. (1875) The post-Tertiary fossiliferous beds of Scotland. XX. Kyles of Bute. *Transactions of the Geological Society of Glasgow*, 5, 29–35.

- Cruden, D.M. and Hungr, O. (1986) The debris of the Frank Slide and theories of rockslide-avalanche mobility. *Canadian Journal of Earth Sciences*, 23, 425–32.
- Cullingford, R.A. (1972) Lateglacial and postglacial shoreline displacement in the Earn–Tay Area and Eastern Fife. Unpublished PhD thesis, University of Edinburgh.
- Cullingford, R.A. (1977) Lateglacial raised shorelines and deglaciation in the Earn–Tay area. In *Studies in the Scottish Lateglacial Environment* (eds J.M. Gray and J.J. Lowe). Pergamon Press, Oxford, pp. 15–32.
- Cullingford, R.A. and Smith, D.E. (1966) Late-glacial shorelines in eastern Fife. *Transactions of the Institute of British Geographers*, 39, 31–51.
- Cullingford, R.A. and Smith, D.E. (1980) Late Devensian raised shorelines in Angus and Kincardineshire, Scotland. *Boreas*, 9, 21–38.
- Cullingford, R.A., Caseldine, C.J. and Gotts, P.E. (1980) Early Flandrian land and sea-level changes in lower Strathearn. *Nature*, 184, 159–61.
- Cullingford, R.A. Firth, C.R. and Smith, D.E. (1986) *Relative Sea Level Changes in Eastern Scotland from the Loch Lomond Stadial to the Present: A Summary of Present Knowledge*. Review Paper, IGCP Project 200 Field Meeting, Montrose, May 1986, 29 pp.
- Cullingford, R.A., Caseldine, C.J. and Gotts, P.E. (1989a) Evidence of early Flandrian tidal surges in lower Strathearn, Scotland. *Journal of Quaternary Science*, 4, 51–60.
- Cullingford, R.A., Caseldine, C.J. and Gotts, P.E. (1989b) Reply to A.G. Dawson, D.E. Smith and D. Long. *Journal of Quaternary Science*, 4, 273–4.
- Cullingford, R.A. Smith, D.E. and Firth, C.R. (1991) The altitude and age of the Main Postglacial Shoreline in eastern Scotland. *Quaternary International*, 9, 39–52.
- Cumming, G.A. and Bate, P.A. (1933) The Lower Cretaceous erratics of the Fraserburgh district, Aberdeenshire. *Geological Magazine*, 70, 397–413.
- Cundill, P. and Whittington, G. (1983) Anomalous arboreal pollen assemblages in Late Devensian and Early Flandrian deposits at Creich Castle, Fife, Scotland. *Boreas*, 12, 297–311.
- Cunningham Craig, E.H. (1901) Dumbartonshire. In *Summary of Progress of the Geological Survey of the United Kingdom for 1900*. Memoirs of the Geological Survey, HMSO, London, 138–9.
- Cunningham Craig, E.H., Wright, W.B. and Bailey, E.B. (1911) *The Geology of Colonsay and Oronsay, with part of the Ross of Mull*. Explanation of Sheet 35, with part of 27. Memoirs of the Geological Survey of Scotland. HMSO, Edinburgh, 109 pp.
- Curtis, L.F., Courtney, F.M. and Trudgill, S.T. (1976) *Soils in the British Isles*. Longman, London, 364 pp.
- Cutler, H.D. (1978) The glaciation and the drumlins of the moors and machers of Galloway, south-west Scotland. Unpublished PhD thesis, University of Liverpool.
- Dahl, R. (1965) Plastically sculptured detail forms on rock surfaces in northern Nordland, Norway. *Geografiska Annaler*, 47A, 83–140.
- Dahl, R. (1966) Block fields, weathering pits and tor-like forms in the Narvik mountains, Nord-land, Norway. *Geografiska Annaler*, 48A, 55–85.

- Dakyns, J.R. (1879) The Parallel Roads of Glen Roy. *Geological Magazine*, 6, 529–31.
- Dale, M.L. (1981) Rock walls in glacier source areas in part of the Highlands of Scotland. Unpublished PhD thesis, University of Edinburgh.
- Daniels, R.E. (1972) A preliminary survey of Beanrig Moss, a fen in south Scotland. *Transactions of the Botanical Society of Edinburgh*, 42, 507–16.
- Dansgaard, W. (1964) Stable isotopes in precipitation. *Tellus*, 16, 436–68.
- Dansgaard, W., White, J.W.C. and Johnsen, S.J. (1989) The abrupt termination of the Younger Dryas climate event. *Nature*, 339, 532–4.
- Dardis, G.F. (1985) Genesis of Late Pleistocene cross-valley moraine ridges, south-central Ulster, Northern Ireland. *Earth Surface Processes and Landforms*, 10, 483–95.
- Darwin, C. (1839) Observations on the Parallel Roads of Glen Roy and of other parts of Lochaber in Scotland, with an attempt to prove that they are of marine origin. *Philosophical Transactions of the Royal Society of London*, 129, 39–81.
- Darwin, F. (1887) *The life and letters of Charles Darwin*. Vol. 1. John Murray, London, 395 pp.
- Davenport, C.A. and Ringrose, P.S. (1985) Fault activity and palaeoseismicity during Quaternary time in Scotland — preliminary studies. In *Earthquake Engineering in Britain*. Thomas Telford, London, pp. 143–55.
- Davenport, C.A. and Ringrose, P.S. (1987) Deformation of Scottish Quaternary sediment sequences by strong earthquake motions. In *Deformation of Sediments and Sedimentary Rocks* (eds M.E. Jones and R.M.F. Preston). Geological Society Special Publication No. 29, 299–314.
- Davenport, C.A., Ringrose, P.S., Becker, A., Hancock, P. and Fenton, C. (1989) Geological investigations of late and post glacial earthquake activity in Scotland. In *Earthquakes at North Atlantic Passive Margins: Neotectonics and Postglacial Rebound* (eds S. Gregersen and P. Basham). Kluwer Academic Publishers, Dordrecht, pp. 175–94.
- Davidson, C.F. (1932) The arctic clay of Errol, Perthshire. *Transactions of the Perth Society for Natural Science*, 9, 55–68.
- Davidson, D.A., Jones, R.L. and Renfrew, C. (1976) Palaeoenvironmental reconstruction and evaluation: a case study from Orkney. *Transactions of the Institute of British Geographers*, NS, 1, 346–61.
- Davies, A., McAdam, A.D. and Cameron, I.B. (1986) *Geology of the Dunbar District 1:50,000 Sheet 33E and part of Sheet 41*. Memoirs of the British Geological Survey (Scotland), HMSO, London, 69 pp.
- Davies, G.L. (1968a) *The Earth in Decay. A History of British Geomorphology 1578–1878*. MacDonald Technical and Scientific, London, 390 pp.
- Davies, G.L. (1968b) The tour of the British Isles made by Louis Agassiz in 1840. *Annals of Science*, 24, 131–46.
- Davison, R.W. and Davison, S.K. (1987) Characteristics of two full-depth slab avalanches on Meall Uaine, Glen Shee, Scotland. *Journal of Glaciology*, 33, 51–4.
- Dawson, A.G. (1977) A fossil lobate rock glacier in Jura. *Scottish Journal of Geology*, 13, 37–42.
- Dawson, A.G. (1979a) Raised shorelines of Jura, Scarba and NE Islay. Unpublished PhD thesis, University of Edinburgh.
- Dawson, A.G. (1979b) A Devensian medial moraine in Jura. *Scottish Journal of Geology*, 15, 43–8.
- Dawson, A.G. (1979c) Former sea-level changes in the Scottish Hebrides. *Hebridean Naturalist*, 3, 16–22.

- Dawson, A.G. (1980a) The Low Rock Platform in western Scotland. *Proceedings of the Geologists' Association*, 91, 339–44.
- Dawson, A.G. (1980b) Shore erosion by frost: an example from the Scottish Lateglacial. In *Studies in the Lateglacial of North-West Europe* (eds J.J. Lowe, J.M. Gray and J.E. Robinson). Pergamon Press, Oxford, pp. 45–53.
- Dawson, A.G. (1982) Lateglacial sea-level changes and ice-limits in Islay, Jura and Scarba, Scottish Inner Hebrides. *Scottish Journal of Geology*, 18, 253–65.
- Dawson, A.G. (1983a) *Islay and Jura Scottish Hebrides: Field Guide*. Quaternary Research Association, Cambridge, 31pp.
- Dawson, A.G. (1983b) Report on a Quaternary Research Association Field Excursion to Islay and Jura, Scottish Inner Hebrides, 24–28 May 1983. *Quaternary Newsletter*, 41, 26–34.
- Dawson, A.G. (1983c) Glacier-dammed lake investigations in the Hullet lake area, South Greenland. *Meddelelser om Grønland Geoscience*, 11, 22 pp.
- Dawson, A.G. (1984) Quaternary sea-level changes in western Scotland. *Quaternary Science Reviews*, 3, 345–68.
- Dawson, A.G. (1988a) The Main Rock Platform (Main Lateglacial Shoreline) in Ardnamurchan and Moidart, western Scotland. *Scottish Journal of Geology*, 24, 163–74.
- Dawson, A.G. (1988b) Western Jura. In *Field Excursion and Symposium on Late Quaternary Sea Levels and Crustal Deformation* (eds A.G. Dawson, D.G. Sutherland and D.E. Smith). INQUA Subcommission on Shorelines of NW Europe. Coventry Polytechnic, Coventry, pp. 44–67.
- Dawson, A.G. (1989) Distribution and development of the Main Rock Platform, western Scotland: reply. *Scottish Journal of Geology*, 25, 233–8.
- Dawson, A.G. (1991) Scottish landform examples — 3. The raised shorelines of northern Islay and western Jura. *Scottish Geographical Magazine*, 107, 207–12.
- Dawson, A.G. (1992) *Ice Age Earth. Late Quaternary Geology and Climate*. Routledge, London, 293 pp.
- Dawson, A.G., Smith, D.E. and Long, D. (1990) Evidence for a tsunami from a Mesolithic site in Inverness, Scotland. *Journal of Archaeological Science*, 17, 509–12.
- Dawson, A.G., Lowe, J.J. and Walker, M.J.C. (1987a) The nature and age of the debris accumulation at Gribun, western Mull, Inner Hebrides. *Scottish Journal of Geology*, 23, 149–62.
- Dawson, A.G., Matthews, J.A. and Shakesby, R.A. (1987b) Rock platform erosion on periglacial shores: a modern analogue for Pleistocene rock platforms in Britain. In *Periglacial Processes and Landforms in Britain and Ireland* (ed. J. Boardman). Cambridge University Press, Cambridge, pp. 173–82.
- Dawson, A.G., Long, D. and Smith, D.E. (1988) The Storegga Slides: evidence from eastern Scotland of a possible tsunami. *Marine Geology*, 82, 271–6.
- Dawson, A.G., Smith, D.E. and Long, D. (1989) Early Flandrian tidal surges in the Tay estuary, Scotland. *Journal of Quaternary Science*, 4, 273.
- Day, T.C. (1923) Note on the dry valley of Windy Gowl, Carlups. *Transactions of the Edinburgh Geological Society*, 11, 266.

- Day, T.E. (1983) The remanent magnetism of till and other glacial sediments. Unpublished PhD thesis, University of East Anglia.
- Debenham, F. (1919) A new mode of transportation by ice: the raised marine muds of South Victoria Land (Antarctica). *Quarterly Journal of the Geological Society*, 75, 51–76.
- De Geer, G. (1935) Dating of late-glacial varves in Scotland. *Proceedings of the Royal Society of Edinburgh*, 55, 23–6.
- Demek, J. (1964) Castle koppies and tors in the Bohemian Highland (Czechoslovakia). *Biutyn Peryglacjalny*, 14, 195–216.
- Denton, G.H. and Hughes, T.J. (ed.) (1981) *The Last Great Ice Sheets*. John Wiley, New York and Chichester, 484 pp.
- Derbyshire, E. (1972) Tors, rock weathering and climate in southern Victoria Land, Antarctica. *Institute of British Geographers Special Publication*, 4, 93–105.
- Dick, T.D. (1823) On the Parallel Roads of Lochaber. *Transactions of the Royal Society of Edinburgh*, 9, 1–64.
- Dickson, J.H., Jardine, W.G. and Price, R.J. (1976) Three Late-Devensian sites in west-central Scotland. *Nature*, 262, 43–4.
- Dickson, J.H., Stewart, D.A., Thompson, R., Turner, G., Baxter, M.S., Drndarsky, N.D. and Rose, J. (1978) Palynology, palaeomagnetism and radiometric dating of Flandrian marine and freshwater sediments of Loch Lomond. *Nature*, 274, 548–53.
- Donner, J.J. (1955) The geology and vegetation of Late-glacial retreat stages in Scotland. Unpublished PhD thesis, University of Cambridge.
- Donner, J.J. (1957) The geology and vegetation of Late-glacial retreat stages in Scotland. *Transactions of the Royal Society of Edinburgh*, 63, 221–64.
- Donner, J.J. (1960) Pollen analysis of the Burn of Benholm peat-bed, Kincardineshire, Scotland. *Societas Scientiarum Fennica, Commentationes Biologicae*, 22, 1–13.
- Donner, J.J. (1979) The Early or Middle Devensian peat at the Burn of Benholm, Kincardineshire. *Scottish Journal of Geology*, 15, 247–50.
- Donner, J.J. and West, R.G. (1955) Ett drumlinsfalt pa on Skye, Skottland. *Terra*, 67, 45–8.
- Dougal, J.W. (1928) Observations on the geology of Lewis. *Transactions of the Edinburgh Geological Society*, 12, 12–18.
- Dougall, J. (1868) Sketch of the geology of the Falls of Clyde, the Mouse Valley, and Cartland Crag. *Transactions of the Geological Society of Glasgow*, 3, 44–53.
- Dreimanis, A. (1976) Tills: their origin and properties. In *Glacial Till An Interdisciplinary Study* (ed. R.F. Leggett). *The Royal Society of Canada Special Publications*, 12, Royal Society of Canada, Ottawa, pp. 11–49.
- Dreimanis, A. (1989) Tills: their genetic terminology and classification. In *Genetic Classification of Glacigenic Deposits* (eds R.P. Goldthwait and C.L. Matsch). A.A. Balkema, Rotterdam, pp. 17–83.
- Drewry, D.J. (1986) *Glacial Geologic Processes*. Edward Arnold, London, 276 pp.
- Dubois, A.D. (1984) On the climatic interpretation of the hydrogen isotope ratios in recent and fossil wood. *Bulletin de la Société Géologique de Belgique*, 93, 267–70.

- Dubois, A.D. and Ferguson, D.J. (1985) The climatic history of pine in the Cairngorms based on radiocarbon dates and stable isotope analysis, with an account of the events leading up to its colonisation. *Review of Palaeobotany and Palynology*, 46, 55–80.
- Dubois, A.D. and Ferguson, D.K. (1988) Additional evidence for the climatic history of pine in the Cairngorms, Scotland, based on radiocarbon dates and tree ring D/H ratios. *Review of Palaeobotany and Palynology*, 54, 181–5.
- Duck, R.W. (1990) S.E.M. study of clastic fabrics preserved in calcareous concretions from the late-Devensian Errol Beds, Tayside. *Scottish Journal of Geology*, 26, 33–9.
- Duncan, W. (1794) Parish of Abernethy. In *The Statistical Account of Scotland*, Vol. 11 (ed. J. Sinclair). William Creech, Edinburgh, pp. 435–48.
- Duplessy, J.-C., Delibrias, G., Turon, J.L., Pujol, C. and Duprat, J. (1981). Deglacial warming of the north-eastern Atlantic Ocean; correlation with the palaeoclimatic evolution of the European continent. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 35, 121–44.
- Durno, S.E. (1956) Pollen analysis of peat deposits in Scotland. *Scottish Geographical Magazine*, 72, 177–87.
- Durno, S.E. (1957) Certain aspects of vegetational history in north-east Scotland. *Scottish Geographical Magazine*, 73, 176–84.
- Durno, S.E. (1958) Pollen analysis of peat deposits in eastern Scotland and Caithness. *Scottish Geographical Magazine*, 74, 127–35.
- Durno, S.E. (1959) Pollen analysis of peat deposits in the eastern Grampians. *Scottish Geographical Magazine*, 75, 102–11.
- Durno, S.E. (1961) Evidence regarding the rate of peat growth. *Journal of Ecology*, 49, 347–51.
- Dury, G.H. (1951) A 400-foot bench in southeastern Warwickshire. *Proceedings of the Geologists' Association*, 62, 167–73.
- Dury, G.H. (1953) A glacial breach in the northwestern Highlands. *Scottish Geographical Magazine*, 69, 106–17.
- Dyke, A.S. (1976) Tors and associated weathering phenomena, Somerset Island, District of Franklin. *Geological Survey of Canada, Paper*, 76–1B, 209–16.
- Dyke, A.S. (1983) Quaternary geology of Somerset Island, District of Franklin. *Geological Survey of Canada, Memoir*, 404, 32 pp.
- Eckford, R.J.A. (1952) Glacial phenomena in the West Linton–Dolphinton region. *Transactions of Edinburgh Geological Society*, 15, 133–49.
- Eckford, R.J.A. and Manson, W. (1927) Glacial phenomena around Loch Skene. *Proceedings of the Geologists' Association*, 38, 508–10.
- Eden, R.A., Carter, A.V.F. and McKeown, M.C. (1969) Submarine examination of Lower Carboniferous strata on inshore regions of the continental shelf of south-east Scotland. *Marine Geology*, 7, 235–51.
- Edmond, J.M. and Graham, J.D. (1977) Peterhead power station cooling water intake tunnel: an engineering case study. *Quarterly Journal of Engineering Geology*, 10, 281–301.
- Edwards, K.J. (1978) Palaeoenvironmental and archaeological investigations in the Howe of Cromar, Grampian region, Scotland. Unpublished PhD thesis, University of Aberdeen.

- Edwards, K.J. (1979a) Earliest fossil evidence for *Koenigia islandica*—middle-Devensian interstadial pollen from Lewis, Scotland. *Journal of Biogeography*, 6, 375–7.
- Edwards, K.J. (1979b) Environmental impact in the prehistoric period. In *Early Man in the Scottish Landscape* (ed. L.M. Thorns). *Scottish Archaeological Forum*, 9. Edinburgh University Press, Edinburgh, pp. 27–42.
- Edwards, K.J. and Connell, E.R. (1981) Interglacial and interstadial sites in north-east Scotland. *Quaternary Newsletter*, 33, 22–8.
- Edwards, K.J. and McIntosh, C.J. (1988) Improving the detection rate of cereal-type pollen grains from *Ulmus* decline and earlier deposits from Scotland. *Pollen et Spores*, 30, 179–88.
- Edwards, K.J. and Ralston, I. (1985) Postglacial hunter-gatherers and vegetational history in Scotland. *Proceedings of the Society of Antiquaries in Scotland* (1984), 141, 15–34.
- Edwards, K.J. and Rowntree, K.M. (1980) Radiocarbon and palaeoenvironmental evidence for changing rates of erosion at a Flandrian stage site in Scotland. In *Timescales in Geomorphology* (eds R.A. Cullingford, D.A. Davidson and J. Lewin). John Wiley, Chichester, pp. 207–23.
- Edwards, K.J. and Whittington, G. (1990) Palynological evidence for the growing of *Cannabis sativa* L (hemp) in medieval and historical Scotland. *Transactions of the Institute of British Geographers*, NS 15, 60–9.
- Edwards, K.J., Caseldine, C.J. and Chester, D.K. (1976) Possible interstadial and interglacial pollen floras from Teindland, Scotland. *Nature*, 264, 742–4.
- Edwards, W. (1937) A Pleistocene strandline in the Vale of York. *Proceedings of the Yorkshire Geological Society*, 23, 103–18.
- Ehlers, J., Gibbard, P.L. and Rose, J. (1991) Glacial deposits of Britain and Europe: general overview. In *Glacial Deposits in Great Britain and Ireland* (eds J. Ehlers, P.L. Gibbard and J. Rose). A.A. Balkema, Rotterdam, pp. 493–501.
- Eisbacher, G.H. (1979) Cliff collapse and rock avalanches (sturzstroms) in the Mackenzie Mountains, north-western Canada. *Canadian Geotechnical Journal*, 16, 309–34.
- Elder, S., McCall, R.J.S., Neaves, W.D. and Pringle, A.K. (1935) The drumlins of Glasgow. *Transactions of the Geological Society of Glasgow*, 19, 285–7.
- Ellis, J.B. (1975) Some deglacial landforms in Strathardle. *Scottish Field Studies Association Annual Report for 1974*, 27–36.
- Elliot, C.J. (1984) Palynology and palaeoenvironments of the BGS Mains of Kilmaronock Borehole, Loch Lomond, Scotland. Unpublished MSc thesis, City of London Polytechnic and the Polytechnic of North London.
- Elton, C. (1938) Notes on the ecological and natural history of Pabbay, and other islands in the Sound of Harris, Outer Hebrides. *Journal of Ecology*, 26, 275–97.
- Embleton, C. and King, C.A.M. (1968) *Glacial and Periglacial Geomorphology*. Edward Arnold, London, 608 pp.
- Embleton, C. and King, C.A.M. (1975a) *Glacial Geomorphology*. Edward Arnold, London, 573 pp.
- Embleton, C. and King, C.A.M. (1975b) *Periglacial Geomorphology*. Edward Arnold, London, 203 pp.
- Emeleus, C.H. (1983) Tertiary igneous activity. In *Geology of Scotland*, 2nd edn (ed. G.Y. Craig). Scottish Academic Press, Edinburgh, pp. 357–97.
- England, J. (1987) Glaciation and the evolution of the Canadian high arctic landscape. *Geology*, 15, 419–24.

- Erdtman, G. (1924) Studies in the micropalaeontology of postglacial deposits in northern Scotland and the Scotch Isles, with especial reference to the history of the woodlands. *Journal of the Linnaean Society (Botany)*, 46, 449–504.
- Erdtman, G. (1928) Studies in the postarctic history of the forests of north-western Europe. I. Investigations in the British Isles. *Geologiska Foreningens i Stockholm Forhandlingar*, 50, 123–92.
- Ergin, M., Harkness, D.D. and Walton, A. (1972) Glasgow University radiocarbon measurements V. *Radiocarbon*, 14, 321–5.
- Etheridge, R. (1876) Note on the fossils from the glacial deposits of the north-west coast of the Island of Lewis, Outer Hebrides. *Geological Magazine*, 3, 552–5.
- Evans, D.J.A. (1989) The nature of glaciotectionic structures and sediments at sub-polar glacier margins, north-west Ellesmere Island, Canada *Geografiska Annaler*, 71A, 113–23.
- Evans, D.J.A. and Hansom, J.D. (1991) Scottish landform examples —1. The Parallel Roads of Glen Roy. *Scottish Geographical Magazine*, 107, 63–6.
- Eyles, C.H., Eyles, N. and Miall, A.D. (1985) Models of glaciomarine sedimentation and their application to the interpretation of ancient glacial sequences. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 51, 15–84.
- Eyles, N. (1979) Facies of supraglacial sedimentation on Icelandic and Alpine temperate glaciers. *Canadian Journal of Earth Sciences*, 16, 1341–61.
- Eyles, N. (1983) Modern Icelandic glaciers as depositional models for 'hummocky moraine' in the Scottish Highlands. In *Tills and Related Deposits* (eds E.B. Evenson, Ch. Schlichter and J. Rabassa). A.A. Balkema, Rotterdam, pp. 47–59.
- Eyles, N. and McCabe, A.M. (1989) The Late Devensian (<22,000 BP) Irish Sea basin: the sedimentary record of a collapsed ice-sheet margin. *Quaternary Science Reviews*, 8, 307–51.
- Eyles, N. and Sladen, J.A. (1981) Stratigraphy and geotechnical properties of weathered lodgement till in Northumberland, England. *Quarterly Journal of Engineering Geology*, 14, 129–41.
- Eyles, N., Sladen, J.A. and Gilroy, S. (1982) A depositional model for stratigraphic complexes and facies superimposition in lodgement tills. *Boreas*, 11, 317–33.
- Eyles, N., Eyles, C.H. and Miall, A.D. (1983) Lithofacies types and vertical profile models; an alternative approach to the description and environmental interpretation of glacial diamict and diamictite sequences. *Sedimentology*, 30, 393–410.
- Eyles, V.A. (1922) In *Memoirs of the Geological Survey. Summary of Progress of the Geological Survey of Great Britain and the Museum of Practical Geology for 1921*. HMSO, London, pp. 77–8.
- Eyles, V.A. and Anderson, J.G.C. (1946) Brick clays of north-east Scotland. *Geological Survey of Britain Wartime Pamphlet*, No. 47, 89 pp.
- Eyles, V.A., Simpson, J.B. and McGregor, A.G. (1949) *Geology of Central Ayrshire*, 2nd edn. Explanation of One-inch Sheet 14, Memoirs of the Geological Survey of Scotland. HMSO, Edinburgh, 160 pp.
- Fahey, B.D. (1981) Origin and age of upland schist tors in central Otago, New Zealand. *New Zealand Journal of Geology and Geophysics*, 24, 399–413.
- Ferguson, R.I. (1981) Channel form and channel changes. In *British Rivers* (ed. J. Lewin). George Allen and Unwin, London, pp. 90–125.

- Ferguson, R.I. and Werritty, A. (1983) Bar development and channel change in the gravelly River Feshie, Scotland. In *Modern and Ancient Fluvial Systems* (eds J. Collinson and J. Lewin). *Special Publication of the International Association of Sedimentologists*, 6, 181–93.
- Ferguson, W. (1850) Notice of the occurrence of chalk flints and Greensand fossils in Aberdeenshire. *Philosophical Magazine*, 37, 430–8.
- Ferguson, W. (1855) On the geological features of part of the district of Buchan, in Aberdeenshire, including notes on the occurrences of chalk-flints and Greensand. *Proceedings of the Philosophical Society of Glasgow*, 3, 35–50.
- Ferguson, W. (1857) Note on the chalk-flints and Greensand found in Aberdeenshire. *Quarterly Journal of the Geological Society of London*, 13, 88–9.
- Ferguson, W. (1877) On the occurrence of chalk flints and Greensand fossils in Aberdeenshire. *Transactions of the Edinburgh Geological Society*, 3, 112–21.
- Ferguson, W. (1893) On the occurrence of chalk flints and Greensand in the north-east district of Aberdeenshire. *Transactions of the Buchan Field Club*, 3, 61–78.
- Finlay, T.M. (1926) A tongsbergite boulder from the boulder-clay of Shetland. *Transactions of the Edinburgh Geological Society*, 12, 180.
- Finlay, T.M. (1930) The Old Red Sandstone of Shetland. *Transactions of the Royal Society of Edinburgh*, 56, 671–94.
- Firth, C.R. (1984) Raised shorelines and ice limits in the inner Moray Firth and Loch Ness areas, Scotland. Unpublished PhD thesis, Coventry (Lanchester) Polytechnic.
- Firth, C.R. (1986) Isostatic depression during the Loch Lomond Stadial; preliminary evidence for the Great Glen, northern Scotland. *Quaternary Newsletter*, 48, 1–9.
- Firth, C.R. (1989a) Late Devensian raised shorelines and ice limits in the inner Moray Firth area, northern Scotland. *Boreas*, 18, 5–21.
- Firth, C.R. (1989b) A reappraisal of the Ardersier Readvance, inner Moray Firth. *Scottish Journal of Geology*, 25, 249–61.
- Firth, C.R. (1989c) Isostatic depression during the Loch Lomond Stadial (Younger Dryas): evidence from the inner Moray Firth, Scotland. *Geologiska Foreningens i Stockholm Forhandlingar*, 111, 296–8.
- Firth, C.R. (1990a) Late Devensian relative sea-level changes associated with the deglaciation of the Inverness Firth and Beaulieu Firth. In *Beaulieu to Nairn: Field Guide* (eds C.A. Auton, C.R. Firth and J.W. Merritt). Quaternary Research Association, Cambridge, pp. 5–9.
- Firth, C.R. (1990b) An excursion to view the evidence of changes in relative sea-level during, and following, the deglaciation of the coastal lowlands bordering the northern shore of the Beaulieu Firth and the southern shore of the Inverness (Inner Moray) Firth. In *Beaulieu to Nairn: Field Guide* (eds C.A. Auton, C.R. Firth and J.W. Merritt). Quaternary Research Association, Cambridge, pp. 90–116.
- Firth, C.R. and Haggart, B.A. (1989) Loch Lomond Stadial and Flandrian shorelines in the inner Moray Firth area, Scotland. *Journal of Quaternary Science*, 4, 37–50.
- Firth, C.R. and Haggart, B.A. (1990) The patterns of deglaciation and relative sea-level change around Muir of Ord and Beaulieu and the establishment of a Holocene sea-level curve for the Beaulieu Firth: an excursion guide. In *Beaulieu to Nairn: Field Guide* (eds C.A. Auton, C.R. Firth and J.W. Merritt). Quaternary Research Association, Cambridge, pp. 116–36.

Fisher, D.A., Reeh, N. and Langley, K. (1985) Objective reconstructions of the Late Wisconsin Laurentide ice sheet and the significance of deformable beds. *Geographic Physique et Quaternaire*, 39, 229–38.

FitzPatrick, E.A. (1956) An indurated soil horizon formed by permafrost. *Soil Science*, 7, 248–54.

FitzPatrick, E.A. (1958) An introduction to the periglacial geomorphology of Scotland. *Scottish Geographical Magazine*, 74, 28–36.

FitzPatrick, E.A. (1963) Deeply weathered rock in Scotland, its occurrence, age and contribution to the soils. *Journal of Soil Science*, 14, 33–43.

FitzPatrick, E.A. (1965) An interglacial soil at Teindland, Morayshire. *Nature*, 207, 621–2.

FitzPatrick, E.A. (1969) Some aspects of soil evolution in north-east Scotland. *Soil Science*, 107, 403–8.

FitzPatrick, E.A. (1972) The principal Tertiary and Pleistocene events in north-east Scotland. In *North-East Scotland Geographical Essays* (ed. C.M. Clapperton). Department of Geography, University of Aberdeen, Aberdeen, pp. 1–4.

FitzPatrick, E.A. (1975a) Particle size distribution and stone orientation patterns in some soils of north-east Scotland. In *Quaternary Studies in North-east Scotland* (ed. A.M.D. Gemmell). Department of Geography, University of Aberdeen, Aberdeen, pp. 49–60.

FitzPatrick, E.A. (1975b) Windy Hills. In *Aberdeen Field Excursion Guide*. Quaternary Research Association, Aberdeen, pp. 23–5.

FitzPatrick, E.A. (1987) Periglacial features in the soils of north-east Scotland. In *Periglacial Processes and Landforms in Britain and Ireland* (ed. J. Boardman). Cambridge University Press, Cambridge, pp. 153–62.

Fleet, H. (1938) Erosion surfaces in the Grampian Highlands of Scotland. Union Geographique Internationale — Commission Cartographie des surfaces d'Aplanissement Tertiaires, Rapport (for International Geographical Congress, Amsterdam 1938), pp. 91–4.

Fleming, J. (1847) Notes on the superficial strata of the neighbourhood of Edinburgh, concluded. *Proceedings of the Royal Society of Edinburgh*, 2, 111–3.

Fleming, J. (1859) *The Lithology of Edinburgh* (Edited, with a Memoir, by the Rev. John Duns) William P. Kennedy, Edinburgh. Memoir pp. i–civ.; Lithology pp. 1–102.

Flenley, J.G. and Pearson, M.C. (1967) Pollen analysis of a peat from the island of Canna (Inner Hebrides). *New Phytologist*, 66, 299–306.

Flett, J.S. (1898) On Scottish rocks containing orthite. *Geological Magazine*, 45, 388–92.

Flett, J.S. and Read, H.H. (1921) Tertiary gravels of the Buchan district of Aberdeenshire. *Geological Magazine*, 58, 215–25.

Flinn, D. (1964) Coastal and submarine features around the Shetland Islands. *Proceedings of the Geologists' Association*, 75, 321–40.

Flinn, D. (1969) On the development of coastal profiles in the north of Scotland, Orkney and Shetland. *Scottish Journal of Geology*, 5, 393–9.

Flinn, D. (1974) The coastline of Shetland. In *The Natural Environment of Shetland* (ed. R. Goodier). Nature Conservancy Council, Edinburgh, pp. 13–23.

Flinn, D. (1977) The erosion history of Shetland: a review. *Proceedings of the Geologists' Association*, 88, 129–46.

- Flinn, D. (1978a) The most recent glaciation of the Orkney–Shetland Channel and adjacent areas. *Scottish Journal of Geology*, 14, 10923.
- Flinn, D. (1978b) The glaciation of the Outer Hebrides. *Geological Journal*, 13, 195–9.
- Flinn, D. (1980) The glaciation of the Outer Hebrides: reply. *Scottish Journal of Geology*, 16, 85–6.
- Flinn, D. (1981) A note on the glacial and late glacial history of Caithness. *Geological Journal*, 13, 195–9.
- Flinn, D. (1983) Glacial meltwater channels in the northern isles of Shetland. *Scottish Journal of Geology*, 19, 311–20.
- Flint, R.F. (1957) *Glacial and Pleistocene Geology*. John Wiley, New York and London, 553 pp.
- Folk, R.L. and Patton, E.B. (1982) Buttressed expansion of granite and development of grus in central Texas. *Zeitschrift für Geomorphologie*, N.F. 26, 17–32.
- Forbes, J.D. (1846) Notes on the topography and geology of the Cuchullin Hills in Skye, and on the traces of ancient glaciers which they present. *Edinburgh New Philosophical Journal*, 40, 76–99.
- Forsyth, I.H. and Chisholm, J.I. (1977) *The Geology of East Fife*. Explanation of the Fife portion of 'One-inch' Geological Sheet 41 and part of Sheet 49. Memoirs of the Geological Survey of Great Britain: Scotland. HMSO, Edinburgh, 284 pp.
- Francis, E.H. (1975) Dunbar. In *The Geology of the Lothians and South East Scotland: An Excursion Guide* (eds G.Y. Craig and P. McL. D. Duff). Scottish Academic Press, Edinburgh, pp. 93–106.
- Francis, E.H., Forsyth, I.H., Read, W.A. and Armstrong, M. (1970) *The Geology of the Stirling District*. Explanation of One-inch Geological Sheet 39. Memoirs of the Geological Survey of the Great Britain: Scotland. HMSO, Edinburgh, 357 pp.
- Fraser, J. (1877) Report of the field excursion to the Nairn valley. *Transactions of the Inverness Scientific Society and Field Club*, 1, 63–4.
- Fraser, J. (1880) The recent formations and glacial phenomena of Strathnairn. *Transactions of the Inverness Scientific Society and Field Club*, 1, 211–23. (Also in *Transactions of the Edinburgh Geological Society*, 4, 55–66 (1881).)
- Fraser, J. (1882a) The shell-bed at Clava. *Transactions of the Inverness Scientific Society and Field Club*, 2, 169–76.
- Fraser, J. (1882b) First notice of a post-Tertiary shell-bed, at Clava, in Nairnshire, indicating an arctic climate, and a sea-bed at a height of 500 feet. *Transactions of the Edinburgh Geological Society*, 4, 136–42.
- Fulton, R.J. (1989) *Quaternary Geology of Canada and Greenland*. Geological Survey of Canada, Geology of Canada, No.1 (Also Geological Society of America, The Geology of North America, V. K–1.) Geological Survey of Canada, Ottawa, 839 pp.
- Futty, D.W. and Dry, F.T. (1977) *The Soils of the Country round Wick*. Sheets 110, 116 and part of 117. Memoirs of the Soil Survey of Great Britain: Scotland. HMSO, Edinburgh, 287 p.
- Galley, R.A. (1959) Glasgow University Expedition to North Rona. *Scottish Geographical Magazine*, 75, 48–50.
- Galloway, R.W. (1958) Periglacial phenomena in Scotland. Unpublished PhD thesis, University of Edinburgh.
- Galloway, R.W. (1961a) Solifluction in Scotland. *Scottish Geographical Magazine*, 77, 75–87.
- Galloway, R.W. (1961b) Periglacial phenomena in Scotland. *Geografiska Annaler*, 43, 348–53.
- Galloway, R.W. (1961c) Ice wedges and involutions in Scotland. *Biuletyn Peryglacjalny*, 10, 169–93.

- Gaunt, G.D. (1970) A temporary section across the Escrick moraine at Wheldrake, East Yorkshire. *Journal of Earth Science, Leeds*, 8, 163–70.
- Gaunt, G.D. (1981) Quaternary history of the southern part of the Vale of York. In *The Quaternary in Britain* (eds J. Neale and J. Flenley). Pergamon Press, Oxford, pp. 82–97.
- Gear, A.J. and Huntley, B (1991) Rapid changes in the range limits of Scots Pine 4000 years ago. *Science*, 251, 544–7.
- Geikie, A. (1863a) On the glacial drift of Scotland. *Transactions of the Geological Society of Glasgow*, 1, 1–190.
- Geikie, A. (1863b) *The Geology of Eastern Berwickshire. Map 34*. Memoirs of the Geological Survey of Great Britain (Scotland), HMSO, London, 58 pp.
- Geikie, A. (1865) *The Scenery of Scotland Viewed in Connection with its Physical Geology*. Macmillan, London, 360 pp.
- Geikie, A. (1874) *Explanation of Sheet 23. Lanarkshire: Central Districts*. Memoirs of the Geological Survey of Scotland. HMSO, Edinburgh, 107 pp.
- Geikie, A. (1877) The glacial geology of Orkney and Shetland. *Nature*, 16, 414–6.
- Geikie, A. (1900) *The Geology of Central and Western Fife and Kinross*. Description of Sheet 40 and parts of Sheets 32 and 48. Memoirs of the Geological Survey of Scotland, HMSO, Glasgow, 284 pp.
- Geikie, A. (1901) *The Scenery of Scotland Viewed in Connection with its Physical Geology*, 3rd edn. Macmillan, London, 540 pp.
- Geikie, A. (1902) *The Geology of Eastern Fife*. Description of Sheet 41 and parts of Sheets 40, 48 and 49. Memoirs of the Geological Survey of Scotland, HMSO, Glasgow, 421 pp.
- Geikie, A. (1903) *Textbook of Geology*, Vol. 1. Macmillan, London, 702 pp.
- Geikie, A., Geikie, J. and Peach, B.N. (1869) *Ayrshire: Southern District*. Explanation of Sheet 14. Memoirs of the Geological Survey of Scotland, HMSO, Edinburgh, 27 pp.
- Geikie, A., Peach, B.N., Jack, R.L., Skae, H. and Horne, J. (1871) *Explanation of Sheet 15, Dumfriesshire (north-west part); Lanarkshire (south part); Ayrshire (south-east part)*. Memoirs of the Geological Survey of Scotland, HMSO, Edinburgh, 43 pp.
- Geikie, J. (1873) On the glacial phenomena of the Long Island or Outer Hebrides. First Paper. *Quarterly Journal of the Geological Society of London*, 29, 532–45.
- Geikie, J. (1874) *The Great Ice Age and its Relation to the Antiquity of Man*, 1st Edn. W. Isbister, London, 575 pp.
- Geikie, J. (1877) *The Great Ice Age and its Relation to the Antiquity of Man*, 2nd edn. Daldy, Isbister and Co., London, 624 pp.
- Geikie, J. (1878) On the glacial phenomena of the Long Island or Outer Hebrides. Second Paper. *Quarterly Journal of the Geological Society of London*, 34, 819–70.
- Geikie, J. (1881) *Prehistoric Europe. A Geological Sketch*. Edward Stanford, London, 592 pp.
- Geikie, J. (1894) *The Great Ice Age and its Relation to the Antiquity of Man*, 3rd edn. Edward Stanford, London, 850 pp.
- Gellatly, A.F., Gordon, J.E., Whalley, W.B. and Hansom, J.D. (1988) Thermal regime and geomorphology of plateau ice caps in northern Norway: observations and implications. *Geology*, 16, 983–6.

- Gemmell, A.M.D. (1973) The deglaciation of the Island of Arran, Scotland. *Transactions of the Institute of British Geographers*, 59, 25–39.
- Gemmell, A.M.D. (1975) The Kippit Hills. In *Aberdeen Field Excursion Guide*. Quaternary Research Association, Aberdeen, pp. 14–19.
- Gemmell, A.M.D. and Kesel, R.H. (1979) Developments in the study of the Buchan flint deposits. In *Early Man in the Scottish Landscape* (ed. L.M. Thorns). *Scottish Archaeological Forum*, 9. Edinburgh University Press, Edinburgh, pp. 66–77.
- Gemmell, A.M.D. and Kesel, R.H. (1982) The 'Pliocene' gravels of Buchan: a reappraisal: reply. *Scottish Journal of Geology*, 18, 333–5.
- Gemmell, A.M.D. and Ralston, I.B.M. (1984) Some recent discoveries of ice-wedge cast networks in north-east Scotland. *Scottish Journal of Geology*, 20, 115–8.
- Gemmell, A.M.D. and Ralston, I.B.M. (1985) Ice wedge polygons in north-east Scotland: a reply. *Scottish Journal of Geology*, 21, 109–11.
- George, T.N. (1958) The geology and geomorphology of the Glasgow district. In *The Glasgow Region* (eds R. Miller and J. Tivy). Handbook prepared for the meeting of the British Association, Glasgow. T and A. Constable, Edinburgh, pp. 17–61.
- George, T.N. (1965) The geological growth of Scotland. In *The Geology of Scotland* (ed. G.Y. Craig). Oliver and Boyd, Edinburgh, pp. 1–48.
- George, T.N. (1966) Geomorphic evolution in Hebridean Scotland. *Scottish Journal of Geology*, 2, 1–34.
- Gibb, A.W. (1905) On the occurrence of pebbles of white chalk in Aberdeenshire clay. *Report of the British Association for 1904*, 573.
- Gibb, A.W. (1909) On the relation of the Don to the Avon at Inchrory, Banffshire. *Transactions of the Edinburgh Geological Society*, 9, 227–9.
- Gjessing, J. (1965) On plastic scouring and subglacial erosion. *Norsk Geografisk Tidsskrift*, 20, 1–37.
- Glentworth, R. and Muir, J.W. (1963) *The Soils of the Country round Aberdeen, Inverurie and Fraserburgh*. Sheets 77, 76 and 87/97. Memoirs of the Soil Survey of Great Britain, HMSO, Edinburgh, 371 pp.
- Glentworth, R., Mitchell, W.A. and Mitchell, B.D. (1964) The red glacial drifts of north-east Scotland. *Clay Minerals Bulletin*, 5, 373–81.
- Godard, A. (1959) Contemporary periglacial phenomena in western Scotland. *Scottish Geographical Magazine*, 75, 55.
- Godard, A. (1961) L'efficacité de l'érosion glaciaire en Écosse du Nord. *Revue de Géomorphologie Dynamique*, 12, 32–42.
- Godard, A. (1965) *Recherches de Géomorphologie en Écosse du Nord-Ouest*. Université de Strasbourg, Publications de la Faculté des Lettres, Fondation Baulig, Tome 1, 701 pp.
- Godard, A. (1989) Les vestiges des manteaux d'altération sur les socles des hautes latitudes: identification, signification. *Zeitschrift für Geomorphologie*, NF Supplementband, 72, 1–20.
- Godwin, H. (1943) Coastal peat beds of the British Isles and North Sea. *Journal of Ecology*, 31, 199–247.
- Godwin, H. (1975) *The History of the British Flora*. Cambridge University Press, Cambridge, 541 pp.

- Godwin, H. and Switsur, V.R. (1966) Cambridge University natural radiocarbon measurements VIII. *Radiocarbon*, 8, 390–400.
- Godwin, H. and Willis, E.H. (1962) Cambridge University natural radiocarbon measurements V. *Radiocarbon*, 4, 52–70.
- Godwin, H. and Willis, E.H. (1964) Cambridge University natural radiocarbon measurements . *Radiocarbon*, 6, 116–37.
- Godwin, H., Walker, D. and Willis, E.H. (1957) Radiocarbon dating and post-glacial vegetational history: Scaleby Moss. *Proceedings of the Royal Society of London*, B 147, 353–66.
- Godwin, H., Willis, E.H. and Switsur, V.R. (1965) Cambridge University natural radiocarbon measurements VII. *Radiocarbon*, 7, 205–12.
- Goldthwait, R.P. (1976) Frost-sorted patterned ground: a review. *Quaternary Research*, 6, 27–35.
- Goodchild, J.G. (1896) Glacial furrows. *The Glacialists' Magazine*, 4, 1–7.
- Goodier, R. and Ball, D.F. (1975) Ward Hill, Hoy, Orkney: patterned ground features and their origins. In *The Natural Environment of Orkney* (ed. R. Goodier). Nature Conservancy Council, Edinburgh, pp. 47–56.
- Goodlet, G.A. (1964) The kamiform deposits near Carstairs, Lanarkshire. *Bulletin of the Geological Survey of Great Britain*, 21, 175–96.
- Goodlet, G.A. (1970) Sands and gravels of the southern counties of Scotland. *Report of the Institute of Geological Sciences*, No. 70/4, 81 pp.
- Gordon, A.D. and Birks, H.J.B. (1972) Numerical methods in Quaternary palaeoecology I: zonation of pollen diagrams. *New Phytologist*, 71, 961–79.
- Gordon, J.E. (1977) Morphometry of cirques in the Kintail–Affric–Cannich area of north-west Scotland. *Geografiska Annaler*, 59A, 177–94.
- Gordon, J.E. (1979) Reconstructed Pleistocene ice-sheet temperatures and glacial erosion in northern Scotland. *Journal of Glaciology*, 22, 331–44.
- Gordon, J.E. (1981) Ice-scoured topography and its relationships to bedrock structure and ice movement in parts of northern Scotland and West Greenland. *Geografiska Annaler*, 63A, 55–65.
- Gordon, J.E., Birnie, R.V. and Timmis, R. (1978) A major rockfall and debris slide on the Lyell Glacier, South Georgia. *Arctic and Alpine Research*, 10, 49–60.
- Gordon, S. (1943) Perpetual snowbeds of the Scottish hills. *The Field*, 181, 88–9.
- Graham, D.K. (1990) The fauna of the Clava Shelly Clay and Shelly Till. In *Beaully to Nairn: Field Guide* (eds C.A. Auton, C.R. Firth and J.W. Merritt). Quaternary Research Association, Cambridge, pp. 20–3.
- Graham, D.K. and Gregory, D.M. (1981) A revision of C.F. Davidson's arctic fauna from Inchcoonans Claypit, Errol, held by the Museum and Art Gallery, Perth. *Scottish Journal of Geology*, 17, 215–22.
- Graham, D.K., Harland, R., Gregory, D.M., Long, D. and Morton A.C. (1990) The biostratigraphy and chronostratigraphy of BGS Borehole 78/4, North Minch. *Scottish Journal of Geology*, 26, 65–75.
- Gray, J.M. (1972) The Inter-, Late- and Post-glacial shorelines, and ice-limits of Lorn and eastern Mull. Unpublished PhD thesis, University of Edinburgh.

- Gray, J.M. (1974a) The Main Rock Platform of the Firth of Lorn, western Scotland. *Transactions of the Institute of British Geographers*, 61, 81–99.
- Gray, J.M. (1974b) Lateglacial and postglacial shorelines in western Scotland. *Boreas*, 3, 129–38.
- Gray, J.M. (1975a) The Loch Lomond Readvance and contemporaneous sea-levels in Loch Etive and neighbouring areas of western Scotland. *Proceedings of the Geologists' Association*, 86, 227–38.
- Gray, J.M. (1975b) Lateglacial, *in situ* barnacles from Glen Cruitten Quarry, Oban. *Quaternary Newsletter*, 15, 1–2.
- Gray, J.M. (1978a) Low-level shore platforms in the south-west Scottish Highlands: altitude, age and correlation. *Transactions of the Institute of British Geographers*, NS, 3, 151–64.
- Gray, J.M. (1978b) Report of a short field meeting at Oban. *Quaternary Newsletter*, 26, 14–6.
- Gray, J.M. (1981) P-forms from the Isle of Mull. *Scottish Journal of Geology*, 17, 39–47.
- Gray, J.M. (1982a) The last glaciers (Loch Lomond Advance) in Snowdonia, North Wales. *Geological Journal*, 17, 111–33.
- Gray, J.M. (1982b) Unweathered, glaciated bedrock on an exposed lake bed in Wales. *Journal of Glaciology*, 28, 483–97.
- Gray, J.M. (1983) The measurement of shoreline altitudes in areas affected by glacio-isostasy, with particular reference to Scotland. In *Shorelines and Isostasy* (eds D.E. Smith and A.G. Dawson). Academic Press, London, pp. 97–128.
- Gray, J.M. (1984) A p-form site on the Isle of Islay, Scottish Inner Hebrides. *Quaternary Newsletter*, 42, 17–20.
- Gray, J.M. (1985) *Glacisostatic Shoreline Development in Scotland: An Overview*. Department of Geography and Earth Science, Queen Mary College, University of London. Occasional Paper, No. 24, 61 pp.
- Gray, J.M. (1987) Age of the Main Rock Platform, western Scotland. INQUA XII Congress, Ottawa, Canada, 1987. *Programme and Abstracts*, 177.
- Gray, J.M. (1989) Distribution and development of the Main Rock Platform, western Scotland: comment. *Scottish Journal of Geology*, 25, 227–31.
- Gray, J.M. (1991) Glaciofluvial landforms. In *Glacial Deposits in Great Britain and Ireland* (eds J. Ehlers, P.L. Gibbard and J. Rose). A.A. Balkema, Rotterdam, pp. 443–54.
- Gray, J.M. and Brooks, C.L. (1972) The Loch Lomond Readvance moraines of Mull and Menteith. *Scottish Journal of Geology*, 8, 95–103.
- Gray, J.M. and Coxon, P. (1991) The Loch Lomond Stadial glaciation in Britain and Ireland. In *Glacial Deposits in Great Britain and Ireland* (eds J. Ehlers, P.L. Gibbard and J. Rose). A.A. Balkema, Rotterdam, pp. 89–105.
- Gray, J.M. and Ivanovich, M. (1988) Age of the Main Rock Platform, western Scotland. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 68, 337–45.
- Gray, J.M. and Lowe, J.J. (1977a) Introduction. In *Studies in the Scottish Lateglacial Environment* (eds J.M. Gray and J.J. Lowe). Pergamon Press, Oxford, pp. xi–xiii.
- Gray, J.M. and Lowe, J.J. (1977b) The Scottish Lateglacial environment: a synthesis. In *Studies in the Scottish Lateglacial Environment* (eds J.M. Gray and J.J. Lowe). Pergamon Press, Oxford, pp. 163–81.

- Gray, J.M. and Lowe, J.J. (1982) Problems in the interpretation of small-scale erosional forms on glaciated bedrock surfaces: examples from Snowdonia, North Wales. *Proceedings of the Geologists' Association*, 93, 403–14.
- Gray, J.M. and Sutherland, D.G. (1977) The 'Oban–Ford moraine': a reappraisal. In *Studies in the Scottish Lateglacial Environment* (eds J.M. Gray and J.J. Lowe). Pergamon Press, Oxford, pp. 33–44.
- Green, F.H.W. (1968) Persistent snowbeds in the western Cairngorms. *Weather*, 23, 206–8.
- Gregory, D. (1980) Assemblages of the ostracod *Cytheropteron montrosiense* Brady, Crosskey and Robertson from offshore Devensian deposits in the Minch, west of Scotland. *Scottish Journal of Geology*, 16, 281–7.
- Gregory, J.W. (1912) The relations of kames and eskers. *Geographical Journal*, 40, 169–75.
- Gregory, J.W. (1913) The Polmont kame and on the classification of Scottish kames. *Transactions of the Geological Society of Glasgow*, 14, 199–218.
- Gregory, J.W. (1915a) The kames of Carstairs. *Scottish Geographical Magazine*, 31, 465–76.
- Gregory, J.W. (1915b) The geology of the Glasgow district. I. General account of the district. *Proceedings of the Geologists' Association*, 26, 151–65.
- Gregory, J.W. (1915c) The geology of the Glasgow district. XI. The kames of Carstairs. *Proceedings of the Geologists' Association*, 26, 187–8.
- Gregory, J.W. (1926) The Scottish kames and their evidence on the glaciation of Scotland. *Transactions of the Royal Society of Edinburgh*, 54, 395–432.
- Gregory, J.W. (1927) The moraines, boulder clay and glacial sequence of south-western Scotland. *Transactions of the Geological Society of Glasgow*, 17, 354–76.
- Gregory, J.W. (1928) The geology of Loch Lomond. *Transactions of the Geological Society of Glasgow*, 18, 301–23.
- Greig, D.C. (1981) Ice-wedge cast network in eastern Berwickshire. *Scottish Journal of Geology*, 17, 119–22.
- Gunson, A.R. (1975) The vegetation history of north-east Scotland. In *Quaternary Studies in North-east Scotland* (ed. A.M.D. Gemmell). Department of Geography, University of Aberdeen, Aberdeen, pp. 61–72.
- Gustayson, T.C., Ashley, G.H. and Boothroyd, J.C. (1975) Depositional sequences in glaciolacustrine deltas. In *Glaciofluvial and Glaciolacustrine Sedimentation* (eds A.V. Jopling and B.C. McDonald). Society of Economic Palaeontologists and Mineralogists, Special Publication, No. 23, pp. 264–80.
- Gwynne, D., Milner, C. and Hornung, M. (1974) The vegetation and soils of Hirta. In *Island Survivors: the Ecology of the Soay Sheep of St Kilda* (eds P.A. Jewell, C. Milner and J.M. Boyd). Athlone Press, London, pp. 36–7.
- Haggart, B.A. (1978) A pollen and stratigraphical investigation into a peat deposit in St Michael's Wood near Leuchars, Fife. Unpublished MA dissertation, University of St Andrews.
- Haggart, B.A. (1982) Flandrian sea-level changes in the Moray Firth area. Unpublished PhD thesis, University of Durham.
- Haggart, B.A. (1986) Relative sea-level change in the Beauly Firth Scotland. *Boreas*, 15, 191–207.
- Haggart, B.A. (1987) Relative sea-level changes in the Moray Firth area, Scotland. In *Sea-level Changes* (eds M.J. Tooley and I. Shennan). Blackwell Scientific, Oxford, pp. 67–108.

- Haggart, B.A. (1988a) A review of radiocarbon dates on peat and wood from Holocene coastal sedimentary sequences in Scotland. *Scottish Journal of Geology*, 24, 125–44.
- Haggart, B.A. (1988b) The stratigraphy, depositional environment and dating of a possible tidal surge deposit in the Beaully Firth area, north-east Scotland. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 66, 215–30.
- Haggart, B.A. (1989) Variations in the pattern and rate of isostatic uplift indicated by a comparison of Holocene sea-level curves from Scotland. *Journal of Quaternary Science*, 4, 67–76.
- Hall, A.M. (1982) The 'Pliocene' gravels of Buchan: a reappraisal: discussion. *Scottish Journal of Geology*, 18, 336–8.
- Hall, A.M. (1983) Deep weathering and landform evolution in north-east Scotland. Unpublished PhD thesis, University of St Andrews.
- Hall, A.M. (1984a) *Buchan Field Guide*. Quaternary Research Association, Cambridge, 120 pp.
- Hall, A.M. (1984b) Introduction. In *Buchan Field Guide* (ed. A.M. Hall). Quaternary Research Association, Cambridge, pp. 1–26.
- Hall, A.M. (1984c) Central Buchan. In *Buchan Field Guide* (ed. A.M. Hall). Quaternary Research Association, Cambridge, pp. 27–45.
- Hall, A.M. (1985) Cenozoic weathering covers in Buchan, Scotland and their significance. *Nature*, 315, 392–5.
- Hall, A.M. (1986) Deep weathering patterns in north-east Scotland and their geomorphological significance. *Zeitschrift für Geomorphologie*, NF 30, 407–22.
- Hall, A.M. (1987) Weathering and relief development in Buchan, Scotland. In *International Geomorphology 1986*, Part II, (ed. V. Gardiner). John Wiley, Chichester, pp. 991–1005.
- Hall, A.M. (1989a) Pre-Late Devensian coastal rock platforms around Dunbar. *Scottish Journal of Geology*, 25, 361–5.
- Hall, A.M. (1989b) Location and excavation of the 'Indigo Boulder Clay' at Bellscamphie, Ellon, Grampian Region. Nature Conservancy Council, Peterborough, CSD Report No. 975, 26 pp.
- Hall, A.M. (1991) Pre-Quaternary landscape evolution in the Scottish Highlands. *Transactions of the Royal Society of Edinburgh: Earth Sciences*, 82, 1–26.
- Hall, A.M. and Bent, A.J.A. (1990) The limits of the last British ice sheet in northern Scotland and the adjacent shelf. *Quaternary Newsletter*, 61, 2–12.
- Hall, A.M. and Connell, E.R. (1982) Recent excavations at the Greensand locality of Moreseat, Grampian Region. *Scottish Journal of Geology*, 18, 291–6.
- Hall, A.M. and Connell, E.R. (1986) A preliminary report on the Quaternary sediments at Leys gravel pit, Buchan, Scotland. *Quaternary Newsletter*, 48, 17–28.
- Hall, A.M. and Connell, E.R. (1991) The glacial deposits of Buchan, northeast Scotland. In *Glacial Deposits in Great Britain and Ireland* (eds J. Ehlers, P.L. Gibbard and J. Rose). A.A. Balkema, Rotterdam, pp. 129–36.
- Hall, A.M. and Jarvis, J. (1989) A preliminary report on the Late Devensian glaciomarine deposits around St Fergus, Grampian Region. *Quaternary Newsletter*, 59, 5–7.
- Hall, A.M. and Mellor, A. (1988) The characteristics and significance of deep weathering in the Gaick area, Grampian Highlands, Scotland. *Geografiska Annaler*, 70A, 309–14.

- Hall, A.M. and Sugden, D.E. (1987) Limited modification of mid-latitude landscapes by ice sheets. *Earth Surface Processes and Landforms*, 12, 531–42.
- Hall, A.M. and Whittington, G. (1989) Late Devensian glaciation of southern Caithness. *Scottish Journal of Geology*, 25, 307–24.
- Hall, A.M., Mellor, A.M. and Wilson, M.J. (1989a) The clay mineralogy and age of deeply weathered rocks in north-east Scotland. *Zeitschrift für Geomorphologie*, NF, Supplement-band, 72, 97–108.
- Hall, A.M., Jarvis, J. and Duck, R. (1989b) Survey of Quaternary deposits adjacent to Kirkhill Quarry. Nature Conservancy Council, Peterborough, CSD Report 924, 75 pp.
- Hall, Sir J. (1815) On the revolutions of the Earth's surface. *Transactions of the Royal Society of Edinburgh*, 7, 139–211.
- Hallet, B. and Anderson, R.S. (1980) Detailed glacial geomorphology of a proglacial bedrock area at Castleguard Glacier, Alberta, Canada. *Zeitschrift für Gletscherkunde and Glazialgeologie*, 16, 171–84.
- Hansom, J.D. (1983) Shore-platform development in the South Shetland Islands, Antarctica. *Marine Geology*, 53, 211–29.
- Hansom, J.D. (1991) Holocene coastal development in the Dornoch Firth. In *Late Quaternary Coastal Evolution in the Inner Moray Firth. Field Guide* (eds C.R. Firth and B.A. Haggart). West London Press, London, pp. 45–54.
- Harding, R.R., Merriman, R.J. and Nancarrow, P.H.A. (1984) St Kilda: an illustrated account of the geology. *Report of the British Geological Survey*, 16(7), 46 pp.
- Harker, A. (1899a) Glaciated valleys in the Cuillins, Skye. *Geological Magazine*, 46, 1969.
- Harker, A. (1899b) Notes on subaerial erosion in the Isle of Skye. *Geological Magazine*, 46, 485–91.
- Harker, A. (1901) Ice erosion in the Cuillin Hills, Skye. *Transactions of the Royal Society of Edinburgh*, 40, 76–99.
- Harker, A. (1908) *The Geology of the Small Isles of Invernessshire*. Sheet 60. Memoirs of the Geological Survey of Scotland, HMSO, Glasgow, 210 pp.
- Harkness, D.D. (1981) Scottish Universities Research and Reactor Centre, radiocarbon measurements IV. *Radiocarbon*, 23, 252–304.
- Harkness, D.D. (1983) The extent of natural ^{14}C deficiency in the coastal environment of the United Kingdom. In *^{14}C and Archaeology. Symposium held at Groningen, August 1981* (eds W.C. Mook and H.T. Waterbolk). PACT, 8, 351–64.
- Harkness, D.D. (1990) Radiocarbon dating of the Odhar Peat. In *Beaully to Nairn: Field Guide* (eds C.A. Auton, C.R. Firth and J.W. Merritt). Quaternary Research Association, Cambridge, pp. 69–70.
- Harkness, D.D. and Wilson, H.W. (1979) Scottish Universities Research and Reactor Centre radiocarbon measurements III. *Radiocarbon*, 21, 203–56.
- Harris, A.L. and Peacock, J.D. (1969) Sand and gravel resources of the inner Moray Firth. *Report of the Institute of Geological Sciences*, 69/9, 18 pp.
- Harry, W.T. (1965) The form of the Cairngorm pluton. *Scottish Journal of Geology*, 1, 1–8.
- Harvey, A.M. (1986) Geomorphic effects of a 100 year storm in the Howgill Fells, northwest England. *Zeitschrift für Geomorphologie*, NF, 30, 71–91.

- Harvey, A.M., Oldfield, F., Baron, A.F. and Pearson, G.W. (1981) Lichens, soil development and the age of Holocene valley-floor landforms: Howgill Fells, Cumbria. *Geografiska Annaler*, 66A, 353–66.
- Hawksworth, D.L. (1970) Studies on the peat deposits of the island of Foula, Shetland. *Transactions and Proceedings of the Botanical Society of Edinburgh*, 40, 576–91.
- Haworth, E.Y. (1969) The diatoms of a sediment core from Blea Tarn, Langdale. *Journal of Ecology*, 57, 429–41.
- Haworth, E.Y. (1976) Two late-glacial (Late Devensian) diatom assemblage profiles from northern Scotland. *New Phytologist*, 77, 22756.
- Haynes, V.M. (1968) The influence of glacial erosion and rock structure on corries in Scotland. *Geografiska Annaler*, 50A, 221–34.
- Haynes, V.M. (1969) The relative influence of rock properties and erosion processes in the production of glaciated landforms, with especial reference to corries in Scotland. Unpublished PhD thesis, University of Cambridge.
- Haynes, V.M. (1977a) The modification of valley patterns by ice-sheet activity. *Geografiska Annaler*, 59A, 195–207.
- Haynes, V.M. (1977b) Landslip associated with glacier ice. *Scottish Journal of Geology*, 13, 337–8.
- Haynes, V.M. (1983) Scotland's landforms. In *Scotland A New Study* (ed. C.M. Clapperton). David and Charles, Newton Abbot, pp. 28–63.
- Hays, J.D., Imbrie, J. and Shackleton, N.J. (1976) Variations in the Earth's orbit: pacemaker of the ice ages. *Science*, 194, 1121–32.
- Heddle, M.F. (1880) The geognosy and mineralogy of Scotland. *Mineralogical Magazine*, 3, 147–77.
- Heijnis, H. (1990) Dating of the Odhar Peat at the Allt Odhar site by the Uranium series disequilibrium dating method. In *Beaully to Nairn: Field Guide* (eds C.A. Auton, C.R. Firth and J.W. Merritt). Quaternary Research Association, Cambridge, pp. 72–4.
- Helland, A. (1879) Ueber die Vergletscherung der Färöer sowie der Shetland–Orkney–Inseln. *Zeitschrift der Deutschen Geologischen Gesellschaft*, 31, 716–55.
- Henderson, J. (1872) On Corstorphine Hill, near Edinburgh. *Transactions of the Edinburgh Geological Society*, 2, 29–33.
- Henderson, J. (1874) On some sections of boulder clay, peat and stratified beds, exposed in a quarry recently opened at Redhill, Slateford, near Edinburgh. *Transactions of the Edinburgh Geological Society*, 2, 391–5.
- Heslop Harrison, J.W. and Blackburn, K.B. (1946) The occurrence of a nut of *Trapa natans* L. in the Outer Hebrides, with some account of the peat bogs adjoining the loch in which the discovery was made. *New Phytologist*, 45, 124–31.
- Hibbert, F.A. and Switsur, R. (1976) Radiocarbon dating of Flandrian pollen zones in Wales and northern England. *New Phytologist*, 77, 793–807.
- Hibbert, F.A., Switsur, V.R. and West, R.G. (1971) Radiocarbon dating of the Flandrian pollen zones at Red Moss, Lancashire. *Proceedings of the Royal Society of London*, B177, 161–76.
- Hibbert, S. (1831) On the direction of the diluvial wave in Shetland. *Edinburgh Journal of Science*, NS, 4, 85–91.
- Hickling, G. (1908) The Old Red Sandstone of Forfarshire. *Geological Magazine*, Decade 5, 5, 396–408.
- Hill, W. (1915) Chalk boulders from Aberdeen and fragments of chalk from the sea floor off the Scottish coast. *Proceedings of the Royal Society of Edinburgh*, 35, 263–96.

- Hills, R.C. (1969) Comparative weathering of granite and quartzite in a periglacial environment. *Geografiska Annaler*, 51A, 46–7.
- Hinxman, L.W. (1896) *Explanation of Sheet 75. West Aberdeenshire, Banffshire, parts of Elgin and Inverness*. Memoirs of the Geological Survey of Scotland, HMSO, Edinburgh, 48 pp.
- Hinxman, L.W. (1901) The River Spey. *Scottish Geographical Magazine* 17, 185–93.
- Hinxman, L.W. and Anderson, E.M. (1915) *The Geology of Mid-Strathspey and Strathdearn, including the Country between Kingussie and Grantown*. Explanation of Sheet 74. Memoirs of the Geological Survey of Scotland, HMSO, Edinburgh, 97 pp.
- Hinxman, L.W. and Wilson, J.S.G. (1902) *The Geology of Lower Strathspey*. Explanation of Sheet 85. Memoirs of the Geological Survey: Scotland, HMSO, Glasgow, 91 pp.
- Hirons, K.R. and Edwards, K.J. (1986) Events at and around the first and second *Ulmus* decline: palaeoecological investigations in Co Tyrone, Northern Ireland. *New Phytologist*, 104, 131–53.
- Hirons, K.R. and Edwards, K.J. (1990) Pollen and related studies at Kinloch, Isle of Rhum, Scotland, with particular reference to possible early human impacts on vegetation. *New Phytologist*, 116, 715–27.
- Hodgson, D.M. (1982) Hummocky and fluted moraines in part of NW Scotland. Unpublished PhD thesis, University of Edinburgh.
- Hodgson, D.M. (1986) A study of fluted moraines in the Torridon area, NW Scotland. *Journal of Quaternary Science*, 1, 109–18.
- Hodgson, D.M. (1987) Coire a'Cheud Chnoic. In *Wester Ross Field Guide* (eds C.K. Ballantyne and D.G. Sutherland). Quaternary Research Association, Cambridge, pp. 127–34.
- Holden, W.G. (1977a) The glaciation of Central Ayrshire. Unpublished PhD thesis, University of Glasgow.
- Holden, W.G. (1977b) Afton Lodge. In *Western Scotland I* (ed. R.J. Price). INQUA X Congress 1977. Guidebook for Excursion A12. Geo Abstracts, Norwich, pp. 12–3.
- Holden, W.G. (1977c) Nith Bridge. In *Western Scotland I* (ed. R.J. Price). INQUA X Congress 1977, Guidebook for Excursion A12. Geo Abstracts, Norwich, pp. 13–5.
- Holden, W.G. (1977d) Greenock Mains. In *Western Scotland I* (ed. R.J. Price). INQUA X Congress 1977. Guidebook for Excursion A12. Geo Abstracts, Norwich, pp. 15–6.
- Holden, W.G. and Jardine, W.G. (1980) Greenock Mains and Nith Bridge. In *Field Guide to the Glasgow Region* (ed. W.G. Jardine). Quaternary Research Association, Cambridge, pp. 18–21.
- Holdsworth, G. (1973) Ice deformation and moraine formation at the margin of an ice cap adjacent to a proglacial lake. In *Research in Polar and Alpine Geomorphology* (eds B.D. Fahey and R.D. Thompson). Geo Abstracts, Norwich, pp. 187–99.
- Hollingworth, S.E. (1931) The glaciation of western Edenside and adjoining areas, and the drumlins of Edenside and the Solway basin. *Quarterly Journal of the Geological Society of London*, 87, 281–359.
- Holmes, G. (1984) Rock slope failure in parts of the Scottish Highlands. Unpublished PhD thesis, University of Edinburgh.

- Holmund, P. (1991) Cirques at low altitudes need not necessarily have been cut by small glaciers. *Geografiska Annaler*, 73A, 9–16.
- Hoppe, G. (1965) Submarine peat in the Shetland Islands. *Geografiska Annaler*, 47A, 195–203.
- Hoppe, G. (1974) The glacial history of the Shetland Islands. *Institute of British Geographers. Special Publication*, 7, 197–210.
- Horne, J., Robertson, D., Jamieson, T.F., Fraser, J., Kendal, P.F. and Bell, D. (1894) The character of the high-level shell-bearing deposits at Clava, Chapelhall and other locations. *Report of the British Association for the Advancement of Science for 1893*, 483–514.
- Horne, J., Robertson, D., Jamieson, T.F., Fraser, J., Kendall, P.F. and Bell, D. (1895) The character of the high-level shell-bearing deposits at Clava, Chapelhall, and other localities (Chapelhall section). *Report of the British Association for the Advancement of Science for 1894*, 307–15.
- Horne, J., Robertson, D., Jamieson, T.F., Fraser, J., Kendall, P.F. and Bell, D. (1897) The character of the high-level shell-bearing deposits in Kintyre. *Report of the British Association for the Advancement of Science for 1896*, 378–99.
- Horne, J. and Hinxman, L.W. (1914) *The Geology of the Country round Beauly and Inverness: including part of the Black Isle*. Explanation of Sheet 83. Memoirs of the Geological Survey of Scotland, HMSO, Edinburgh, 108 pp.
- Horne, J. (1923) *The Geology of the Lower Findhorn and Lower Strath Nairn: including part of the Black Isle near Fortrose*. Sheet 84 and part of 94. Memoirs of the Geological Survey of Scotland, HMSO, Edinburgh, 128 pp.
- Horsfield, B.R. (1983) The deglaciation pattern of the western Grampians of Scotland. Unpublished PhD thesis, University of East Anglia.
- Howden, J.C. (1868) On the superficial deposits at the estuary of the South Esk. *Transactions of the Edinburgh Geological Society*, 1, 138–50.
- Howden, J.C. (1886) On the glacial deposits at Montrose. *Report of the British Association for the Advancement of Science for 1885*, 1040.
- Howell, H.H. and Geikie, A. (1861) *The Geology of the Neighbourhood of Edinburgh*. Map 32. Memoirs of the Geological Survey of Great Britain (Scotland), HMSO, London, 151 pp.
- Howell, H.H., Geikie, A. and Young, J. (1866) *The Geology of East Lothian, including parts of the Counties of Edinburgh and Berwick*. Maps 33, 34 and 41. Memoirs of the Geological Survey of Scotland, HMSO, London, 77 pp.
- Hsü, K.J. (1975) Catastrophic debris streams (Sturzstroms) generated by rockfalls. *Bulletin of the Geological Society of America*, 86, 129–40.
- Hughes, T.J. (1987) Deluge II and the continent of doom: rising sea level and collapsing Antarctic ice. *Boreas*, 16, 89–100.
- Hull, E. (1866) The raised beach of Cantyre. *Geological Magazine*, 3, 5–10.
- Hull, E. (1895) The glacial deposits of Aberdeenshire. *Geological Magazine*, Decade 4, 2, 450–2.
- Hulme, P.D. (1979) *Calliergon richardsonii* (Mitt.) Kindb. from the Late Devensian of Lang Lochs mire, Shetland. *Journal of Bryology*, 10, 281.
- Hulme, P.D. and Dumo, S.E. (1980) A contribution to the phytogeography of Shetland. *New Phytologist*, 84, 165–9.
- Huntley, B. (1976) The past and present vegetation of the Morrone Birkwoods and Caen-lochan National Nature Reserve. Unpublished PhD thesis, University of Cambridge.

- Huntley, B. (1979) The past and present vegetation of the Caenlochan National Nature Reserve, Scotland. I. Present vegetation. *New Phytologist*, 83, 215–84.
- Huntley, B. (1981) The past and present vegetation of the Caenlochan National Nature Reserve, Scotland. II. Palaeoecological investigations. *New Phytologist*, 87, 189–222.
- Huntley, B. (1991) Historical lessons for the future. In *Scientific Management of Temperate Communities for Conservation* (eds I.F. Spellerberg, F.B. Goldsmith and M.G. Morris). British Ecological Society Symposium, No. 31. Blackwell, Oxford, pp. 473–503.
- Huntley, B. and Birks, H.J.B. (1979a) The past and present vegetation of the Morrone Birkwoods National Nature Reserve, Scotland. I. A primary phytosociological survey. *Journal of Ecology*, 67, 417–46.
- Huntley, B. and Birks, H.J.B. (1979b) The past and present vegetation of the Morrone Birk-woods National Nature Reserve, Scotland. II. Woodland vegetation and soils. *Journal of Ecology*, 67, 447–67.
- Huntley, B. and Birks, H.J.B. (1983) *An Atlas of Past and Present Pollen Maps for Europe: 0–13,000 Years Ago*. Cambridge University Press, Cambridge, 667 pp.
- Huntley, J.P. (in press) Palynological investigations at Freswick, Caithness. In *Excavations at a Norse Settlement Site in Northern Scotland* (eds C.D. Morris and C.E. Batey). Highland Regional Monograph, No. 1. Highland Regional Council, Inverness.
- Hyde, W.T. and Peltier, W.R. (1985) Sensitivity experiments with a model of the ice age cycle: the response to harmonic forcing. *Journal of the Atmospheric Sciences*, 42, 2170–88.
- Imbrie, J. and Imbrie, K.P. (1979) *Ice Ages. Solving the Mystery*. Macmillan, London, 224 pp.
- Imbrie, J., Hays, J.D., Martinson, D.G., McIntyre, A., Mix, A.C., Morley, J.J., Pisias, N.G., Prell, W.L. and Shackleton, N.J. (1984) The orbital theory of Pleistocene climate: support from revised chronology of the marine $\delta^{18}\text{O}$ record. In *Milankovitch and Climate. Understanding the Response to Astronomical Forcing* (eds A. Berger, J. Imbrie, J. Hays, G. Kukla and B. Saltzman). D. Reidel, Dordrecht, pp. 269–305.
- Imrie, Lt.-Col. (1814) A geological account of the southern district of Stirlingshire, commonly called the Campsie Hills, with a few remarks relative to the two prevailing theories as to geology, and some examples given illustrative of these remarks. *Memoirs of the Wernerian Natural History Society*, 2, 24–50.
- Innes, J.L. (1982) Debris flow activity in the Scottish Highlands. Unpublished PhD thesis, University of Cambridge.
- Innes, J.L. (1983a) Stratigraphic evidence of episodic talus accumulation on the Isle of Skye, Scotland. *Earth Surface Processes and Landforms*, 8, 399–403.
- Innes, J.L. (1983b) Lichenometric dating of debris flow deposits in the Scottish Highlands. *Earth Surface Processes and Landforms*, 8, 579–88.
- Innes, J.L. (1983c) Debris flows. *Progress in Physical Geography*, 7, 469–501.
- Innes, J.L. (1985) Magnitude–frequency relations of debris flows in north-west Europe. *Geografiska Annaler*, 67A, 23–32.
- Imes, J.L. (1989) Rapid mass movements in upland Britain: a review with particular reference to debris flows. *Studia Geomorphologica Carpatho–Balcanica*, 23, 53–67.
- Insch, E.V. (1976) The glacial geomorphology of part of the south-east Grampians and Strathmore. Unpublished MPhil thesis, University of Edinburgh.

Institute of Geological Sciences (1982) IGS Boreholes 1980. *Report of the Institute of Geological Sciences*, No. 81/11, 12 pp.

International Geological Congress (1948) Guide to Excursion A19: Scotland (general tour), and Guide to Excursion C13: Edinburgh and St Andrews. International Geological Congress, London, 17 pp and 20 pp.

Irvine, D.R. (1872) *Wigtonshire—Mull of Galloway*. Explanation of Sheet 1. Memoirs of the Geological Survey of Scotland, HMSO, Edinburgh, 12 pp.

Iversen, J. (1944) *Viscum, Hedera* and *Ilex* as climatic indicators. *Geologiska Foreningens i Stockholm Forhandlingar*, 66, 463–83.

Iversen, J. (1958) The bearing of glacial and interglacial epochs on the formation and extinction of plant taxa. *Uppsala Universitets Årbok*, 6, 210–5.

Ives, J.D. (1958) Glacial geomorphology of the Torngat Mountains, northern Labrador. *Geographical Bulletin*, 12, 47–75.

Ives, J.D. (1978) The maximum extent of the Laurentide ice sheet along the east coast of North America during the last glaciation. *Arctic*, 31, 24–53.

Jack, R.L. (1875) Notes on a till or boulder clay with broken shells, in the lower valley of the River Endrick, near Loch Lomond, and its relation to certain other glacial deposits. *Transactions of the Geological Society of Glasgow*, 5, 5–25.

Jahns, R.H. (1943) Sheet structure in granite: its origin and use as a measure of glacial erosion in New England. *Journal of Geology*, 51, 71–98.

James, H. (1874) *Notes on the Parallel Roads of Lochaber*. Ordnance Survey Office, Southampton, 7 pp.

Jamieson, T.F. (1858) On the Pleistocene deposits of Aberdeenshire. *Quarterly Journal of the Geological Society of London*, 14, 509–32.

Jamieson, T.F. (1859) An outlier of Lias in Aberdeenshire. *Quarterly Journal of the Geological Society of London*, 15, 131–3.

Jamieson, T.F. (1860a) On the occurrence of crag strata beneath the boulder clay in Aberdeenshire. *Quarterly Journal of the Geological Society of London*, 16, 371–3.

Jamieson, T.F. (1860b) On the drift and rolled gravel of the north of Scotland. *Quarterly Journal of the Geological Society of London*, 16, 347–71.

Jamieson, T.F. (1862) On the ice-worn rocks of Scotland. *Quarterly Journal of the Geological Society of London*, 18, 164–84.

Jamieson, T.F. (1863) On the Parallel Roads of Glen Roy, and their place in the history of the glacial period. *Quarterly Journal of the Geological Society of London*, 19, 235–59.

Jamieson, T.F. (1865) On the history of the last geological changes in Scotland. *Quarterly Journal of the Geological Society of London*, 21, 161–203.

Jamieson, T.F. (1866) On the glacial phenomena of Caithness. *Quarterly Journal of the Geological Society of London*, 11, 261–81. Jamieson, T.F. (1874) On the last stage of the glacial period in North Britain. *Quarterly Journal of the Geological Society of London*, 30, 317–38.

Jamieson, T.F. (1882a) On the crag shells of Aberdeenshire and the gravel-beds containing them. *Quarterly Journal of the Geological Society of London*, 38, 145–59.

- Jamieson, T.F. (1882b) On the Red Clay of the Aberdeenshire coast and the direction of ice-movement in that quarter. *Quarterly Journal of the Geological Society of London*, 38, 160–77.
- Jamieson, T.F. (1892) Supplementary remarks on Glen Roy. *Quarterly Journal of the Geological Society of London*, 48, 5–28.
- Jamieson, T.F. (1905) Some changes of level in the glacial period. *Geological Magazine*, Ser. 5, 2, 484–90.
- Jamieson, T.F. (1906) The glacial period in Aberdeenshire and the southern border of the Moray Firth. *Quarterly journal of the Geological Society of London*, 62, 13–39.
- Jamieson, T.F. (1908) A geologist on the Cairngorms. *Cairngorm Club Journal*, 5, 82–8.
- Jamieson, T.F. (1910) On the surface geology of Buchan. In *The Book of Buchan* (ed. J.F. Tocher). Aberdeen University Press, Aberdeen and P. Scrogie Ltd, Peterhead, pp. 19–25.
- Jamieson, T.F., Jukes Browne, A.J. and Milne, J. (1898) Cretaceous fossils in Aberdeenshire. *Report of the British Association for the Advancement of Science for 1897*, 333–7.
- Jansen, E. and Bjørklund, K.R. (1985) Surface ocean circulation in the Norwegian Sea 15,000 BP to present. *Boreas*, 14, 243–57.
- Jansen, E., Befring, S., Bugge, T., Eidvin, T., Holtedahl, H. and Sejrup, H.P. (1987) Large submarine slides on the Norwegian continental margin: sediments, transport and *timing*. *Marine Geology*, 78, 77–107.
- Jansen, J.H.F. (1976) Late Pleistocene and Holocene history of the northern North Sea, based on acoustic reflection records. *The Netherlands Journal of Sea Research*, 10, 1–43.
- Janssen, C.H. and Ten Hove, H.A. (1971) Some late-Holocene pollen diagrams from the Peel raised bogs (southern Netherlands). *Review of Palaeobotany and Palynology*, 11, 7–53.
- Jardine, W.G. (1962) Post-glacial sediments at Girvan, Ayrshire. *Transactions of the Geological Society of Glasgow*, 24, 262–78.
- Jardine, W.G. (1963) Pleistocene sediments at Girvan, Ayrshire. *Transactions of the Geological Society of Glasgow*, 24, 4–16.
- Jardine, W.G. (1964) Post-glacial sea-levels in south-west Scotland. *Scottish Geographical Magazine*, 80, 5–11.
- Jardine, W.G. (1967) Sediments of the Flandrian transgression in south-west Scotland: terminology and criteria for facies distinction. *Scottish Journal of Geology*, 3, 221–6.
- Jardine, W.G. (1968) The 'Perth' Readvance. *Scottish Journal of Geology*, 4, 185–7.
- Jardine, W.G. (1971) Form and age of late-Quaternary shore-lines and coastal deposits of south-west Scotland: critical data. *Quaternaria*, 14, 103–14.
- Jardine, W.G. (1973) The Quaternary geology of the Glasgow district. In *Excursion Guide to the Geology of the Glasgow District* (ed. B.J. Bluck). Geological Society of Glasgow, Glasgow, pp. 156–69.
- Jardine, W.G. (1975) Chronology of Holocene marine transgression and regression in southwestern Scotland. *Boreas*, 4, 173–96.
- Jardine, W.G. (1977) The Quaternary marine record in south-west Scotland and the Scottish Hebrides. In *The Quaternary History of the Irish Sea* (eds C. Kidson and M.J. Tooley). Seel House Press, Liverpool, pp. 99–118.

- Jardine, W.G. (1978) Radiocarbon ages of raised-beach shells from Oronsay, Inner Hebrides, Scotland: a lesson in interpretation and deduction. *Boreas*, 7, 183–96.
- Jardine, W.G. (1980a) *Field Guide to the Glasgow Region*. Quaternary Research Association, Cambridge, 70 pp.
- Jardine, W.G. (1980b) Holocene raised coastal sediments and former shorelines of Dumfriesshire and eastern Galloway. *Transactions of the Dumfriesshire and Galloway Natural History and Antiquarian Society*, 3rd Series, 55, 1–59.
- Jardine, W.G. (1981) Status and relationships of the Loch Lomond Readvance and its stratigraphical correlatives. In *The Quaternary in Britain* (eds J. Neale and J. Flenley). Pergamon Press, Oxford, 168–73.
- Jardine, W.G. (1982) Sea-level changes in Scotland during the last 18,000 years. *Proceedings of the Geologists' Association*, 93, 25–41.
- Jardine, W.G. (1986) The geological and geomorphological setting of the estuary and firth of Clyde. *Proceedings of the Royal Society of Edinburgh*, 90B, 25–41.
- Jardine, W.G. (1987) The Mesolithic coastal setting. In *Excavations on Oronsay: Prehistoric Human Ecology on a Small Island* (ed. P.A. Mellars). Edinburgh University Press, Edinburgh, pp. 25–51.
- Jardine, W.G. and Dickson, J.H. (1980) Carstairs area. In *Field Guide to the Glasgow Region* (ed. W.G. Jardine). Quaternary Research Association, Cambridge, pp. 63–5.
- Jardine, W.G. and Dickson, J.H. (1987) Significance of a recently-discovered interstadial site in western Scotland. INQUA XII Congress, Ottawa, Canada, 1987. Programme and Abstracts, p. 193.
- Jardine, W.G. and Morrison, A. (1976) The archaeological significance of Holocene coastal deposits in south-western Scotland. In *Geoarchaeology. Earth Science and the Past* (eds D.A. Davidson and M.L. Shackley). Duckworth, London, pp. 175–95.
- Jardine, W.G. and Morrison, A. (1980) Irvine area. In *Field Guide to the Glasgow Region* (ed. W.G. Jardine). Quaternary Research Association, Cambridge, pp. 13–19.
- Jardine, W.G. and Peacock, J.D. (1973) Scotland. In *A Correlation of Quaternary Deposits in the British Isles* (eds G.F. Mitchell, L.F. Penny, F.W. Shotton and R.G. West). Geological Society of London, Special Report, No. 4, 53–9.
- Jardine, W.G., Dickson, J.H., Haughton, P.D.W., Harkness, D.D., Bowen, D.Q. and Sykes, G.A. (1988) A late Middle Devensian interstadial site at Sourlie, near Irvine, Strathclyde. *Scottish Journal of Geology*, 24, 288–95.
- Jehu, T.J. and Craig, R.M. (1923a) The geology of the Outer Hebrides. Part I — The Barra Isles. *Transactions of the Royal Society of Edinburgh*, 53, 419–41.
- Jehu, T.J. and Craig, R.M. (1923b) The geology of the Outer Hebrides. Part H — South Uist and Eriskay. *Transactions of the Royal Society of Edinburgh*, 53, 615–41.
- Jehu, T.J. and Craig, R.M. (1926) The geology of the Outer Hebrides. Part III — North Uist and Benbecula. *Transactions of the Royal Society of Edinburgh*, 54, 467–89.
- Jehu, T.J. and Craig, R.M. (1927) The geology of the Outer Hebrides. Part IV — South Harris. *Transactions of the Royal Society of Edinburgh*, 55, 457–88.
- Jehu, T.J. and Craig, R.M. (1934) Geology of the Outer Hebrides. Part V — North Harris and Lewis. *Transactions of the Royal Society of Edinburgh*, 57, 839–74.

- Jenkins, A., Ashworth, P.J., Ferguson, R.I., Grieve, L.C., Rowling, P. and Stott, T.A. (1988) Slope failures on the Ochil Hills, Scotland, November 1984. *Earth Surface Processes and Landforms*, 13, 69–76.
- Jenkins, K.A. (1991) The origin of eskers and fluvioglacial features: an example from the area south of the Pentland Hills. Unpublished report, Department of Geology and Geophysics, University of Edinburgh, 36 pp.
- Jessen, A. (1905) On the shell-bearing clay in Kintyre. *Transactions of the Edinburgh Geological Society*, 13, 76–86.
- Jessen, K. and Milthers, V. (1928) Stratigraphical and palaeontological studies of interglacial fresh-water deposits in Jutland and northwest Germany. *Danmarks Geologiske Undersøgelse*, Series II, 48, 1–379.
- Johansen, J. (1975) Pollen diagrams from the Shetland and Faroe Islands. *New Phytologist*, 75, 369–87.
- Johansen, J. (1978) The age of the introduction of *Plantago lanceolata* to the Shetland Islands. *Danmarks Geologiske Undersøgelse Årbok 1976*, 45–8.
- Johansen, J. (1985) Studies in the vegetational history of the Faroe and Shetland Islands. *Annales Societatis Scientiarum Faeroensis Supplementum*, 11, 117 pp.
- John, B.S. (1973) Vistulian periglacial phenomena in south-west Wales. *Biuletyn Peryglacjalny*, 22, 185–212.
- Johnsen, S.J., Dansgaard, W., Clausen, H.B. and Langway, C.C. Jr. (1972) Oxygen isotope profiles through the Antarctic and Greenland ice sheets. *Nature*, 235, 429–34.
- Johnson, D.W. (1919) *Shore Processes and Shoreline Development* John Wiley, New York, 584 pp.
- Johnstone, G.S. and Mykura, W. (1989) *The Northern Highlands of Scotland*, 4th edn. British Regional Geology. HMSO, London, 219 pp.
- Jolly, W. (1868) On the evidences of glacier action in Galloway. *Transactions of the Edinburgh Geological Society*, 1, 155–85.
- Jolly, W. (1873) Note on the glaciers of Glen Spean and their relations to Glen Roy. *Transactions of the Edinburgh Geological Society*, 2, 220–2.
- Jolly, W. (1880a) The Parallel Roads of Lochaber. *Transactions of the Inverness Scientific Society and Field Club*, 1, 287–92.
- Jolly, W. (1880b) The Parallel Roads of Lochaber — the problem and its various solutions. *Nature*, 22, 68–70.
- Jolly, W. (1886a) The Parallel Roads of Lochaber; the problem, its conditions and solutions. *Transactions of the Geological Society of Glasgow*, 8, 40–7.
- Jolly, W. (1886b) The joint excursion of the Edinburgh and Glasgow Geological Societies to Ben Nevis and the Parallel Roads of Lochaber in July 1885. *Transactions of the Geological Society of Glasgow*, 8, 72–105.
- Jones, G.A. and Keigwin, L.D. (1988) Evidence from Fram Strait (78°N) for early deglaciation. *Nature*, 336, 56–9.
- Jones, V.J. (1987) A palaeoecological study of the post-glacial acidification of the Round Loch of Glenhead and its catchment. Unpublished PhD thesis, University of London.
- Jones, V.J., Stevenson, A.C. and Battarbee, R.W. (1986) Lake acidification and the land-use hypothesis: a mid post-glacial analogue. *Nature*, 322, 157–8.
- Jones, V.J., Stevenson, A.C. and Battarbee, R.W. (1989) The acidification of lakes in Galloway, south west Scotland: a diatom and pollen study of the post-glacial history of the Round Loch of Glenhead. *Journal of Ecology*, 77, 1–23.

- Jones, V.J., Kreiser, A.M., Appleby P.G., Brodin, Y-W., Dayton, J., Natkanski, J., Richardson, N., Rippey, B., Sandoy, S. and Battarbee, R.W. (1990) The recent palaeolimnology of two sites with contrasting acid-deposition histories. *Philosophical Transactions of the Royal Society of London*, B327, 397–402.
- Jouzel, J., Lorius, C., Petit, J.R., Genthon, C., Barkov, N.I., Kotlyakov, V.M. and Petrov, V.M. (1987) Vostok ice core: a continuous isotope temperature record over the last climatic cycle (160,000 years). *Nature*, 329, 403–8.
- Jouzel, J., Petit, J.R. and Raynaud, D. (1990) Palaeoclimatic information from ice cores: the Vostok records. *Transactions of the Royal Society of Edinburgh: Earth Sciences*, 81, 349–55.
- Kaitanen, V. (1969) A geographical study of the morphogenesis of northern Lapland. *Fennia*, 99(5), 85 pp.
- Kaitanen, V. (1989) Relationships between ice-sheet dynamics and bedrock relief in dissected plateau areas in Finnish Lapland north of 69° latitude. *Geografiska Annaler*, 71A, 1–15.
- Kamb, B., Raymond, C.F., Harrison, W.D., Englehardt, H., Echelmeyer, K.A., Humphrey, N., Brugman, M.M. and Pfeffer, T. (1985) Glacier surge mechanism: 1982–1983 surge of Variegated Glacier, Alaska. *Science*, 227, 469–79.
- Karlsson, W., Vollsett, J., Bjorlykke, K. and Jorgensen, P. (1979) Changes in mineralogical composition of Tertiary sediments from North Sea wells. *Proceedings of the VIth International Clay Conference*, 27, 281–9.
- Keatinge, T.H. and Dickson, J.H. (1979) Mid-Flandrian changes in vegetation on Mainland Orkney. *New Phytologist*, 82, 585–612.
- Kelletat, D. (1970a) Rezante Periglazial Erscheinungen im Schottischen Hochland. Untersuchungen zu ihrer Verbreitung und Vergesellschaftung. *Göttinger Geographische Abhandlungen*, 51, 67–140.
- Kelletat, D. (1970b) Zum problem der Verbreitung, des Alters und der Bildungsdauer alter (inaktiver) Periglazialerscheinungen im Schottischen Hochland. *Zeitschrift für Geomorphologie*, NF, 14, 510–19.
- Kelletat, D. (1972) Zum Problem der Abgrenzung und ökologischen Differenzierung des Hochgebirges in Schottland. In *Geoecology of the High Mountain Regions of Eurasia* (ed. C. Troll). *Erdwissenschaftliche Forschung (Wiesbaden)*, 4, 110–30.
- Kemp, D.D. (1971) The stratigraphy and sub-carse morphology of an area on the northern side of the River Forth, between the Lake of Menteith and Kincardine-on-Forth. Unpublished PhD thesis, University of Edinburgh.
- Kemp, D.D. (1976) Buried raised beaches on the northern side of the Forth Valley, central Scotland. *Scottish Geographical Magazine*, 92, 120–8.
- Kendall, P.F. (1902) A system of glacier-lakes in the Cleveland Hills. *Quarterly Journal of the Geological Society of London*, 58, 471–571.
- Kendall, P.F. and Bailey, E.B. (1908) The glaciation of East Lothian south of the Garleton Hills. *Transactions of the Royal Society of Edinburgh*, 46, 1–31.
- Kerney, M.P. and Cameron, R.A.D. (1979) *A Field Guide to the Land Snails of Britain and North-West Europe*. Collins, London, 288 pp.
- Kerr, R.J. (1978) The nature and derivation of glacial till in part of the Tweed Basin. Unpublished PhD thesis, University of Edinburgh.
- Kerr, W.B. (1982) Pleistocene ice movements in the Rhins of Galloway. *Transactions of Dumfriesshire and Galloway Natural History and Antiquarian Society*, 57, 1–10.

- Kerslake, P.D. (1982) Vegetational history of wooded islands in Scottish lochs. Unpublished PhD thesis, University of Cambridge.
- Kesel, R.H. and Gemmell, A.M.D. (1981) The 'Pliocene' gravels of Buchan: a reappraisal. *Scottish Journal of Geology*, 17, 185–203.
- Kinahan, G.H. (1887) The terraces of the Great American Lakes and the Roads of Glenroy. *Transactions of the Edinburgh Geological Society*, 5, 221–3.
- King, R.B. (1968) Periglacial features in the Cairngorm Mountains. Unpublished PhD thesis, University of Edinburgh.
- King, R.B. (1971a) Boulder polygons and stripes in the Cairngorm mountains, Scotland. *Journal of Glaciology*, 10, 375–86.
- King, R.B. (1971b) Vegetation destruction in the sub-alpine and alpine zones of the Cairngorm Mountains. *Scottish Geographical Magazine*, 87, 103–15.
- King, R.B. (1972) Lobes in the Cairngorm Mountains, Scotland. *Biuletyn Peryglacjalny*, 21, 153–67.
- Kinloch, B.B., Westfall, R.D. and Forrest, G.I. (1986) Caledonian Scots Pine: origins and genetic structure. *New Phytologist*, 104, 703–29.
- Kirby, R.P. (1966) The glacial geomorphology of the Esk Basin, Midlothian. Unpublished PhD thesis, University of Edinburgh.
- Kirby, R.P. (1968) The ground moraines of Midlothian and East Lothian. *Scottish Journal of Geology*, 4, 209–20.
- Kirby, R.P. (1969a) Variation in glacial deposition in a sub-glacial environment: an example from Midlothian. *Scottish Journal of Geology*, 5, 49–53.
- Kirby, R.P. (1969b) Till fabric analyses from the Lothians, central Scotland. *Geografiska Annaler*, 51A, 48–60.
- Kirby, R.P. (1969c) Morphometric analysis of glaciofluvial terraces in the Esk Basin, Midlothian. *Transactions of the Institute of British Geographers*, 48, 1–18.
- Kirk, W. and Godwin, H. (1963) A late glacial site at Loch Droma, Ross and Cromarty. *Transactions of the Royal Society of Edinburgh*, 65, 225–49.
- Kirk, W., Rice, R.J. and Synge, F.M. (1966) Deglaciation and vertical displacement of shorelines in Wester and Easter Ross. *Transactions of the Institute of British Geographers*, 39, 65–78.
- Kirsop, J. (1882) In Proceedings of the Geological Society of Glasgow for session 1878–79. *Transactions of the Geological Society of Glasgow*, 6, 291.
- Koppi, A.J. (1977) Weathering of Tertiary gravels, a schist, and a metasediment in north-east Scotland. Unpublished PhD thesis, University of Aberdeen.
- Koppi, A.J. and FitzPatrick, E.A. (1980) Weathering in Tertiary gravels in north-east Scotland. *Journal of Soil Science*, 31, 525–32.
- Kotarba, A. (1984) Slope features in areas of high relief in maritime climate (with the Isle of Rhum as example). *Studia Geomorphologica Carpatho-Balcanica*, 17, 77–90.
- Kotarba, A. (1987) Glacial cirques transformation under differentiated maritime climate. *Studia Geomorphologica Carpatho-Balcanica*, 21, 77–92.

- Kynaston, H. and Hill, J.B. (1908) *The Geology of the Country near Oban and Dalmally*. Explanation of Sheet 45. Memoirs of the Geological Survey of Scotland, HMSO, Glasgow, 184 pp.
- Lacaille, A.D. (1954) *The Stone Age in Scotland*. Wellcome Historical Medical Museum, Oxford, 345 pp.
- Laing, D. (1976) *The Soils of the Country round Perth, Arbroath and Dundee*. Sheets 48 and 49. Memoirs of the Soil Survey of Great Britain: Scotland, HMSO, Edinburgh, 328 pp.
- Laing, S. (1877) Glacial geology of Orkney and Shetland. *Nature*, 16, 418–9.
- Lamb, H.H. (1977) *Climate. Present, Past and Future. Volume 2. Climatic History and the Future*. Methuen, London, 835 pp.
- Lamb, H.H. (1982a) *Climate, History and the Modern World*. Methuen, London, 387 pp. Lamb, H.H. (1982b) Reconstructing the course of postglacial climate over the world. In *Climatic Change in Later Prehistory* (ed. A. Harding). Edinburgh University Press, Edinburgh, pp. 11–32.
- Lambeck, K. (1991a) A model for Devensian and Flandrian glacial rebound and sea-level change in Scotland. In *Glacial Isostasy, Sea Level and Mantle Rheology* (eds R. Sabadini, K. Lambeck and E. Boschi). Kluwer, Dordrecht, 33–61.
- Lambeck, K. (1991b) Glacial rebound and sea-level change in the British Isles. *Terra Nova*, 3, 379–89.
- Lamplugh, G.W. (1906) On British drifts and the interglacial problem. *Report of the British Association for the Advancement of Science for 1905*, 532–58.
- Lamplugh, G.W. (1911) On the shelly moraine of the Sefstrom Glacier and other Spitsbergen phenomena illustrative of British glacial conditions. *Proceedings of the Yorkshire Geological Society*, 17, 216–41.
- Langmuir, E.C.D. (1970) Snow profiles in Scotland. *Weather*, 25, 203–9.
- Law, G.R. (1962) The sub-surface geology of the Bay of Nigg–Tullos area. Unpublished MSc thesis, University of Aberdeen.
- Lawson, D.E. (1979) *Sedimentological analysis of the western terminus region of the Matanuska Glacier, Alaska*. United States Army Corps of Engineers Cold Regions Research and Engineering Laboratory, CRREL Report, 79–9, Hanover, New Hampshire, 112 pp.
- Lawson, T.J. (1981a) First Scottish date from the last interglacial. *Scottish Journal of Geology*, 17, 301–4.
- Lawson, T.J. (1981b) The 1926–27 excavations of the Creag nan Uamh bone caves near Inchnadamph, Sutherland. *Proceedings of the Society of Antiquaries of Scotland*, 111, 7–20.
- Lawson, T.J. (1983) Quaternary geomorphology of the Assynt area, NW Scotland. Unpublished PhD thesis, University of Edinburgh.
- Lawson, T.J. (1984) Reindeer in the Scottish Quaternary. *Quaternary Newsletter*, 42, 1–7.
- Lawson, T.J. (1986) Loch Lomond Advance glaciers in Assynt, Sutherland, and their palaeoclimatic implications. *Scottish Journal of Geology*, 22, 289–98.
- Lawson, T.J. (1990) Former ice movement in Assynt, Sutherland, as shown by the distribution of glacial erratics. *Scottish Journal of Geology*, 26, 25–32.
- Lawson, T.J. and Bonsall, J.C. (1986a) Early settlement in Scotland: the evidence from Reindeer Cave Assynt. *Quaternary Newsletter*, 49, 1–7.

- Lawson, T.J. and Bonsall, J.C. (1986b) The Palaeolithic in Scotland: a reconsideration of the evidence from Reindeer Cave, Assynt. In *The Palaeolithic of Britain and its Nearest Neighbours: Recent Trends* (ed. S.N. Colcutt). Department of Archaeology and Prehistory, University of Sheffield, Sheffield, pp. 85–9.
- Laxton, J.L. (1984) The occurrence of possible Late-glacial estuarine deposits at levels above the carse clay west of Stirling. *Scottish Journal of Geology*, 20, 107–14.
- Laxton, J.L. and Nickless, E.F.P. (1980) The sand and gravel resources of the country around Lanark, Strathclyde Region. Description of 1:25,000 sheet NS 94 and part of NS 84. *Mineral Assessment Report, Institute of Geological Sciences*, No. 49, 144 pp.
- Laxton, J.L. and Ross, D.L. (1983) The sand and gravel resources of the country west of Stirling, Central Region. Description of 1:25,000 sheet NS 69 and 79. *Mineral Assessment Report, Institute of Geological Sciences*, No. 131, 82 pp.
- Le Coeur, C. (1988) Late Tertiary warping and erosion in western Scotland. *Geografiska Annaler*, 70A, 361–7.
- Le Coeur, C. (1989) La question des altérites profondes dans la région des Hébrides internes (Ecosse occidentale). *Zeitschrift für Geomorphologie*, NF, Supplementband, 72, 109–24.
- Lee, G.W. (1909) Palaeontological work. In *Memoirs of the Geological Survey. Summary of Progress of the Geological Survey of Great Britain and the Museum of Practical Geology for 1908*. HMSO, London, 75 pp.
- Leftley, D.C. (1991) The Late Devensian development of the Strathroary river valley. Unpublished BSc dissertation, West London Institute of Higher Education.
- Leverett, F. and Taylor, F.B. (1915) The Pleistocene of Indiana and Michigan and the history of the Great Lakes. *United States Geological Survey Monograph*, 53, 529 pp.
- Lewis, F.J. (1905) The plant remains in the Scottish peat mosses. Part I. The Scottish Southern Uplands. *Transactions of the Royal Society of Edinburgh*, 41, 699–723.
- Lewis, F.J. (1906) The plant remains in the Scottish peat mosses. Part II. The Scottish Highlands. *Transactions of the Royal Society of Edinburgh*, 45, 335–60.
- Lewis, F.J. (1907) The plant remains in the Scottish peat mosses. Part III. The Scottish Highlands and the Shetland Islands. *Transactions of the Royal Society of Edinburgh*, 46, 33–70.
- Lewis, F.J. (1911) The plant remains in the Scottish peat mosses. Part IV. The Scottish Highlands and Shetland, with an appendix on the Icelandic peat deposits. *Transactions of the Royal Society of Edinburgh*, 47, 793–833.
- Lewis, W.V. (1938) A meltwater hypothesis of cirque formation. *Geological Magazine*, 75, 249–65.
- Lewis, W.V. (1947) Valley steps and glacial valley erosion. *Transactions of the Institute of British Geographers*, 14, 19–44.
- Liestøl, O. (1956) Glacier dammed lakes in Norway. *Norsk Geografisk Tidsskrift*, 15, 122–49.
- Liestøl, O. (1961) Talus terraces in Arctic regions. *Norsk Polarinstitutt Årbok*, 102–5.
- Lindner, L. and Marks, L. (1985) Types of debris slope accumulations and rock glaciers in south Spitsbergen. *Boreas*, 14, 139–53.
- Lindsay, R.A., Charman, D.J., Everingham, F., O'Reilly, R.M., Palmer, M.A., Rowell, T.A. and Stroud, D.A. (1988) *The Flow Country. The Peatlands of Caithness and Sutherland* Nature Conservancy Council, Peterborough, 174 pp.

- Linton, D.L. (1933) The 'Tinto Glacier' and some glacial features in Clydesdale. *Geological Magazine*, 70, 549–54.
- Linton, D.L. (1949a) Some Scottish river captures re-examined. *Scottish Geographical Magazine*, 65, 123–32.
- Linton, D.L. (1949b) Unglaciaded areas in Scandinavia and Great Britain. *Irish Geography*, 2, 25–33.
- Linton, D.L. (1950a) The scenery of the Cairngorm Mountains. *Journal of the Manchester Geographical Society*, 55, 45–9.
- Linton, D.L. (1950b) Unglaciaded enclaves in glaciaded regions. *Journal of Glaciology*, 1, 451–2.
- Linton, D.L. (1950c) Discussion. *Comptes Rendus du Congres International de Geographie, Lisbonne 1949*, Tome 2, pp. 298–300.
- Linton, D.L. (1951a) Watershed breaching by ice in Scotland. *Transactions of the Institute of British Geographers*, 15, 1–15.
- Linton, D.L. (1951b) Problems of Scottish scenery. *Scottish Geographical Magazine*, 67, 65–85.
- Linton, D.L. (1952) The significance of tors in glaciaded lands. In *Proceedings of the 17th International Geographical Congress Washington DC, August 8–15, 1952*, pp. 354–7.
- Linton, D.L. (1954) Some Scottish river captures re-examined. III. The beheading of the Don. *Scottish Geographical Magazine*, 70, 64–78.
- Linton, D.L. (1955) The problem of tors. *Geographical Journal*, 121, 470–87.
- Linton, D.L. (1957) Radiating valleys in glaciaded lands. *Tijdschrift van het Koninklijk Nederlandsch Aardrijkskundig Genootschap*, 74, 297–312.
- Linton, D.L. (1959) Morphological contrasts between eastern and western Scotland. In *Geographical Essays in Memory of Alan G. Ogilvie* (eds R. Miller and J.W. Watson). Nelson, Edinburgh, pp. 16–45.
- Linton, D.L. (1962) Glacial erosion on soft-rock outcrops in central Scotland. *Biuletyn Perlaćjalny*, 11, 247–57.
- Linton, D.L. (1963) The forms of glacial erosion. *Transactions of the Institute of British Geographers*, 33, 1–28.
- Linton, D.L. and Moisley, H.A. (1960) The origin of Loch Lomond. *Scottish Geographical Magazine*, 76, 26–37.
- Livingston, C. (1880) The valley of the Spean, with reference to the Lochaber Parallel Roads. *Transactions of the Inverness Scientific Society and Field Club*, 1, 101–19.
- Livingston, C. (1906) The Parallel Roads of Lochaber with relation to an ice-cap. *Transactions of the Geological Society of Glasgow*, 12, 326–53.
- Long, D. and Morton A.C. (1987) An ash fall within the Loch Lomond Stadial. *Journal of Quaternary Science*, 2, 97–101.
- Long, D. and Skinner, A.C. (1985) Glacial meltwater channels in the northern isles of Shetland. *Scottish Journal of Geology*, 21, 222–4.
- Long, D., Bent, A.J.A., Harland, R., Gregory, D.M., Graham, D.K. and Morton, A.C. (1986) Late Quaternary palaeontology, sedimentology and geochemistry of a vibrocore from the Witch Ground Basin, Central North Sea. *Marine Geology*, 73, 109–23.
- Long, D., Smith, D.E. and Dawson, A.G. (1989a) A Holocene tsunami deposit in eastern Scotland. *Journal of Quaternary Science*, 4, 61–6.

- Long, D., Dawson, A.G. and Smith, D.E. (1989b) Tsunami risk in north-western Europe: a Holocene example. *Terra Nova*, 1, 532–7.
- Loubere, P. and Moss, K. (1986) Late Pliocene climatic change and the onset of Northern Hemisphere glaciation as recorded in the northeast Atlantic Ocean. *Bulletin of the Geological Society of America*, 97, 818–28.
- Lowe, J.J. (1977) Pollen analysis and radiocarbon dating of Lateglacial and Early Flandrian deposits in southern Perthshire. Unpublished PhD thesis, University of Edinburgh.
- Lowe, J.J. (1978) Radiocarbon-dated Lateglacial and early Flandrian pollen profiles from the Teith Valley, Perthshire, Scotland. *Pollen et Spores*, 20, 367–97.
- Lowe, J.J. (1982a) Three Flandrian pollen profiles from the Teith Valley, Perthshire, Scotland. I. Vegetational history. *New Phytologist*, 90, 355–70.
- Lowe, J.J. (1982b) Three Flandrian pollen profiles from the Teith Valley, Perthshire, Scotland. II. Analysis of deteriorated pollen. *New Phytologist*, 90, 371–85.
- Lowe, J.J. (1984) A critical evaluation of pollen-stratigraphic investigations of pre-Late Devensian sites in Scotland. *Quaternary Science Reviews*, 3, 405–32.
- Lowe, J.J. (1991) Stratigraphic resolution and radiocarbon dating of Devensian Lateglacial sediments. In *Radiocarbon Dating: Recent Applications and Future Potential* (ed. J.J. Lowe). Quaternary Proceedings No. 1. Quaternary Research Association, Cambridge, pp. 19–25.
- Lowe, J.J. and Cairns, P. (1989) Palynological investigations: biostratigraphy. In *Glen Roy Area Field Guide* (eds J.D. Peacock and It Cornish). Quaternary Research Association, Cambridge, pp. 10–11.
- Lowe, J.J. and Cairns, P. (1991) New pollen–stratigraphic evidence for the deglaciation and lake drainage chronology of the Glen Roy–Glen Spean area. *Scottish Journal of Geology*, 27, 41–56.
- Lowe, J.J. and Walker, M.J.C. (1976) Radiocarbon dates and deglaciation of Rannoch Moor, Scotland. *Nature*, 246, 632–3.
- Lowe, J.J. and Walker, M.J.C. (1977) The reconstruction of the Lateglacial environment in the southern and eastern Grampian Highlands. In *Studies in the Scottish Lateglacial Environment* (eds J.M. Gray and J.J. Lowe). Pergamon Press, Oxford, pp. 101–18.
- Lowe, J.J. and Walker, M.J.C. (1980) Problems associated with radiocarbon dating the close of the Lateglacial period in the Rannoch Moor area, Scotland. In *Studies in the Lateglacial of North-west Europe* (eds J.J. Lowe, J.M. Gray and J.E. Robinson). Pergamon Press, Oxford, pp. 123–38.
- Lowe, J.J. and Walker, M.J.C. (1981) The early Postglacial environment of Scotland: evidence from a site near Tyndrum, Perthshire. *Boreas*, 10, 281–94.
- Lowe, J.J. and Walker, M.J.C. (1984) *Reconstructing Quaternary Environments*. Longman, Harlow, 389 pp.
- Lowe, J.J. and Walker, M.J.C. (1986a) Lateglacial and early Flandrian environmental history of the Isle of Mull, Inner Hebrides, Scotland. *Transactions of the Royal Society of Edinburgh: Earth Sciences*, 77, 1–20.
- Lowe, J.J. and Walker, M.J.C. (1986b) Flandrian environmental history of the Isle of Mull, Scotland. II. Pollen analytical data from sites in western and northern Mull. *New Phytologist*, 103, 417–36.
- Lowe, J.J. and Walker, M.J.C. (1991) Vegetational history of the Isle of Skye: II. The Flandrian. In *The Quaternary of the Isle of Skye: Field Guide* (eds C.K. Ballantyne, D.I. Benn, J.J. Lowe and M.J.C. Walker). Quaternary Research

Association, Cambridge, pp. 119–42.

Lowe, P.A., Duck, R.W. and McManus, J. (1991) A bathymetric reappraisal of Loch Muick, Aberdeenshire. *Scottish Geographical Magazine*, 107, 110–5.

Lubbock, J. (1868) On the Parallel Roads of Glen Roy. *Quarterly Journal of the Geological Society of London*, 24, 83–93.

Luckman, B.H. (1992) Debris flows and snow avalanche landforms in the Lairig Ghru, Cairngorm Mountains, Scotland. *Geografiska Angler*, 74A, 109–121.

Lucy, W.C. (1886) The terrace gravels of Achnasheen, Ross-shire. *Proceedings of the Cotteswold Naturalists' Field Club*, 8, 118–20.

Lyell, C. (1841a) On the geological evidence of the former existence of glaciers in Forfarshire. *Proceedings of the Geological Society of London*, 3, 337–45.

Lyell, C. (1841b) *Elements of Geology*, 2nd edn. John Murray, London, 2 Vols, 437 and 460 pp.

Lyell, C. (1863) *The Geological Evidences of the Antiquity of Man with Remarks on Theories of the Origin of Species by Variation*. John Murray, London, 520 pp.

McAdam, A.D. (1978) Sand and gravel resources of the Lothian Region of Scotland. *Report of the Institute of Geological Sciences*, No. 78/1, 18 pp.

McAdam, A.D. and Tulloch, W. (1985) *Geology of the Haddington District*. Memoir for 1:50,000 sheet 33W and part of sheet 41. British Geological Survey, HMSO, London, 99 pp.

McCall, J. and Goodlet, G.A. (1952) Indicator stones from the drift of south Midlothian and Peebles. *Transactions of the Edinburgh Geological Society*, 14, 401–9.

McCallien, W.J. (1937a) Late-glacial and early post-glacial Scotland. *Proceedings of the Society of Antiquaries of Scotland*, 71, 174–206.

McCallien, W.J. (1937b) Rhu (Row) Point — a readvance moraine. *Transactions of the Geological Society of Glasgow*, 19, 385–9.

McCallien, W.J. (1938) *Geology of Glasgow and District*. Blackie, London and Glasgow, 190 pp.

McCann, S.B. (1961a) The raised beaches of western Scotland. Unpublished PhD thesis, University of Cambridge.

McCann, S.B. (1961b) Some supposed 'raised beach' deposits at Corran, Loch Linnhe and Loch Etive. *Geological Magazine*, 98, 131–42.

McCann, S.B. (1964) The raised beaches of northeast Islay and western Jura, Argyll. *Transactions of the Institute of British Geographers*, 35, 1–16.

McCann, S.B. (1966a) The limits of the Late-glacial Highland, or Loch Lomond, Readvance along the West Highland seaboard from Oban to Mallaig. *Scottish Journal of Geology*, 2, 84–95.

McCann, S.B. (1966b) The main post-glacial raised shoreline of western Scotland from the Firth of Lorne to Loch Broom. *Transactions of the Institute of British Geographers*, 39, 87–99.

McCann, S.B. (1968) Raised shore platforms in the Western Isles of Scotland. In *Geography at Aberystwyth. Essays Written on the Occasion of the Departmental Jubilee 1917–18 — 1967–68* (eds E.G. Bowen, H. Carter and J.A. Taylor). University of Wales Press, Cardiff, pp. 22–34.

- McCann, S.B. and Richards, A. (1969) The coastal features of the island of Rhum in the Inner Hebrides. *Scottish Journal of Geology*, 5, 15–25.
- MacCulloch, J. (1817) On the Parallel Roads of Glen Roy. *Transactions of the Geological Society of London*, 4, 314–92.
- MacCulloch, J. (1819) *A Description of the Western Islands of Scotland Including the Isle of Man: Comprising an Account of Their Geological Structure; With Remarks on Their Agriculture, Scenery, and Antiquities*, 3 Vols. Archibald Constable and Co., Edinburgh, 587, 589 and 91 pp.
- MacDonald, K (1881) Glacial drift in the Craggie Burn. *Transactions of the Inverness Scientific Society and Field Club*, 2, 47–53.
- MacDonald, K (1903) The Parallel Roads of Glen Roy. *Transactions of the Inverness Scientific Society and Field Club*, 6, 229–51.
- MacDonald, K and Fraser, J. (1881) Excursion to Craggie and Loch Moy. *Transactions of the Inverness Scientific Society and Field Club*, 2, 99–114.
- McEwen, L.J. (1986) River channel planform changes in upland Scotland, with specific reference to climatic fluctuations and land use changes over the past 250 years. Unpublished PhD thesis, University of St Andrews.
- McEwen, U. and Werritty, A. (1988) The hydrology and long-term geomorphic significance of a flash flood in the Cairngorm Mountains, Scotland. *Catena*, 15, 361–77.
- Macfadzean, J. (1883) *The Parallel Roads of Glen Roy: Their Origin and Relation to the Glacial Period and the Deluge*. J. Menzies, Edinburgh, 149 pp.
- McFarlane, J. (1858) Memorandum of shells and a deer's horn found in a cutting of the Forth and Clyde Junction Railway, Dumbartonshire. *Proceedings of the Royal Physical Society of Edinburgh*, 1, 163–5.
- MacGregor, A.R. (1973) *Fife and Angus Geology. An Excursion Guide*. Scottish Academic Press, Edinburgh, 281 pp.
- McGregor, D.F.M. (1974) A quantitative analysis of some fluvioglacial deposits from east-central Scotland. Unpublished PhD thesis, University of Edinburgh.
- Macgregor, M. (1927) The Carstairs district. *Proceedings of the Geologists Association*, 38, 495–9.
- Macgregor, M. and Ritchie, J. (1940) Early glacial remains of reindeer from the Glasgow district. *Proceedings of the Royal Society of Edinburgh*, 60, 322–32.
- Mackereth, F.J. (1965) Chemical investigations of lake sediments and their interpretation. *Proceedings of the Royal Society London*, 61, 295–309.
- Mackereth, F.J. (1966) Some chemical observations on post-glacial lake sediments. *Philosophical Transactions of the Royal Society of London*, B250, 165–213.
- Mackenzie, G.S. (1848) An attempt to classify the phenomena in the glens of Lochaber with those of the Diluvium, or Drift, which covers the face of the country. *Edinburgh New Philosophical Journal*, 44, 1–12.
- Mackie, S.J. (1863) The Parallel Roads of Glen Roy. *Geologist*, 6, 121–33.
- Mackie, W. (1901) Some notes on the distribution of erratics over eastern Moray. *Transactions of the Edinburgh Geological Society*, 8, 91–7.
- Maclaren, C. (1828) Changes on the surface of the globe. *The Scotsman*, 12(918), 25 October, 683.

- Maclaren, C. (1838) *A Sketch of the Geology of Fife and the Lothians Including Detailed Descriptions of Arthur's Seat and Pentland Hills*. Adam and Charles Black, Edinburgh, 235 pp.
- Maclaren, C. (1839) Account of the Parallel Roads of Glen Roy, in Invernesshire. *Edinburgh New Philosophical Journal*, 27, 395–402.
- Maclaren, C. (1840) Discovery of the former existence of glaciers in Scotland especially in the Highlands, by Professor Agassiz. *The Scotsman*, 24(2165), 7 October, p. 3.
- Maclaren, C. (1841) The glacial theory. No. 2. *The Scotsman*, 25(2190), 2 January, 2.
- Maclaren, C. (1842a) The glacial theory of Prof Agassiz. *American Journal of Science and Arts*, 42, 346–65.
- Maclaren, C. (1842b) Striated rocks of Corstorphine Hill. *The Scotsman*, 26(2344), 25 June, 2.
- Maclaren, C. (1845) Glaciers and icebergs in Scotland in ancient times. *The Scotsman*, 29(2685), 1 October, p. 2. (Also in *Edinburgh New Philosophical Journal*, 40, 1846, 125–42; Cox and Nicol, ed. 1869, 103–19.)
- Maclaren, C. (1846) Further evidence of the existence of glaciers in Scotland in ancient times. *The Scotsman*, 30(2798) 31 October, p. 2. (Also in *Edinburgh New Philosophical Journal*, 42, 1847, 25–37; Cox and Nicol, ed. 1869, 120–30.)
- Maclaren, C. (1849) On grooved and striated rocks in the middle region of Scotland. *Edinburgh New Philosophical Journal*, 47, 161–82.
- Maclaren, C. (1866) *A Sketch of the Geology of Fife and the Lothians including Detailed Descriptions of Arthur's Seat and Pentland Hills*, 2nd edn. Adam and Charles Black, Edinburgh, 320 pp.
- Maclean, A.F. (1991) The formation of valley-wall rock glaciers. Unpublished PhD thesis, University of St Andrews.
- McLean, F. (1977) The glacial sediments of a part of east Aberdeenshire. Unpublished PhD thesis, University of Aberdeen.
- McLellan, A.G. (1967a) The distribution, origin and use of sand and gravel deposits in central Lanarkshire. Unpublished PhD thesis, University of Glasgow.
- McLellan, A.G. (1967b) The distribution of sand and gravel deposits in west central Scotland and some problems concerning their utilisation. Monograph, Department of Geography, University of Glasgow, 45 pp.
- McLellan, A.G. (1969) The last glaciation and deglaciation of central Lanarkshire. *Scottish Journal of Geology*, 5, 248–68.
- Macleod, J. (1794) Parish of Harris. In *Statistical Account of Scotland*, Vol. 10 (ed. J. Sinclair). William Creech, Edinburgh, pp. 342–92.
- McManus, J. (1972) Estuarine development and sediment distribution, with particular reference to the Tay. *Proceedings of the Royal Society of Edinburgh*, 71, 97–113.
- McMillan, A.A. and Aitken, A.M. (1981) The sand and gravel resources of the country west of Peterhead, Grampian Region. Description of 1:25,000 Sheet NK04 and parts of NJ94, 95 and NK05, 14 and 15. *Mineral Assessment Report, Institute of Geological Science* No. 58, 99 pp.
- McMillan, A.A. and Merritt, J.W. (1980) A reappraisal of the 'Tertiary' deposits of Buchan, Grampian Region. *Report of the Institute of Geological Sciences*, No. 80/1, 18–25.
- MacPherson, J.B. (1978) Pollen chronology of the Glen Roy–Loch Laggan proglacial lake drainage. *Scottish Journal of Geology*, 14, 125–39.

- MacPherson, J.B. (1980) Environmental change during the Loch Lomond Stadial: evidence from a site in the upper Spey Valley, Scotland. In *Studies in the Lateglacial of North-west Europe* (eds J.J. Lowe, J.M. Gray and J.E. Robinson). Pergamon Press, Oxford, pp. 89–102.
- McRae, F. (1845) Parish of North Uist. In *The New Statistical Account of Scotland*. Vol. 14. Blackwood and Sons, Edinburgh, pp. 159–81.
- MacSween, M.D. (1959) Transhumance in North Skye. *Scottish Geographical Magazine*, 75, 75–88.
- McVean, D.N. (1961) Flora and vegetation of the islands of St Kilda and North Rona in 1958. *Journal of Ecology*, 49, 39–54.
- McVean, D.N. (1963a) The ecology of Scots pine in the Scottish Highlands. *Journal of Ecology*, 18, 671–86.
- McVean, D.N. (1963b) Snow cover in the Cairngorms 1961–62. *Weather*, 18, 339–42.
- McVean, D.N. and Ratcliffe, D.A. (1962) *Plant Communities in the Scottish Highlands. A Study of Scottish Mountain, Moorland and Forest Vegetation*. HMSO, London, 445 pp.
- Madgett, P.A. and Catt, J.A. (1978) Petrography, stratigraphy and weathering of Late Pleistocene tills in East Yorkshire, Lincolnshire and North Norfolk. *Proceedings of the Yorkshire Geological Society*, 42, 55–108.
- Maizels, J.K. (1976) A comparison of Pleistocene and present-day proglacial environments with particular reference to morphology and sedimentology. Unpublished PhD thesis, University of London.
- Maizels, J.K. (1983a) Channel changes, palaeohydrology and deglaciation: evidence from some Lateglacial sandur deposits of north-east Scotland. *Quaternary Studies in Poland*, 4, 171–87.
- Maizels, J.K. (1983b) Proglacial channel systems: change and thresholds for change over long, intermediate and short time-scales. In *Modern and Ancient Fluvial Systems* (eds J.D. Collinson and J. Lewin). Blackwell Scientific, Oxford, International Association of Sedimentologists, Special Publication, 6, 251–66.
- Maizels, J.K. (1983c) Palaeovelocity and palaeo-discharge determination for coarse gravel deposits. In *Background to Palaeohydrology* (ed. K.J. Gregory). John Wiley, Chichester, pp. 101–39.
- Maizels, J.K. (1985) The physical background of the River Dee. In *The Biology and Management of the River Dee* (ed. D. Jenkins). Institute of Terrestrial Ecology, Huntingdon, pp. 7–22.
- Maizels, J.K. (1986) Modelling of palaeohydrologic change during deglaciation. *Geographic Physique et Quaternaire*, 40, 263–77.
- Maizels, J.K. and Aitken, J.F. (1991) Palaeo-hydrological change during deglaciation in upland Britain: a case study from northeast Scotland. In *Temperate Palaeohydrology* (eds L. Starkel, K.J. Gregory and J.B. Thornes). John Wiley, Chichester, pp. 105–145.
- Mangerud, J., Andersen, S.T., Berglund, B.G. and Donner, J.J. (1974) Quaternary stratigraphy of Norden, a proposal for terminology and classification. *Boreas*, 3, 109–28.
- Mangerud, J., Lie, S.E., Fumes, H., Kristiansen, I.L. and Lomo, L. (1984) A Younger Dryas ash bed in western Norway, and its possible correlations with tephra in cores from the Norwegian Sea and the North Atlantic. *Quaternary Research*, 21, 85–104.
- Manley, G. (1949) The snowline in Britain. *Geografiska Annaler*, 31, 179–93.
- Manley, G. (1971) Scotland's semi-permanent snows. *Weather*, 26, 458–71.

- Mannerfelt, C.M. (1945) Några glacialmorfologiska formelement. *Geografiska Annaler*, 27, 1–239.
- Mannerfelt, C.M. (1949) Marginal drainage channels as indicators of the gradients of Quaternary ice-caps. *Geografiska Annaler*, 31, 194–9.
- Mannion, A.M. (1978a) Late Quaternary deposits from Linton Loch, south-east Scotland. I. Absolute and relative pollen analyses of limnic sediments. *Journal of Biogeography*, 5, 193–206.
- Mannion, A.M. (1978b) Late Quaternary deposits from south-east Scotland II. The diatom assemblage of a marl core. *Journal of Biogeography*, 5, 301–18.
- Mannion, A.M. (1978c) Chemical analysis of the basal sediments from Linton Loch, south-east Scotland. *Chemosphere*, 3, 291–6.
- Mannion, A.M. (1978d) *A palaeogeographical study from south-east Scotland*. University of Reading, Department of Geography, Geographical Papers, No. 67, 42 pp.
- Mannion, A.M. (1981a) The diatom assemblage of a marl core from Linton Loch. *Transactions of the Botanical Society of Edinburgh*, 43, 263–70.
- Mannion, A.M. (1981b) Chemical analyses of a marl core from south-east Scotland. *Chemosphere*, 10, 495–504.
- Mannion, A.M. (1982) Palynological evidence for lake-level changes during the Flandrian in Scotland. *Transactions of the Botanical Society of Edinburgh*, 44, 13–8.
- Maranguni■, ■. and Bull, C. (1968) The landslide on Sherman Glacier. In *The Great Alaska Earthquake of 1964 3. Hydrology*. NAS Publication 1603. National Academy of Sciences, Washington, pp. 383–94.
- Marthinussen, M. (1960) Coast and fjord area of Finrunark. In *Geology of Norway* (ed. O. Holdedahl). Norges Geologiske Undersøkelse, 208, 416–29.
- Martin, H.E. and Whalley, W.B. (1987) Rock glaciers. Part 1: rock glacier morphology, classification and distribution. *Progress in Physical Geography*, 11, 260–82.
- Martin, J. (1856) On the northern drift, as it is developed on the southern shore of the Moray Firth. *Edinburgh New Philosophical Journal*, New Series, 4, 209–38.
- Martin, J.H. (1981) Quaternary glaciofluvial deposits in central Scotland: Sedimentology and economic geology. Unpublished PhD thesis, University of Edinburgh.
- Martin, M. (1884) A description of the Western Islands of Scotland *circa* 1695. T.D. Morison, Glasgow, 392 pp.
- Martini, A. (1969) Sudetic tors formed under periglacial conditions. *Biuletyn Peryglacjalny*, 19, 351–69.
- Martinson, D.G., Pisias, N.G., Hays, J.D., Imbrie, J., Moore, T.C. and Shackleton, N.J. (1987) Age dating and the orbital theory of the ice ages: development of a high resolution 0 to 300,000-year chronostratigraphy. *Quaternary Research*, 27, 1–27.
- Mathews, W.H. (1973) Record of two jökulhlaups. *International Association for Scientific Hydrology Publication*, No. 95, 99–110.
- Matthews, J.A., Dawson, A.G. and Shakesby, R.A. (1986) Lake shoreline development, frost weathering and rock platform erosion in an alpine periglacial environment, Jotunheimen, southern Norway. *Boreas*, 15, 33–50.
- May, J. (1981) The glaciation and deglaciation of Upper Nithsdale and Annandale. Unpublished PhD thesis, University of Glasgow.

- Mellor, A. and Wilson, M.J. (1989) Origin and significance of gibbsitic montane soils in Scotland, UK. *Arctic and Alpine Research*, 21, 417–24.
- Melvin, J. (1887) On the Parallel Roads of Lochaber. *Transactions of the Edinburgh Geological Society*, 5, 268–74.
- Menzies, J. (1976) The glacial geomorphology of Glasgow with particular reference to the drumlins. Unpublished PhD thesis, University of Glasgow.
- Menzies, J. (1981) Investigations into the Quaternary deposits and bedrock topography of central Glasgow. *Scottish Journal of Geology*, 17, 155–68.
- Merritt, J.W. (1981) The sand and gravel resources of the country around Ellon, Grampian Region. Description of 1:25,000 resource sheets NJ93 with part of NJ82, 83 and 92, and NK03 and parts of NK02 and 13. *Mineral Assessment Report, Institute of Geological Sciences*, No. 76, 114 pp.
- Merritt, J.W. (1990a) Evidence for events predating the maximum development of the last ice-sheet. In *Beaully to Nairn: Field Guide* (eds C.A. Auton, C.R. Firth and J.W. Merritt). Quaternary Research Association, Cambridge, pp. 1–3.
- Merritt, J.W. (1990b) The lithostratigraphy at Clava and new evidence for the shell-bearing deposits being glacially-transported rafts. In *Beaully to Nairn: Field Guide* (eds C.A. Auton, C.R. Firth and J.W. Merritt). Quaternary Research Association, Cambridge, pp. 24–40.
- Merritt, J.W. (1990c) The Allt Odhar interstadial site, Moy, Inverness-shire: lithostratigraphy. In *Beaully to Nairn: Field Guide* (eds C.A. Auton, C.R. Firth and J.W. Merritt). Quaternary Research Association, Cambridge, pp. 62–9.
- Merritt, J.W. (in press) The high-level marine shell-bearing deposits of Clava, Inverness-shire, and their origin as glacial rafts. *Quaternary Science Reviews*, 11.
- Merritt, J.W. and Auton, C.A. (1990) The Dal-charn interglacial site, near Cawdor, Nairnshire: lithostratigraphy. In *Beaully to Nairn: Field Guide* (eds C.A. Auton, C.R. Firth and J.W. Merritt). Quaternary Research Association, Cambridge, pp. 41–54.
- Merritt, J.W. and Laxton, J.L. (1982) The sand and gravel resources of the country around Callander and Dunblane, Central Region. Description of 1:25,000 sheet NN60 and 70. *Mineral Assessment Report, Institute of Geological Sciences*, No. 121, 100 pp.
- Merritt, J.W. and McMillan, A.A. (1982) The 'Pliocene' gravels of Buchan: a reappraisal. *Scottish Journal of Geology*, 18, 329–32.
- Merritt, J.W., Coope, G.R., Taylor, B.J. and Walker, M.J.C. (1990) Late Devensian organic deposits beneath till in the Teith Valley, Perthshire. *Scottish Journal of Geology*, 26, 15–24.
- Metcalfe, G. (1950) The ecology of the Cairngorms. Part II. The mountain Callunetum. *Journal of Ecology*, 38, 46–74.
- Miall, A.D. (1978) Lithofacies types and vertical profile models in braided river deposits: a summary. In *Fluvial Sedimentology* (ed. A.D. Miall). Memoir of the Canadian Society of Petroleum Geologists, 5, 597–604.
- Miller, G.H., Jull, A.T.T., Linick, T., Sutherland, D., Sejrup, H.P., Brigham, J.K., Bowen, D.Q. and Mangerud, J. (1987) Racemization-derived late Devensian temperature reduction in Scotland. *Nature*, 326, 593–5.
- Miller, H. (1851) On peculiar scratched pebbles and fossil specimens from the boulder clay, and on chalk flints and oolitic fossils from the boulder clay in Caithness. *Report of the British Association for the Advancement of Science for 1850*, 93–6.

Miller, H. (1858) *The Cruise of the Betsy; or, A Summer Ramble Among the Fossiliferous Deposits of the Hebrides. With Rambles of a Geologist; or, Ten Thousand Miles Over the Fossiliferous Deposits of Scotland.* Thomas Constable and Co., Edinburgh, 486 pp.

Miller, H. (1859) *Sketch-book of Popular Geology: Being a Series of Lectures Delivered Before the Philosophical Institution of Edinburgh.* Thomas Constable and Co., Edinburgh, 358 pp.

Miller, H. (1864) *Edinburgh and Its Neighbourhood, Geological and Historical. With The Geology of the Bass Rock.* Adam and Charles Black, Edinburgh, 313pp and 24 pp.

Miller, H. (1884) On boulder-glaciation. *Proceedings of the Royal Physical Society of Edinburgh*, 8, 156–89.

Miller, H. (1887) The Black Rock of Novar. *Transactions of the Inverness Scientific Society and Field Club*, 2, 308–9.

Miller, M. (1987) Laminated sediments in Glen Roy, Inverness-shire. Unpublished MSc Thesis, City of London Polytechnic.

Miller, R., Common, R. and Galloway, R.W. (1954) Stone stripes and other surface features of Tinto Hill. *Geographical Journal*, 120, 216–9.

Milne Home, D. (1840) On the Mid-Lothian and East-Lothian coalfields. *Transactions of the Royal Society of Edinburgh*, 14, 253–358.

Milne Home, D. (1846) Notice of polished and striated rocks recently discovered on Arthur Seat, and in some other places near Edinburgh. *Edinburgh New Philosophical Journal*, 41, 206–8.

Milne Home, D. (1847a) On polished and striated rocks lately discovered on Arthur Seat, and other places near Edinburgh. *Edinburgh New Philosophical Journal*, 42, 154–72.

Milne Home, D. (1847b) On the Parallel Roads of Lochaber with remarks on the change of relative levels of sea and land in Scotland. *Edinburgh New Philosophical Journal*, 43, 339–64.

Milne Home, D. (1849) On the Parallel Roads of Lochaber, with remarks of the change of relative levels of sea and land in Scotland, and on the detrital deposits in that country. *Transactions of the Royal Society of Edinburgh*, 16, 395–418.

Milne Home, D. (1871) *The Estuary of the Forth and Adjoining Districts Viewed Geologically.* Edmonston and Douglas, Edinburgh, 126 pp.

Milne Home, D. (1872a) Scheme for the conservation of remarkable boulders in Scotland, and for the indication of their positions on maps. *Proceedings of the Royal Society of Edinburgh*, 7, 475–88.

Milne Home, D. (1872b) First report by the Committee on Boulders appointed by the Society. *Proceedings of the Royal Society of Edinburgh*, 7, 703–51.

Milne Home, D. (1874a) Notice of a striated boulder lately found in a sand pit at Tynecastle, near Edinburgh. *Transactions of the Edinburgh Geological Society*, 2, 347–50.

Milne Home, D. (1874b) Notice of a striated boulder found at Drylaw, near Linton, East Lothian. *Transactions of the Edinburgh Geological Society*, 2, 350–1.

Milne Home, D. (1876) On the Parallel Roads of Lochaber. *Transactions of the Royal Society of Edinburgh*, 27, 595–649.

Milne Home, D. (1877) Address by the President. *Transactions of the Edinburgh Geological Society*, 3, 98–107.

Milne Home, D. (1878) Fourth report of Boulder Committee. *Proceedings of the Royal Society of Edinburgh*, 9, 660–706.

- Milne Home, D. (1879) Additional memoir on the Parallel Roads of Lochaber. *Transactions of the Royal Society of Edinburgh*, 28, 93–117.
- Milne Home, D. (1880a) Sixth report of the Boulder Committee. *Proceedings of the Royal Society of Edinburgh*, 10, 577–635.
- Milne Home, D. (1880b) Valedictory address. *Transactions of the Edinburgh Geological Society*, 3, 357–64.
- Milne Home, D. (1881a) On the glaciation of the Shetlands. *Geological Magazine*, 8, 205–12.
- Milne Home, D. (1881b) The glaciation of the Shetlands. *Geological Magazine*, Decade 2, 8, 449–54.
- Milne Home, D. (1881c) Notes from a diary in 1862 by D. Milne Home, LLD, of some geological observations made (1) at points along the line of the Caledonian Railway from Carstairs southwards, (2) at Moffat, and (3) at Loch Skene. *Transactions of the Edinburgh Geological Society*, 4, 69–74.
- Milne Home, D. (1881d) Valedictory address for Session 1880–81. *Transactions of the Edinburgh Geological Society*, 4, 104–15.
- Milne Home, D. (1884) Tenth and final report of the Boulder Committee; with Appendix, containing an abstract of the information in the nine annual reports of the Committee; and a summary of the principal points apparently established by the information so received. *Proceedings of the Royal Society of Edinburgh*, 12, 765–926.
- Mitchell, G.F. (1948) Late-glacial deposits in Berwickshire. *New Phytologist*, 47, 262–4.
- Mitchell, G.F., Penny, L.F., Shotton, F.W. and West, R.G. (1973) A correlation of Quaternary deposits in the British Isles. *Geological Society of London, Special Report*, No. 4, 99 pp.
- Mitchell, G.H. and Mykura, W. (1962) *The Geology of the Neighbourhood of Edinburgh*, 3rd edn. Explanation of One-inch Sheet 32. Memoirs of the Geological Survey of Scotland, HMSO, Edinburgh, 159 pp.
- Moar, N.T. (1963) Pollen analysis of four samples from the River Annan, Dumfriesshire. *Transactions and Proceedings of Dumfriesshire and Galloway Natural History and Antiquarian Society*, 40, 133–5.
- Moar, N.T. (1964) The history of the Late Weichselian and Flandrian vegetation in Scotland. Unpublished PhD thesis, University of Cambridge.
- Moar, N.T. (1969a) Two pollen diagrams from the Mainland, Orkney Islands. *New Phytologist*, 68, 201–8.
- Moar, N.T. (1969b) Late Weichselian and Flandrian pollen diagrams from south-west Scotland. *New Phytologist*, 68, 433–67.
- Moore, J.C. (1850) Notice of the occurrence of marine shells in the till. *Quarterly Journal of the Geological Society of London*, 6, 388–9.
- Moore, I.C. and Gribble, C.D. (1980) The suitability of aggregates from weathered Peterhead granites. *Quarterly Journal of Engineering Geology*, 13, 305–13.
- Moore, P.D. (1977) Stratigraphy and pollen analysis of Claish Moss, north-west Scotland: significance for the origin of surface pools and forest history. *Journal of Ecology*, 65, 375–97.
- Moran, S.R. (1971) Glaciotectonic structures in drift. In *Till A Symposium* (ed. R.P. Goldthwait). Ohio State University Press, Ohio, pp. 127–48.
- Moran, S.R., Clayton, L., Hooke, R. Le B., Fenton, M.M. and Andriashek, L.D. (1980) Glacier-bed landforms of the Prairie region of North America. *Journal of Glaciology*, 25, 457–76.

Morrison, A. (1980) *Early Man in Britain and Ireland An Introduction to Palaeolithic and Mesolithic Cultures*. Croom Helm, London, 209 pp.

Morrison, A. and Bonsall, C. (1989) The early post-glacial settlement of Scotland: a review. In *The Mesolithic in Europe* (ed. C. Bonsall). John Donald, Edinburgh, pp. 134–55.

Morrison, J., Smith, D.E., Cullingford, R.A. and Jones, R.L. (1981) The culmination of the main postglacial transgression in the Firth of Tay area, Scotland. *Proceedings of the Geologists' Association*, 92, 197–209.

Morrison, W. (1888) Terraces at Achnasheen, Ross-shire. *Transactions of the Edinburgh Geological Society*, 5, 275–9.

Mottershead, D.N. (1978) High altitude solifluction and post-glacial vegetation, Arkle, Sutherland. *Transactions of the Botanical Society of Edinburgh*, 43, 17–24.

Munro, M. (1986) *Geology of the Country around Aberdeen*. Memoir of the British Geological Survey, 1:50, 000 Sheet 77 (Scotland), HMSO, London, 124 pp.

Munthe, H. (1897) On the interglacial submergence of Great Britain. *Bulletin of the Geological Institute of Upsala*, 13, 369–411.

Murdoch, W. (1975) The geomorphology and glacial deposits of the area around Aberdeen. In *Quaternary Studies in North East Scotland* (ed. A.M.D. Gemmell). Department of Geography, University of Aberdeen, Aberdeen, pp. 14–8.

Murdoch, W.M. (1977) The glaciation and de-glaciation of south-east Aberdeenshire. Unpublished PhD thesis, University of Aberdeen.

Murray, J. and Pullar, L (1910) *Bathymetrical Survey of the Scottish Freshwater Lochs*, 6 Vols. Challenger Office, Edinburgh.

Myers, A.S. (1872) On blocks and boulders lying loose on, and imbedded in, the rocks which form the seaboard of Benholm Parish, Kincardineshire, between high and low water-marks. *Transactions of the Edinburgh Geological Society*, 2, 141–4.

Mykura, W. (1976) *Orkney and Shetland*. British Regional Geology. HMSO, Edinburgh, 149 pp.

Mykura, W. and Phemister, J. (1976) *The Geology of Western Shetland*. Explanation of One-inch Geological Sheet Western Shetland; comprising Sheet 127 and parts of 125, 126 and 128. Memoirs of the Geological Survey of Great Britain: Scotland, HMSO, Edinburgh, 304 pp.

Mykura, W., Ross, D.L. and May, F. (1978) Sand and gravel resources of the Highland Region. *Report of the Institute of Geological Sciences*, 78/8, 60 pp.

Nesje, A (1989) The geographical and altitudinal distribution of block fields in southern Norway and its significance to the Pleistocene ice sheets. *Zeitschrift für Geomorphologie*, NF, Supplementband, 72, 41–53.

Nesje, A. and Sejrup, H.P. (1988) Late Weichselian/Devensian ice sheets in the North Sea and adjacent areas. *Boreas*, 17, 371–84.

Newey, W.W. (1965a) Post-glacial vegetational and climatic changes in part of south-east Scotland as indicated by the pollen analysis and stratigraphy of some of its peat and lacustrine deposits. Unpublished PhD thesis, University of Edinburgh.

Newey, W.W. (1965b) Pollen analyses from south-east Scotland. *Transactions of the Botanical Society of Edinburgh*, 40, 424–34.

- Newey, W.W. (1966) Pollen analysis of sub-carse peats of the Forth Valley. *Transactions of the Institute of British Geographers*, 39, 53–9.
- Newey, W.W. (1970) Pollen analysis of Late-Weichselian deposits at Corstorphine, Edinburgh. *New Phytologist*, 69, 1167–77.
- Nichols, H. (1967) Vegetational change, shoreline displacement and the human factor in the late Quaternary history of south-west Scotland. *Transactions of the Royal Society of Edinburgh*, 67, 145–87.
- Nicol, J. (1844) *Guide to the Geology of Scotland*. Oliver and Boyd, Edinburgh, 272 pp.
- Nicol, J. (1848) Observations on the recent formations in the vicinity of Edinburgh. *Quarterly Journal of the Geological Society of London*, 5, 20–5.
- Nicol, J. (1852) On the geology of the southern portion of the peninsula of Cantyre, Argyllshire. *Quarterly Journal of the Geological Society of London*, 8, 406–25.
- Nicol, J. (1869) On the origin of the Parallel Roads of Glen Roy. *Quarterly Journal of the Geological Society of London*, 25, 282–91.
- Nicol, J. (1872) How the Parallel Roads of Glen Roy were formed. *Quarterly Journal of the Geological Society of London*, 28, 237–42.
- Ockelmann, W.K. (1958) The zoology of east Greenland: marine lamellibranchiata. *Meddelelser om Grönland*, 122, 1–256.
- Odhner, N.H. (1915) Die Molluskenfauna des Eisfjordes. *Kungelige Svenska Vetenskap Akademiens Handlingar*, 54, 1–274.
- Oeschger, H. and Langway, C.C. Jr. (1989) *The Environmental Record in Glaciers and Ice Sheets*. John Wiley, Chichester, 401 pp.
- Ogilvie, A.G. (1914) The physical geography of the entrance to the Inverness Firth. *Scottish Geographical Magazine*, 30, 21–35.
- Ogilvie, A.G. (1923) The physiography of the Moray Firth coast. *Transactions of the Royal Society of Edinburgh*, 53, 377–404.
- Oilier, C.D. (1969) *Weathering*. Oliver and Boyd, Edinburgh, 304 pp.
- Olsson, I.U. (1979) A warning against radiocarbon dating of samples containing little carbon. *Boreas*, 8, 203–7.
- Olsson, I.U. (1986) Radiocarbon dating. In *Handbook of Holocene Palaeoecology and Palaeohydrology* (ed. B.E. Berglund). John Wiley, Chichester, pp. 273–312.
- Omand, D. (1973) The glaciation of Caithness. Unpublished MSc thesis, University of Strathclyde.
- O'Sullivan, P.E. (1970) The ecological history of the Forest of Abernethy, Inverness-shire. Unpublished PhD thesis, New University of Ulster.
- O'Sullivan, P.E. (1973a) Pollen analysis of mor humus layers from a native Scots Pine ecosystem, interpreted with surface samples. *Oikos*, 24, 259–72.
- O'Sullivan, P.E. (1973b) Land-use changes in the Forest of Abernethy, Inverness-shire (1750–1900 AD). *Scottish Geographical Magazine*, 89, 95–106.

- O'Sullivan, P.E. (1974a) Two Flandrian pollen diagrams from the east-central Highlands of Scotland. *Pollen et Spores*, 16, 33–57.
- O'Sullivan, P.E. (1974b) Radiocarbon-dating and prehistoric forest clearance on Speyside (east-central Highlands of Scotland). *Proceedings of the Prehistoric Society*, 40, 206–8.
- O'Sullivan, P.E. (1975) Early and Middle-Flandrian pollen zonation in the Eastern Highlands of Scotland. *Boreas*, 4, 197–207.
- O'Sullivan, P.E. (1976) Pollen analysis and radiocarbon dating of a core from Loch Pityoulish, eastern Highlands of Scotland. *Journal of Biogeography*, 3, 293–302.
- O'Sullivan, P.E. (1977) Vegetation history and the native pinewoods. In *Native Pinewoods of Scotland* (eds R.G.H. Bunce and J.N.R. Jeffries). Institute of Terrestrial Ecology, Cambridge, pp. 60–9.
- Otlet, R.L. and Walker, A.J. (1979) Harwell radiocarbon measurements III. *Radiocarbon*, 21, 358–83.
- Outcalt, S.I. and Benedict, J.B. (1965) Photo-interpretation of two types of rock glacier in the Colorado Front Range, USA. *Journal of Glaciology*, 5, 849–56.
- Overpeck, J.T., Peterson, L.C., Kipp, N., Imbrie, J. and Rind, D. (1989) Climate change in the circum-North Atlantic region during the last deglaciation. *Nature*, 338, 553–7.
- Page, N. (1972) On the age of the Hoxnian Interglacial. *Geological Journal*, 8, 129–42.
- Paine, A. (1982) Origin and development of blockfields in the Cairngorm Mountains. Unpublished BA dissertation, University of Cambridge.
- Palmer, J. and Radley, J. (1961) Gritstone tors of the English Pennines. *Zeitschrift für Geomorphologie*, 5, 37–52.
- Panton, G.A. (1873) Note on a striated and waterworn cliff at Blackford Hill, near Edinburgh, and on a sandhill there. *Transactions of the Edinburgh Geological Society*, 2, 238–42.
- Panzer, W. (1928) Zur Oberflächengestalt der Äusseren Hebriden, Beobachtungen und Fragen. *Zeitschrift für Geomorphologie*, 3, 167–203.
- Paterson, I.B. (1974) The supposed Perth Read-vance in the Perth district. *Scottish Journal of Geology*, 10, 53–66.
- Paterson, I.B. (1977) Sand and gravel resources of the Tayside region. *Report of the Institute of Geological Sciences*, 77/6, 30 pp.
- Paterson, I.B. (1981) The Quaternary geology of the Buddon Ness area of Tayside, Scotland. *Report of the Institute of Geological Sciences*, 81/1, 9 pp.
- Paterson, I.B., Armstrong, M. and Browne, M.A.E. (1981) Quaternary estuarine deposits in the Tay–Earn area, Scotland. *Report of the Institute of Geological Sciences*, 81/7, 35 pp.
- Paterson, I.B., Hall, I.H.S. and Stephenson, D. (1990) *Geology of the Greenock District*. Memoir of the British Geological Survey, 1:50,000 Geological Sheet 30W and part of Sheet 29E (Scotland), HMSO, London, 69 pp.
- Paterson, W.S.B. (1981) *The Physics of Glaciers*. 2nd edn. Pergamon Press, Oxford, 380 pp.
- Paul, M.A. (1983) The supraglacial landsystem. In *Glacial Geology. An Introduction for Engineers and Earth Scientists* (ed. N. Eyles). Oxford, Pergamon Press, 71–90.
- Payne, A.J. and Sugden, D.E. (1990a) Climate and the initiation of maritime ice sheets. *Annals of Glaciology*, 14, 232–7.

- Payne, A.J. and Sugden, D.E. (1990b) Topography and ice sheet growth. *Earth Surface Processes and Landforms*, 15, 625–39.
- Peach, A.M. (1909) Boulder distribution from Lennoxton, Scotland. *Geological Magazine*, 46, 26–31.
- Peach, B.N. and Horne, J. (1879) The glaciation of the Shetland Islands. *Quarterly Journal of the Geological Society of London*, 35, 778–811.
- Peach, B.N. and Horne, J. (1880) The glaciation of the Orkney Islands. *Quarterly Journal of the Geological Society of London*, 36, 648–63.
- Peach, B.N. and Horne, J. (1881a) The glaciation of the Shetland Isles. *Geological Magazine*, 8, 65–9.
- Peach, B.N. and Horne, J. (1881b) The glaciation of the Shetland Isles. *Geological Magazine*, 8, 364–72.
- Peach, B.N. and Horne, J. (1881c) The glaciation of Caithness. *Proceedings of the Royal Society of Edinburgh*, 6, 316–52.
- Peach, B.N. and Horne, J. (1893a) The ice-shed in the north-west Highlands during the maximum glaciation. *Report of the British Association for the Advancement of Science for 1892*, 720.
- Peach, B.N. and Horne, J. (1893b) On a bone cave in the Cambrian limestone in Assynt, Sutherlandshire. *Report of the British Association for the Advancement of Science for 1892*, 720–1.
- Peach, B.N. and Horne, J. (1893c) On the occurrence of shelly boulder clay in North Ronaldshay, Orkney. *Transactions of the Edinburgh Geological Society*, 6, 309–13.
- Peach, B.N. and Horne, J. (1910) The Scottish lochs in relation to the geological features of the country. In *Bathymetrical Survey of the Scottish Freshwater Lochs. 1.* (eds J. Murray and L. Pullar). Challenger Office, Edinburgh, pp. 439–513.
- Peach, B.N. and Horne, J. (1917) The bone-cave in the valley of Allt nan Uamh (Burn of the Caves), near Inchnadamph, Assynt, Sutherlandshire. *Proceedings of the Royal Society of Edinburgh*, 37, 327–49.
- Peach, B.N. and Horne, J. (1930) *Chapters on the Geology of Scotland*. Oxford University Press, London, pp. 1–21.
- Peach, B.N., Clough, C.T., Hinxman, L.W., Wilson, J.S.G., Crampton, C.B., Maufe, H.B. and Bailey, E.B. (1910a) *The Geology of the Neighbourhood of Edinburgh*, 2nd edn. Explanation of Sheet 32, with part of 31. Memoirs of the Geological Survey of Scotland, HMSO, Edinburgh, 445 pp.
- Peach, B.N., Horne, J., Woodward, H.B., Clough, C.T., Harker, A. and Wedd, C.B. (1910b) *The Geology of Glenelg Lochalsh and south-east part of Skye*. Explanation of One-inch Map 71. Memoirs of the Geological Survey of Scotland, HMSO, Edinburgh, 206 pp.
- Peach, B.N., Wilson, J.S.G., Hill, J.B., Bailey, E.B. and Graham, G.W. (1911) *The Geology of Knapdale, Jura and north Kintyre*. Explanation of Sheet 28, with parts of 27 and 29. Memoirs of the Geological Survey of Scotland, HMSO, Edinburgh, 149 pp.
- Peach, B.N., Gunn, W., Clough, C.T., Hinxman, L.W., Crampton, C.B. and Anderson, E.M. (1912) *The Geology of Ben Wyvis, Cam Chuinneag Inchbae and the Surrounding Country, including Garve, Evanton, Alness and Kincardine*. Explanation of Sheet 93. Memoirs of the Geological Survey of Scotland, HMSO, Edinburgh, 189 pp.
- Peach, B.N., Horne, J., Gunn, W., Clough, C.T., Greenly, E., Hinxman, L.W., Cadell, H.M., Pocock, T.I. and Crampton, C.B. (1913a) *The Geology of the Fannich Mountains and the Country around Upper Loch Maree and Strath Broom*. Explanation of Sheet 92. Memoirs of the Geological Survey of Scotland, HMSO, Edinburgh, 127 pp.

- Peach, B.N., Horne, J., Hinxman, L.W., Crampton, C.B., Anderson, E.M. and Carruthers, R.G. (1913b) *The Geology of Central Rossshire*. Explanation of Sheet 82. Memoirs of the Geological Survey of Scotland, HMSO, Edinburgh, 114pp.
- Peach, C.W. (1858) On the discovery of calcareous zoophytes in the boulder clay of Caithness, N.B. *Transactions of the Royal Physical Society of Edinburgh*, 1, 18.
- Peach, C.W. (1859) On the discovery of nul-lipores (calcareous plants) and sponges in the boulder clay of Caithness. *Transactions of the Royal Physical Society of Edinburgh*, 2, 98–101.
- Peach, C.W. (1860) On the chalk flints of the Island of Stroma and vicinity of John o' Groats, in the County of Caithness. *Proceedings of the Royal Physical Society of Edinburgh*, 2, 159–61.
- Peach, C.W. (1863a) On the fossils of the boulder-clay of Caithness, N.B. *Proceedings of the Royal Physical Society of Edinburgh*, 3, 38–42.
- Peach, C.W. (1863b) Further observations on the boulder clay of Caithness, with an additional list of fossils. *Proceedings of the Royal Physical Society of Edinburgh*, 3, 396–403.
- Peach, C.W. (1863c) On the fossils of the boulder-clay in Caithness. *Report of the British Association for the Advancement of Science for 1862*, 83–4.
- Peach, C.W. (1865a) Traces of glacial drift in the Shetland Islands. *Report of the British Association for the Advancement of Science for 1864*, 59–61.
- Peach, C.W. (1865b) Additional list of fossils from the boulder-clay of Caithness. *Report of the British Association for the Advancement of Science for 1864*, 61–3.
- Peach, C.W. (1867) Further observations on, and additions to, the list of fossils found in the boulder-clay of Caithness, N.B. *Report of the British Association for the Advancement of Science for 1866*, 64–5.
- Peacock, J.D. (1966) Note on the drift sequence near Portsoy, Banffshire. *Scottish Journal of Geology*, 2, 35–7.
- Peacock, J.D. (1967) West Highland morainic features aligned in the direction of ice flow. *Scottish Journal of Geology*, 3, 372–3.
- Peacock, J.D. (1970a) Some aspects of the glacial geology of west Invernessshire. *Bulletin of the Geological Survey of Great Britain*, 33, 43–56.
- Peacock, J.D. (1970b) Glacial geology of the Lochy–Spean area. *Bulletin of the Geological Survey of Great Britain*, 31, 185–98.
- Peacock, J.D. (1971a) A re-interpretation of the coastal deposits of Banffshire and their place in the Late-glacial history of Scotland. *Bulletin of the Geological Survey of Great Britain*, 37, 81–9.
- Peacock, J.D. (1971b) Terminal features of the Creran glacier of Loch Lomond Readvance age in western Benderloch, Argyll, and their significance in the late-glacial history of the Loch Linnhe area. *Scottish Journal of Geology*, 7, 349–56.
- Peacock, J.D. (1971c) Marine shell radiocarbon dates and the chronology of deglaciation in western Scotland. *Nature Physical Science*, 230, 43–5.
- Peacock, J.D. (1974a) Borehole evidence for late-and post-glacial events in the Cromarty Firth, Scotland. *Bulletin of the Geological Survey of Great Britain*, 8, 55–67.
- Peacock, J.D. (1974b) Islay shelly till with *Palliolium groenlandicum*. *Scottish Journal of Geology*, 10, 159–60.

- Peacock, J.D. (1975a) Palaeoclimatic significance of ice-movement directions of Loch Lomond Readvance glaciers in the Glen Moriston and Glen Affric areas, northern Scotland. *Bulletin of the Geological Survey of Great Britain*, 49, 39–42.
- Peacock, J.D. (1975b) Depositional environment of glacial deposits at Clava, north-east Scotland. *Bulletin of the Geological Survey of Great Britain*, 49, 31–7.
- Peacock, J.D. (1975c) Scottish late and post-glacial marine deposits. In *Quaternary Studies in North East Scotland* (ed. A.M.D. Gemmell). Department of Geography, University of Aberdeen, Aberdeen, pp. 45–8.
- Peacock, J.D. (1975d) Landslip associated with glacier ice. *Scottish Journal of Geology*, 11, 363–5.
- Peacock, J.D. (1976) Quaternary features of Rhum, Inner Hebrides. *Quaternary Newsletter*, 20, 1–4.
- Peacock, J.D. (1977a) Subsurface deposits of Inverness and the inner Cromarty Firth. In *The Moray Firth Area Geological Studies* (ed. G. Gill). The Inverness Field Club, Inverness, pp. 103–4.
- Peacock, J.D. (1977b) South Shian. In *Western Scotland I* (ed. R.J. Price). INQUA X Congress 1977. Guide book for excursion A12. Geo Abstracts, Norwich, 38.
- Peacock, J.D. (1980a) Glaciation of the Outer Hebrides: a reply. *Scottish Journal of Geology*, 16, 87–9.
- Peacock, J.D. (1980b) An overlooked record of interglacial or interstadial sites in north-east Scotland. *Quaternary Newsletter*, 32, 14–5.
- Peacock, J.D. (1981a) Report and excursion guide — Lewis and Harris. *Quaternary Newsletter*, 35, 45–54.
- Peacock, J.D. (1981b) Scottish Late-glacial marine deposits and their environmental significance. In *The Quaternary in Britain* (eds J. Neale and J. Flenley). Pergamon Press, Oxford, pp. 222–36.
- Peacock, J.D. (1983a) A model for Scottish interstadial marine palaeotemperature 13,000 to 11,000 BP. *Boreas*, 12, 73–82.
- Peacock, J.D. (1983b) Quaternary geology of the Inner Hebrides. *Proceedings of the Royal Society of Edinburgh*, 83B, 83–9.
- Peacock, J.D. (1984a) Quaternary geology of the Outer Hebrides. *Report of the British Geological Survey*, 16(2), 26 pp.
- Peacock, J.D. (1984b) Errolston. In *Buchan Field Guide* (ed. A.M. Hall). Quaternary Research Association, Cambridge, pp. 108–9.
- Peacock, J.D. (1985) Marine bivalve bores above present high tide level in a limestone cliff near Ord, southern Skye. *Scottish Journal of Geology*, 21, 209–12.
- Peacock, J.D. (1986) Alluvial fans and an outwash fan in upper Glen Roy, Lochaber. *Scottish Journal of Geology*, 22, 347–66.
- Peacock, J.D. (1987) A reassessment of the probable Loch Lomond Stade marine molluscan fauna at Garvel Park, Greenock. *Scottish Journal of Geology*, 23, 93–103.
- Peacock, J.D. (1989a) Survey of Quaternary landforms and deposits of Glen Roy, Glen Gloy and Glen Spean, Lochaber District, and recommendations for conservation. Nature Conservancy Council, Peterborough, CSD Report, No. 923, 59 pp.
- Peacock, J.D. (1989b) Marine molluscs and Late Quaternary environmental studies with particular reference to the Late-glacial period in north-west Europe: a review. *Quaternary Science Reviews*, 8, 179–92.

- Peacock, J.D. (1991) Glacial deposits of the Hebridean region. In *Glacial Deposits in Great Britain and Ireland* (eds J. Ehlers, P.L. Gibbard and J. Rose). A.A. Balkema, Rotterdam, pp. 109–19.
- Peacock, J.D. and Cornish, R. (1989) *Field Guide to the Glen Roy Area* Quaternary Research Association, Cambridge, 69 pp.
- Peacock, J.D. and Harkness, D.D. (1990) Radiocarbon ages and the full-glacial to Holocene transition in seas adjacent to Scotland and southern Scandinavia: a review. *Transactions of the Royal Society of Edinburgh: Earth Sciences*, 81, 385–96.
- Peacock, J.D. and Ross, D.L. (1978) Anomalous glacial erratics in the southern part of the Outer Hebrides. *Scottish Journal of Geology*, 14, 262.
- Peacock, J.D., Berridge, N.G., Harris, A.L. and May, F. (1968) *The Geology of the Elgin District*. Explanation of Sheet 95. Memoirs of the Geological Survey of Scotland, HMSO, Edinburgh, 165 pp.
- Peacock, J.D., Austin, W.E.N., Selby, I., Graham, D.K., Harland, R. and Wilkinson, I.P. (1992) Late Devensian and Flandrian palaeoenvironmental changes on the Scottish continental shelf west of the Outer Hebrides. *Journal of Quaternary Science*, 7, 145–61.
- Peacock, J.D., Graham, D.K., Robinson, J.E. and Wilkinson, I. (1977) Evolution and chronology of Lateglacial marine environments at Lochgilphead, Scotland. In *Studies in the Scottish Lateglacial Environment* (eds J.M. Gray and J.J. Lowe). Pergamon Press, Oxford, pp. 89–100.
- Peacock, J.D., Graham, D.K. and Wilkinson, I.P. (1978) Late-glacial and post-glacial marine environments at Ardyne, Scotland, and their significance in the interpretation of the history of the Clyde sea area. *Report of the Institute of Geological Sciences*, 78/17, 25 pp.
- Peacock, J.D., Graham, D.K. and Gregory, D.M. (1980) Late and post-glacial marine environments in part of the inner Cromarty Firth. *Report of the Institute of Geological Sciences*, 80/7, 11 pp.
- Peacock, J.D., Harkness, D.D., Housley, R.A., Little, J.A. and Paul, M.A. (1989) Radiocarbon ages for a glaciomarine bed associated with the maximum of the Loch Lomond Readvance in west Benderloch, Argyll. *Scottish Journal of Geology*, 25, 69–79.
- Pears, N.V. (1964) The present tree-line in the Cairngorm Mountains of Scotland and its relation to former tree-lines. Unpublished PhD thesis, University of London.
- Pears, N.V. (1967) Present tree-lines of the Cairngorm Mountains, Scotland. *Journal of Ecology*, 55, 815–29.
- Pears, N.V. (1968) Post-glacial tree-lines of the Cairngorm Mountains, Scotland. *Transactions of the Botanical Society of Edinburgh*, 40, 361–94.
- Pears, N.V. (1970) Post-glacial tree-lines of the Cairngorm Mountains, Scotland: some modifications based on radiocarbon dating. *Transactions of the Botanical Society of Edinburgh*, 40, 536–44.
- Pears, N.V. (1972) Interpretation problems in the study of tree-line fluctuations. In *Research Papers in Forest Meteorology, an Aberystwyth Symposium* (ed. J.A. Taylor). University College of Wales, Aberystwyth, pp. 31–45.
- Pears, N.V. (1975a) Radiocarbon dating of peat macrofossils in the Cairngorm Mountains. *Transactions of the Botanical Society of Edinburgh*, 42, 255–60.
- Pears, N.V. (1975b) The growth rate of hill peats in Scotland. *Geologiska Foreningens i Stockholm Forhandlingar*, 97, 265–70.

- Pears, N.V. (1988) Pine stumps, radiocarbon dates and stable isotope analysis in the Cairngorm Mountains: some observations. *Review of Palaeobotany and Palynology*, 54, 175–80.
- Peglar, S. (1979) A radiocarbon-dated pollen diagram from Loch of Winless, Caithness, north-east Scotland. *New Phytologist*, 82, 245–63.
- Pennant, T. (1771) *A Tour in Scotland 1769*. John Monk, Chester, 316 pp.
- Pennington, W. (1975a) Climatic changes in Britain, as interpreted from lake sediments, between 15,000 and 10,000 years ago. In *Palaeolimnology of Lake Biwa and the Japanese Pleistocene*, Vol. 3 (ed. S. Horie). Kyoto University, Institute of Palaeolimnology, pp. 536–69.
- Pennington, W. (1975b) A chronostratigraphic comparison of Late-Weichselian and Late-Devensian subdivisions, illustrated by two radiocarbon-dated profiles from western Britain. *Boreas*, 4, 157–71.
- Pennington, W. (1975c) An application of principal components analysis to the zonation of two Late-Devensian profiles. II. Interpretation of the numerical analyses in terms of Late-Devensian (Late-Weichselian) environmental history. *New Phytologist*, 75, 441–53.
- Pennington, W. (1977a) Lake sediments and the Lateglacial environment in northern Scotland. In *Studies in the Scottish Lateglacial Environment* (eds J.M. Gray and J.J. Lowe). Pergamon Press, Oxford, pp. 119–41.
- Pennington, W. (1977b) The Late Devensian flora and vegetation of Britain. *Philosophical Transactions of the Royal Society*, B280, 247–71.
- Pennington, W. (1978) Quaternary geology. In *The Geology of the Lake District* (ed. F.M. Moseley). Yorkshire Geological Society, Leeds, Occasional Publication No. 3, pp. 207–25.
- Pennington, W. (1980) Modern pollen samples from West Greenland and the interpretation of pollen data from the British late-glacial (Late Devensian). *New Phytologist*, 84, 171–201.
- Pennington, W. (1986) Lags in adjustment of vegetation to climate caused by the pace of soil development: evidence from Britain. *Vegetatio*, 67, 105–18.
- Pennington, W. and Sackin, M.J. (1975) An application of principal components analysis to the zonation of two Late-Devensian profiles. I. Numerical analysis. *New Phytologist*, 75, 419–41.
- Pennington, W., Haworth, E.Y., Bonny, A.P. and Lishman, J.P. (1972) Lake sediments in northern Scotland. *Philosophical Transactions of the Royal Society of London*, B264, 191–294.
- Perry, I. and Moore, P.D. (1987) Dutch elm disease as an analogue to Neolithic elm decline. *Nature*, 326, 72–3.
- Petch, C.P. (1933) The vegetation of St Kilda. *Journal of Ecology*, 21, 92–100.
- Phemister, J. (1960) *Scotland the northern Highlands*, 3rd edn. British Regional Geology. HMSO, Edinburgh, 104 pp.
- Phemister, T.C. and Simpson, S. (1949) Pleistocene deep-weathering in north-east Scotland. *Nature*, 164, 318–9.
- Phillips, L. (1974) Vegetational history of the Ipswichian/Eemian interglacial in Britain and continental Europe. *New Phytologist*, 73, 589–604.
- Phillips, L. (1976) Pleistocene vegetational history and geology in Norfolk. *Philosophical Transactions of the Royal Society of London*, B275, 215–86.
- Piggot, C.D. and Walters, S.M. (1954) On the interpretation of the discontinuous distribution shown by certain British species of open habitats. *Journal of Ecology*, 42, 95–116.

- Pilcher, J. (1991) Radiocarbon dating for the Quaternary scientist. In *Radiocarbon Dating: Recent Applications and Future Potential* (ed. J.J. Lowe). Quaternary Proceedings No. 1. Quaternary Research Association, Cambridge, pp. 27–33.
- Poore, M.E.D. and Robertson, V.C. (1948) The vegetation of St Kilda in 1948. *Journal of Ecology*, 37, 82–99.
- Powell, R.D. (1983) Glacial-marine sedimentation processes and lithofacies of temperate tidewater glaciers, Glacier Bay, Alaska. In *Glacial-marine Sedimentation* (ed. B.F. Molnia). Plenum Press, New York, pp. 185–232.
- Preece, R.C., Bennett, K.D. and Robinson, J.E. (1984) The biostratigraphy of an early Flandrian tufa at Inchrory, Glen Avon, Banffshire. *Scottish Journal of Geology*, 20, 143–59.
- Prell, W.L., Imbrie, J., Martinson, D.G., Morley, J.J., Pisias, N.G., Shackleton, N.J. and Streeter, H.F. (1986) Graphic correlation of oxygen isotope stratigraphy application to the late Quaternary. *Palaeoceanography*, 1, 137–62.
- Prestwich, J. (1838a) Observations on the Ichthyolites of Gamrie in Banffshire, and on the accompanying red conglomerates and sandstones. *Proceedings of the Geological Society*, 2, 187–8.
- Prestwich, J. (1838b) On some recent elevations of the coast of Banffshire; and on a deposit of clay, formerly considered to be Lias. *Proceedings of the Geological Society*, 2, 545.
- Prestwich, J. (1840) On the structure of the neighbourhood of Gamrie, Banffshire, particularly on the deposit containing Ichthyolites. *Transactions of the Geological Society*, 2nd Series, 5, 139–48.
- Prestwich, J. (1880) On the origin of the Parallel Roads of Lochaber and their bearing on other phenomena of the glacial period. *Philosophical Transactions of the Royal Society of London*, 170, 663–726.
- Price, R.J. (1960) Glacial meltwater channels in the upper Tweed drainage basin. *Geographical Journal*, 126, 483–9.
- Price, R.J. (1963a) A glacial meltwater drainage system in Peeblesshire, Scotland. *Scottish Geographical Magazine*, 79, 133–41.
- Price, R.J. (1963b) The glaciation of a part of Peeblesshire. *Transactions of the Edinburgh Geological Society*, 19, 323–48.
- Price, R.J. (1973) *Glacial and Fluvio-glacial Landforms*. Oliver and Boyd, Edinburgh, 242 pp.
- Price, R.J. (1975) The glaciation of west-central Scotland — a review. *Scottish Geographical Magazine*, 91, 134–45.
- Price, R.J. (1976) *Highland Landforms*. Highlands and Islands Development Board, Inverness, 109 pp.
- Price, R.J. (1980) Geomorphological implications of environmental changes during the last 30 000 years in central Scotland. *Zeitschrift für Geomorphologie*, NF, Supplementband, 36, 74–83.
- Price, R.J. (1983) *Scotland's Environment During the Last 30,000 years*. Scottish Academic Press, Edinburgh, 224 pp.
- Price, R.J., Browne, M.A.E. and Jardine, W.G. (1980) Introduction. The Quaternary of the Glasgow region. In *Field Guide to the Glasgow Region* (ed. W.G. Jardine). Quaternary Research Association, Cambridge, pp. 3–9.
- Pringle, J. (1936) Ammonites from a transported mass of Jurassic clay at Plaidy, Aberdeenshire, with the description of a new species. *Transactions of the Edinburgh Geological Society*, 13, 308–10.
- Pye, K. and Paine, A.D.M. (1984) Nature and source of aeolian deposits near the summit of Ben Arkle, north-west Scotland. *Geologie en Mijnbouw*, 63, pp. 13–18.
- Rae, D.A. (1976) Aspects of glaciation in Orkney. Unpublished PhD thesis, University of Liverpool.

- Ragg, J.M. (1960) *The Soils of the Country round Kelso and Lauder*. Sheets 25 and 26. Memoirs of the Soil Survey of Great Britain: Scotland, HMSO, Edinburgh, 201 pp.
- Ragg, J.M. and Bibby, J.S. (1966) Frost weathering and solifluction products in southern Scotland. *Geografiska Annaler*, 48, 12–23.
- Ragg, J.M. and Futtly, D.W. (1967) *The Soils of the Country round Haddington and Eyemouth*. Sheets 33, 34 and part of 41. Memoirs of the Soil Survey of Great Britain: Scotland. HMSO, Edinburgh, 310 pp.
- Ramsay, A.G. (1878) *The Physical Geology and Geography of Great Britain*, 5th edn. Edward Stanford, London, 639 pp.
- Rapson, S.C. (1985) Minimum age of corrie moraine ridges in the Cairngorm Mountains, Scotland. *Boreas*, 14, 155–9.
- Rapson, S.C. (1990) The age of the Cairngorm coire moraines. *Scottish Mountaineering Club Journal*, 34(181), 457–63.
- Ratcliffe, D.A. (1977) *A Nature Conservation Review*, 2 vols. Cambridge University Press, Cambridge, 401pp and 320 pp.
- Read, H.H. (1923) *The Geology of the Country round Banff Huntly and Turiff*. Lower Banffshire and north-west Aberdeenshire. Explanation of Sheets 86 and 96. Memoirs of the Geological Survey of Scotland, HMSO, Edinburgh, 240 pp.
- Read, H.H., Bremner, A., Campbell, R. and Gibb, A.W. (1923) Records of the occurrence of boulders of Norwegian rocks in Aberdeenshire and Banffshire. *Transactions of the Edinburgh Geological Society*, 11, 230–1.
- Reade, T.M. (1896) The present aspects of glacial geology. *Geological Magazine*, Decade 4, 3, 542–51.
- Reed, W.J. (1988) The vertical dimensions of the last ice sheet and Late Quaternary glacial events in northern Ross-shire. Unpublished PhD thesis, University of St Andrews.
- Reid, J.R. (1969) Effects of a debris slide on 'Sioux Glacier', south-central Alaska. *Journal of Glaciology*, 8, 353–67.
- Renberg, I. and Hellberg, T. (1982) The pH history of lakes in south-western Sweden, as calculated from the subfossil flora of the sediments. *Ambio*, 11, 30–3.
- Rendell, H., Worsley, P., Green, F. and Parks, D. (1991) Thermoluminescence dating of the Chelford Interstadial. *Earth and Planetary Science Letters*, 103, 182–9.
- Renwick, J. (1895) Notes on an excursion to Glen Fruin, with a description of the moraine on its south side. *Transactions of the Geological Society of Glasgow*, 10, 96–104.
- Renwick, J. and Gregory, J.W. (1907) The Loch Lomond moraines. *Transactions of the Geological Society of Glasgow*, 13, 45–55.
- Rhind, D.W. (1965) Evidence of sea level changes along the coast north of Berwick. *Proceedings of the Berwickshire Naturalists' Club*, 37, 10–15.
- Rhind, D.W. (1972) The buried valley of the lower Tweed. *Transactions of the Natural History Society of Northumberland, Durham and Newcastle upon Tyne*, 4, 159–64.
- Rhind, W. (1836) *Excursions Illustrative of the Geology and Natural History of the Environs of Edinburgh*, 2nd edn. Maclachlan and Stewart, Edinburgh, 72 pp.
- Rice, R.J. (1959) The glacial deposits of the Lunan and Brothock valleys in south-eastern Angus. *Transactions of Edinburgh Geological Society*, 17, 241–59.

- Rice, R.J. (1961) The glacial deposits at St Fort in north-eastern Fife: a re-examination. *Transactions of the Edinburgh Geological Society*, 18, 113–23.
- Rice, R.J. (1962) The morphology of the Angus coastal lowlands. *Scottish Geographical Magazine*, 78, 5–14.
- Richardson, R. (1877a) On phenomena of glaciation exhibited by the rocks of Corstorphine Hill, near Edinburgh. *Transactions of the Edinburgh Geological Society*, 3, 31–40.
- Richardson, R. (1877b) Notice of glaciated rock surfaces (displaying corals) near Bathgate, recently quarried away. *Transactions of the Edinburgh Geological Society*, 3, 108–9.
- Richardson, R. (1882) On the discovery of arctic shells at high levels in Scotland. *Transactions of the Edinburgh Geological Society*, 4, 179–200.
- Richey, J.E. (1961) *Scotland: the Tertiary Volcanic Districts*, 3rd edn. British Regional Geology. HMSO, Edinburgh, 120 pp.
- Richey, J.E. and Thomas, H.H. (1930) *The Geology of Ardnamurchan, North-west Mull and Coll*. A description of Sheet 51 and part of Sheet 52 of the Geological Map. Memoirs of the Geological Survey of Scotland, HMSO, Edinburgh, 393 pp.
- Richey, J.E., Anderson, E.M., MacGregor, A.G., Bailey, E.B., Wilson, G.V., Burnett, G.A. and Eyles, V.A. (1930) *The Geology of North Ayrshire*, 2nd edn. Explanation of One-inch Sheet 22. Memoirs of the Geological Survey of Scotland, HMSO, Edinburgh, 417 pp.
- Rind, D., Peteet, D. and Kukla, G. (1989) Can Milankovitch orbital variations initiate the growth of ice sheets in a general circulation model? *Journal of Geophysical Research*, 94, 12, 851–71.
- Ringrose, P.S. (1987) Fault activity and palaeoseismicity during Quaternary time in Scotland. Unpublished PhD thesis, University of Strathclyde.
- Ringrose, P.S. (1989a) Palaeoseismic(?) liquefaction event in Late Quaternary lake sediment at Glen Roy, Scotland. *Terra Nova*, 1, 57–62.
- Ringrose, P.S. (1989b) Recent fault movement and palaeoseismicity in western Scotland. *Tectonophysics*, 163, 305–14.
- Ringrose, P.S. (1989c) Evidence for palaeoseismicity: evidence from lake sediments. In *Glen Roy Area: Field Guide* (eds J.D. Peacock and R. Cornish). Quaternary Research Association, Cambridge, pp. 8–9.
- Ritchie, J. (1928) The fauna of Scotland during the Ice Age. *Proceedings of the Royal Physical Society of Edinburgh*, 21, 185–94.
- Ritchie, W. (1966) The post-glacial rise in sea-level and coastal changes in the Uists. *Transactions of the Institute of British Geographers*, 39, 79–86.
- Ritchie, W. (1979) Machair development and chronology of the Uists and adjacent islands. *Proceedings of the Royal Society of Edinburgh*, B77, 107–22.
- Ritchie, W. (1985) Inter-tidal and sub-tidal organic deposits and sea-level changes in the Uists, Outer Hebrides. *Scottish Journal of Geology*, 21, 161–76.
- Ritchie, W. (1986) Anomalous east coast machair in the Uists, Outer Hebrides. In *Essays for Professor R.E.H. Mellor* (eds W. Ritchie, J.C. Stone and A.S. Mather). Department of Geography, University of Aberdeen, Aberdeen, pp. 383–9.

- Ritchie, W. and Mather, A. (1970) *The Beaches of Lewis and Harris*. Department of Geography, University of Aberdeen, Aberdeen, 113 pp.
- Robertson, D. (1868) On clay beds of Ross Arden, on the banks of Loch Lomond. *Proceedings of the Natural History Society of Glasgow*, 1, 92–3.
- Robertson, D. (1875) Notes on the recent Ostracoda and Foraminifera of the Firth of Clyde, with some remarks on the distribution of Mollusca. *Transactions of the Geological Society of Glasgow*, 5, 112–53.
- Robertson, D. (1883) On the post-Tertiary beds of Garvel Park, Greenock. *Transactions of the Geological Society of Glasgow*, 7, 1–37.
- Robertson-Rintoul, M.S.E. (1986a) River plan-form, soil stratigraphy and the temporal and palaeoenvironmental significance of terraced valley fill deposits in upland Scotland. Unpublished PhD thesis, University of Hull.
- Robertson-Rintoul, M.S.E. (1986b) A quantitative soil–stratigraphic approach to the correlation and dating of post-glacial river terraces in Glen Feshie, western Cairngorms. *Earth Surface Processes and Landforms*, 11, 605–17.
- Robin, G. de Q. (1983) *The Climatic Record in Polar Ice Sheets*. Cambridge University Press, Cambridge, 212 pp.
- Robinson, D.E. (1981) The vegetational and land use history of the west of Arran, Scotland. Unpublished PhD thesis, University of Glasgow.
- Robinson, D.E. (1983) Possible Mesolithic activity in the west of Arran. *Glasgow Archaeological Journal*, 10, 1–6.
- Robinson, D.E. (1987) Investigations into the Aukhorn peat mounds, Keiss, Caithness: pollen, plant macrofossil and charcoal analyses. *New Phytologist*, 106, 185–200.
- Robinson, D.E. and Dickson, J.H. (1988) Vegetational history and land use: a radiocarbon-dated pollen diagram from Machrie Moor, Arran, Scotland. *New Phytologist*, 109, 223–36.
- Robinson, G., Peterson, J.A. and Anderson, P.M. (1971) Trend surface analysis of corrie altitudes in Scotland. *Scottish Geographical Magazine*, 87, 142–6.
- Robinson, M. (1977) Glacial limits, sea-level changes and vegetational development in part of Wester Ross. Unpublished PhD thesis, University of Edinburgh.
- Robinson, M. (1982) Diatom analysis of early Flandrian lagoon sediments from East Lothian, Scotland. *Journal of Biogeography*, 9, 207–22.
- Robinson, M. (1987a) The Loch Lomond Read-vance in Torridon and Applecross. In *Wester Ross Field Guide* (eds C.K. Ballantyne and D.G. Sutherland). Quaternary Research Association, Cambridge, pp. 123–7.
- Robinson, M. (1987b) North-west Applecross peninsula. In *Wester Ross Field Guide* (eds C.K. Ballantyne and D.G. Sutherland). Quaternary Research Association, Cambridge, pp. 144–50.
- Robinson, M. (1987c) Glassnock [NG 8670 4610] and Druim Dubh [NC 8845 4720]. In *Wester Ross Field Guide* (eds C.K. Ballantyne and D.G. Sutherland). Quaternary Research Association, Cambridge, 154–64.
- Robinson, M. and Ballantyne, C.K. (1979) Evidence for a glacial readvance pre-dating the Loch Lomond Advance in Wester Ross. *Scottish Journal of Geology*, 15, 271–7.
- Rogers, H.D. (1862) On the origin of the Parallel Roads of Lochaber (Glen Roy), Scotland. *Proceedings of the Royal Institution of Great Britain*, 3, 341–5.
- Rolfe, W.D.I. (1966) Woolly rhinoceros from the Scottish Pleistocene. *Scottish Journal of Geology*, 2, 253–8.

- Romans, J.C.C. (1977) Stratigraphy of buried soil at Teindland Forest, Scotland. *Nature*, 268, 622–3.
- Romans, J.C.C. and Robertson, L (1974) Some aspects of the genesis of alpine and upland soils in the British Isles. In *Soil Microscopy: Proceedings of the Fourth International Working-Meeting on Soil Micromorphology, Department of Geography, Queen's University, Kingston, Ontario, Canada, 27–31, August 1973* (ed. A.K. Rutherford). Limestone Press, Kingston, Ontario, pp. 498–510.
- Romans, J.C.C., Stevens, J.H. and Robertson, L (1966) Alpine soils of north-east Scotland. *Journal of Soil Science*, 17, 184–99.
- Rose, J. (1975) Raised beach gravels and ice wedge casts at Old Kilpatrick, near Glasgow. *Scottish Journal of Geology*, 11, 15–21.
- Rose, J. (1980a) Geilston. In *Glasgow Region Field Guide* (ed. W.G. Jardine). Quaternary Research Association, Glasgow, pp. 25–9.
- Rose, J. (1980b) Ardmore Point. In *Glasgow Region Field Guide* (ed. W.G. Jardine). Quaternary Research Association, Glasgow, pp. 29–31.
- Rose, J. (1980c) Rhu. In *Glasgow Region Field Guide* (ed. W.G. Jardine). Quaternary Research Association, Glasgow, pp. 31–7.
- Rose, J. (1980d) The western side of Loch Lomond. In *Glasgow Region Field Guide* (ed. W.G. Jardine). Quaternary Research Association, Glasgow, pp. 37–9.
- Rose, J. (1980e) Gartness. In *Glasgow Region Field Guide* (ed. W.G. Jardine). Quaternary Research Association, Glasgow, pp. 46–9.
- Rose, J. (1980) Ross Priory and the southern shore of Loch Lomond. In *Glasgow Region Field Guide* (ed. W.G. Jardine). Quaternary Research Association, Glasgow, pp. 49–51.
- Rose, J. (1981) Field guide to the Quaternary geology of the south-eastern part of the Loch Lomond basin. *Proceedings of the Geological Society of Glasgow 1980–81*, 1–19.
- Rose, J. (1987) Drumlins as part of a glacier bed continuum. In *Drumlin Symposium* (eds J. Menzies and J. Rose). Proceedings of the Drumlin Symposium, First International Conference on Geomorphology, Manchester, 1618 September 1985. A.A. Balkema, Rotterdam, pp. 103–16.
- Rose, J. (1989) Stadial type sections in the British Quaternary. In *Quaternary Type Sections: Imagination or Reality?* (eds J. Rose and C. Schliichter). A.A. Balkema, Rotterdam, pp. 45–67.
- Rose, J. and Letzer, J.M. (1975) Drumlin measurements: a test of the reliability of data derived from 1:25000 scale topographic maps. *Geological Magazine*, 112, 361–71.
- Rose, J. and Letzer, J.M. (1977) Superimposed drumlins. *Journal of Glaciology*, 18, 471–80.
- Rose, J. and McLellan, A.G. (1967) Landforms of eastern Perthshire. *Scottish Field Studies Association Annual Report for 1966*, 14–30.
- Rose, J., Lowe, J.J. and Switsur, R. (1988) A radiocarbon date on plant detritus beneath till from the type area of the Loch Lomond Readvance. *Scottish Journal of Geology*, 24, 113–24.
- Ross, G. (1927) The superficial deposits in the Clyde Valley at Bonnington, 1¹/₂ miles south of Lanark. Geological Survey of Great Britain. *Summary of Progress of the Geological Survey of Great Britain and the Museum of Practical Geology for the Year of 1926*. HMSO, London, pp. 158–60.

- Ross, T. (1796) Parish of Kilmanivaig. In *The Statistical Account of Scotland*, Vol. 17 (ed. Sir J. Sinclair). William Creech, Edinburgh, 543–50.
- Reothlisberger, H. and Lang, H. (1987) Glacial hydrology. In *Glaciofluvial Sediment Transfer. An Alpine Perspective* (eds A.M. Gurnell and M.J. Clark). John Wiley, Chichester, pp. 207–84.
- Round, F.E. (1957) The late-glacial and post-glacial diatom succession in the Kentmere valley deposit. I. Introduction, methods and flora. *New phytologist*, 56, 98–126.
- Round, F.E. (1961) Diatoms from Estwaite. *New Phytologist*, 60, 43–59.
- Royal Commission On The Ancient And Historical Monuments Of Scotland (1980) *Argyll: an inventory of the ancient monuments Vol 3: Mull Tiree, Coll and northern Argyll*: (excluding the early medieval and later monuments of Iona). HMSO, London, 281 pp.
- Ruddiman, W.F. and Kutzbach, J.E. (1990) Late Cenozoic plateau uplift and climate change. *Transactions of the Royal Society of Edinburgh: Earth Sciences*, 81, 301–14.
- Ruddiman, W.F. and McIntyre, A. (1973) Time-transgressive deglacial retreat of polar waters from the North Atlantic. *Quaternary Research*, 3, 117–30.
- Ruddiman, W.F. and McIntyre, A. (1976) Northeast Atlantic palaeoclimatic changes over the past 600,000 years. *Geological Society of America Memoir*, 145, 111–46.
- Ruddiman, W.F. and McIntyre, A. (1979) Warmth of the subpolar North Atlantic Ocean during Northern Hemisphere ice-sheet growth. *Science*, 204, 173–5.
- Ruddiman, W.F. and McIntyre, A. (1981a) The mode and mechanism of the last deglaciation: oceanic evidence. *Quaternary Research*, 16, 125–34.
- Ruddiman, W.F. and McIntyre, A. (1981b) The North Atlantic during the last deglaciation. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 35, 145–214.
- Ruddiman, W.F. and Raymo, M.E. (1988) Northern Hemisphere climate regimes during the past 3Ma: possible tectonic connections. *Philosophical Transactions of the Royal Society of London*, B318, 411–30.
- Ruddiman, W.F., Sancetta, C.D. and McIntyre, A. (1977) Glacial/interglacial response rate of subpolar North Atlantic waters to climatic change: the record in oceanic sediments. *Philosophical Transactions of the Royal Society of London*, B280, 119–42.
- Ruddiman, W.F., McIntyre, A., Niebler-Hunt, V. and Durazzi, J.T. (1980) Oceanic evidence for the mechanism of rapid northern hemisphere glaciation. *Quaternary Research*, 13, 33–64.
- Ruddiman, W.F., Raymo, M.E. and McIntyre, A. (1986) Matuyama 41,000-year cycles: North Atlantic Ocean and Northern Hemisphere ice sheets. *Earth and Planetary Science Letters*, 80, 117–29.
- Ruddiman, W.F., Raymo, M.E., Martinson, D.G., Clement, B.M. and Backman, J. (1989) Pleistocene evolution: Northern Hemisphere ice sheets and North Atlantic Ocean. *Palaeoceanography*, 4, 353–412.
- Rudwick, M. (1962) Hutton and Werner compared George Greenough's geological tour of Scotland in 1805. *The British Journal for the History of Science*, 1, 117–35.
- Rudwick, M. (1974) Darwin and Glen Roy: a 'great failure' in scientific method? *Studies in the History and Philosophy of Science*, 5, 97–185.

- Russell, A.J. (1989) A comparison of two recent jökulhlaups from an ice-dammed lake, Sondre Stromqord, West Greenland *Journal of Glaciology*, 35, 157–62.
- Rust, B.R. (1978) Depositional models for braided alluvium. In *Fluvial Sedimentology* (ed. A.D. Miall). Memoir of the Canadian Society of Petroleum Geologists, 5, 605–25.
- Ryder, J.M. (1971) The stratigraphy and morphology of paraglacial alluvial fans in south-central British Columbia. *Canadian Journal of Earth Sciences*, 8, 279–98.
- Ryder, J.M. and Church, M. (1986) The Lillooet terraces of Fraser River: a palaeoenvironmental enquiry. *Canadian Journal of Earth Sciences*, 23, 869–84.
- Ryder, R.H. (1968) Geomorphological mapping of the Isle of Rhum. Unpublished MSc thesis, University of Glasgow.
- Ryder, R.H. (1975) Rhum: geomorphology. 1:20,000 map published by the Department of Geography, University of Glasgow.
- Ryder, R.H. and McCann, S.B. (1971) Periglacial phenomena on the island of Rhum in the Inner Hebrides. *Scottish Journal of Geology*, 7, 293–303.
- Rymer, L. (1974) The palaeoecology and historical ecology of the Parish of North Knapdale, Argyllshire. Unpublished PhD thesis, University of Cambridge.
- Rymer, L. (1977) A late-glacial and early post-glacial pollen diagram from Drimnagall, North Knapdale, Argyllshire. *New Phytologist*, 79, 211–21.
- Sale, C.J. (1970) Cirque distribution in Great Britain. A statistical analysis of variations in elevation, aspect and density. Unpublished MSc thesis, University College London.
- Salter, J.W. (1857) On the Cretaceous fossils of Aberdeenshire. *Quarterly Journal of the Geological Society of London*, 13, 83–7.
- Saltzman, B. and Maasch, K.A. (1990) A first-order global model of late Cenozoic climatic change. *Transactions of the Royal Society of Edinburgh: Earth Sciences*, 81, 315–25.
- Samuelsson, G. (1910) Scottish peat mosses. A contribution to the knowledge of the late-Quaternary vegetation and climate of northwestern Europe. *Bulletin of the Geological Institution of the University of Upsala*, 10, 197–260.
- Saunderson, H.C. (1977) The sliding bed facies in esker sands and gravels: a criterion for full-pipe (tunnel) flow? *Sedimentology*, 24, 623–38.
- Sauramo, M. (1923) Studies on the Quaternary varve sediments in southern Finland. *Bulletin of the Commission for Geology in Finland*, 60, 1–164.
- Saville, A. and Bridgland, D. (1992) Exploratory work at Den of Boddam, a flint extraction site on the Buchan Gravels near Peterhead, northeast Scotland. *Quaternary Newsletter*, 66, 4–13.
- Saxton, W.I. and Hopwood, A.T. (1919) On a Scandinavian erratic from the Orkneys. *Geological Magazine*, 56, 273–4.
- Sejrup, H.P., Aarseth, I., Ellingsen, K.L., Reither, E., Jansen, E., Wylie, R., Bent, A., Brigham-Grette, J., Larsen, E. and Stoker, M. (1987) Quaternary stratigraphy of the Fladen area, central North Sea: a multidisciplinary study. *Journal of Quaternary Science*, 2, 35–58.
- Selby, I.C. (1987) Glaciated shorelines in Barra and Vatersay. *Quaternary Newsletter*, 53, 16–22.

- Selby, I.C. (1989) Quaternary geology of the Hebridean continental margin. Unpublished PhD thesis, University of Nottingham.
- Shackleton, N.J. (1987) Oxygen isotopes, ice volume and sea level. *Quaternary Science Reviews*, 6, 183–90.
- Shackleton, N.J. and Pisias, N.G. (1985) Atmospheric carbon dioxide, orbital forcing and climate. In *The Carbon Cycle and Atmospheric CO₂: Natural Variations Archean to Present* (eds E.T. Sundquist and W.S. Broecker). American Geophysical Union, Geophysical Monograph, 32, 303–17.
- Shackleton, N.J. and Opdyke, N.D. (1973) Oxygen isotope and palaeomagnetic stratigraphy of equatorial Pacific core V28–238: oxygen isotope temperatures and ice volumes on a 10⁵ and 10⁶ year scale. *Quaternary Research*, 3, 39–55.
- Shackleton, N.J., Hall, M.A., Line, J. and Ceng Shuxi (1983) Carbon isotope data in core V19–30 confirm reduced carbon dioxide concentration in the ice age atmosphere. *Nature*, 306, 319–22.
- Shackleton, N.J., Backman, J., Zimmerman, H., Kent, D.V., Hall, M.A., Roberts, D.G., Schnitker, D., Baldauf, J.G., Despraires, A., Homrighausen, R., Huddlestun, P., Keene, J.B., Kaltenback, A.J., Krumslek, K.A.O., Morton, A.C., Murray, J.W. and Westberg-Smith, J. (1984) Oxygen isotope calibration of the onset of ice-rafting and history of glaciation in the North Atlantic region. *Nature*, 307, 620–3.
- Shackleton, N.J., Berger, A. and Peltier, W.R. (1990) An alternative astronomical calibration of the lower Pleistocene timescale based on ODP Site 677. *Transactions of the Royal Society of Edinburgh: Earth Sciences*, 81, 251–61.
- Shakesby, R.A. (1978) Dispersal of glacial erratics from Lennoxton, Stirlingshire. *Scottish Journal of Geology*, 14, 81–6.
- Shakesby, R.A. (1979) The pattern of glacial dispersal and comminution of rock fragments and mineral grains from two point sources. *Zeitschrift für Gletscherkunde und Glazialgeologie*, 15, 31–45.
- Shakesby, R.A. (1981) The application of trend surface analysis to directional data. *Geological Magazine*, 118, 39–48.
- Shakesby, R.A. (1985) Geomorphological effects of jökulhlaups and ice-dammed lakes, Jotunheimen, Norway. *Norsk Geografisk Tidsskrift*, 39, 1–16.
- Shakesby, R.A. and Matthews, J.A. (1987) Frost weathering and rock platform erosion on periglacial lake shorelines: a test of a hypothesis. *Boreas*, 67, 197–203.
- Sharp, M. (1985) Sedimentation and stratigraphy at Eyjabakkajökull — an Icelandic surging glacier. *Quaternary research*, 24, 268–84.
- Sharp, M., Dowdeswell, J.A. and Gemmell, J.C. (1989a) Reconstructing past glacier dynamics and erosion from glacial geomorphic evidence: Snowdon, North Wales. *Journal of Quaternary Science*, 4, 115–30.
- Sharp, M., Gemmell, J.C. and Tison, J.-L. (1989b) Structure and stability of the former subglacial drainage system of the Glacier de Tsanfleuron, Switzerland. *Earth Surface Processes and Landforms*, 14, 119–34.
- Sharpe, D.R. (1987) Glaciomarine fans built within and marginal to the Champlain Sea. In *Quaternary of the Ottawa Region and Guides for Day Excursions* (ed. R.J. Fulton). (XII INQUA Congress). National Research Council of Canada, pp. 63–74.
- Sharpe, D.R. and Shaw, J. (1989) Erosion of bedrock by subglacial meltwater, Cantley, Quebec. *Geological Society of America Bulletin*, 101, 1011–20.
- Shaw, J. (1988) Subglacial erosional marks, Wilton Creek, Ontario. *Canadian Journal of Earth Sciences*, 25, 1256–67.
- Shaw, J., Kvill, D. and Rains, B. (1989) Drumlins and catastrophic subglacial floods. *Sedimentary Geology*, 62, 177–202.

- Shaw, R. (1977) Periglacial features in part of the south-east Grampian Highlands of Scotland. Unpublished PhD thesis, University of Edinburgh.
- Shennan, I. (1989) Holocene crustal movements and sea-level change in Great Britain. *Journal of Quaternary Science*, 4, 77–89.
- Shotton, F.W. (1953) The Pleistocene deposits of the area between Coventry, Rugby and Leamington and their bearing on the topographic development of the Midlands. *Philosophical Transactions of the Royal Society of London*, B237, 209–60.
- Shotton, F.W. and Williams, R.E.G. (1971) Birmingham University radiocarbon dates V. *Radiocarbon*, 13, 141–56.
- Shotton, F.W. and Williams, R.E.G. (1973) Birmingham University radiocarbon dates VII. *Radiocarbon*, 15, 51–468.
- Shotton, F.W., Blundell, D.J. and Williams, R.E.G. (1968) Birmingham University radiocarbon dates II. *Radiocarbon*, 10, 200–6.
- Shotton, F.W., Blundell, D.J. and Williams, R.E.G. (1970) Birmingham University radiocarbon dates IV. *Radiocarbon*, 12, 385–99.
- Shreve, R.L. (1966) Sherman landslide, Alaska. *Science*, 154, 1639–43.
- Shreve, R.L. (1968a) The Blackhawk Landslide. *Geological Society of America Special Paper*, 108, 47 pp.
- Shreve, R.L. (1968b) Leakage and fluidization in air-layer lubricated avalanches. *Geological Society of America Bulletin*, 79, 653–8.
- Shreve, R.L. (1972) Movement of water in glaciers. *Journal of Glaciology*, 11, 205–14.
- Shreve, R.L. (1985a) Esker characteristics in terms of glacier physics, Katandin esker system, Maine. *Geological Society of America Bulletin*, 96, 639–46.
- Shreve, R.L. (1985b) Late Wisconsin ice-surface profile calculated from esker paths and types, Katandin Esker System, Maine. *Quaternary Research*, 23, 27–37.
- Siegenthaller, U. and Eicher, U. (1986) Stable oxygen and carbon isotope analyses. In *Handbook of Holocene Palaeoecology and Palaeohydrology* (ed. B.E. Berglund). John Wiley, Chichester, pp. 407–22.
- Simpson, I.M. and West, R.G. (1958) On the stratigraphy and palaeobotany of a late-Pleistocene organic deposit at Chelford, Cheshire. *New Phytologist*, 57, 239–50.
- Simpson, J.B. (1928) In *Summary of Progress of the Geological Survey of Great Britain and the Museum of Practical Geology for the Year 1927*. Part 1. Geological Survey of Great Britain. HMSO, London, pp. 59–60.
- Simpson, J.B. (1929) The valley glaciation of Loch Lomond. *Report of the British Association for the Advancement of Science for 1928*, 547–8.
- Simpson, J.B. (1933) The late-glacial readvance moraines of the Highland border west of the River Tay. *Transactions of the Royal Society of Edinburgh*, 57, 633–45.
- Simpson, S. (1948) The glacial deposits of Tullos and Bay of Nigg, Aberdeen. *Transactions of the Royal Society of Edinburgh*, 61, 687–97.
- Simpson, S. (1955) A re-interpretation of the drifts of north-east Scotland. *Transactions of the Edinburgh Geological Society*, 16, 189–99.

- Sinclair, W. (1911) The relationship between the raised beach and the boulder clay of the west coast of Kintyre. *Transactions of the Geological Society of Glasgow*, 14, 70.
- Sissons, J.B. (1958a) The deglaciation of part of East Lothian. *Transactions of the Institute of British Geographers*, 25, 59–77.
- Sissons, J.B. (1958b) Supposed ice-dammed lakes in Britain with particular reference to the Eddleston Valley, southern Scotland. *Geografiska Annaler*, 40, 159–87.
- Sissons, J.B. (1960) Some aspects of glacial drainage channels in Britain. Part I. *Scottish Geographical Magazine*, 76, 131–46.
- Sissons, J.B. (1961a) Some aspects of glacial drainage channels in Britain. Part II. *Scottish Geographical Magazine*, 77, 15–36.
- Sissons, J.B. (1961b) A subglacial drainage system by the Tinto Hills, Lanarkshire. *Transactions of the Edinburgh Geological Society*, 18, 175–93.
- Sissons, J.B. (1961c) The central and eastern parts of the Lammermuir–Stranraer moraine. *Geological Magazine*, 98, 380–92.
- Sissons, J.B. (1963a) The Perth Readvance in Central Scotland. Part I. *Scottish Geographical Magazine*, 79, 151–63.
- Sissons, J.B. (1963b) The glacial drainage system around Carlops, Peeblesshire. *Transactions of the Institute of British Geographers*, 32, 95–111.
- Sissons, J.B. (1964) The Perth Readvance in central Scotland. Part II. *Scottish Geographical Magazine*, 80, 28–36.
- Sissons, J.B. (1965) Quaternary. In *The Geology of Scotland* (ed. G.Y. Craig). Oliver and Boyd, Edinburgh, pp. 467–503.
- Sissons, J.B. (1966) Relative sea-level changes between 10,300 and 8300 BP in part of the Carse of Stirling. *Transactions of the Institute of British Geographers*, 39, 19–29.
- Sissons, J.B. (1967a) *The Evolution of Scotland's Scenery*. Oliver and Boyd, Edinburgh, 259 pp.
- Sissons, J.B. (1967b) Glacial stages and radiocarbon dates in Scotland. *Scottish Journal of Geology*, 3, 375–81.
- Sissons, J.B. (1969) Drift stratigraphy and buried morphological features in the Grangemouth–Falkirk–Airth area, central Scotland. *Transactions of the Institute of British Geographers*, 48, 19–50.
- Sissons, J.B. (1971) The geomorphology of central Edinburgh. *Scottish Geographical Magazine*, 87, 185–96.
- Sissons, J.B. (1972a) The last glaciers in part of the south-east Grampians. *Scottish Geographical Magazine*, 88, 168–81.
- Sissons, J.B. (1972b) Dislocation and non-uniform uplift of raised shorelines in the western part of the Forth Valley. *Transactions of the Institute of British Geographers*, 55, 149–59.
- Sissons, J.B. (1973a) Hypotheses of deglaciation in the eastern Grampians, Scotland. *Scottish Journal of Geology*, 9, 96.
- Sissons, J.B. (1973b) Delimiting the Loch Lomond Readvance in the eastern Grampians. *Scottish Geographical Magazine*, 89, 138–9.
- Sissons, J.B. (1974a) Glacial readvances in Scotland. In *Problems of the Deglaciation of Scotland* (eds C.J. Caseldine and W.A. Mitchell). Journal of St Andrews Geographers Special Publication, 1, 5–15.

- Sissons, J.B. (1974b) A lateglacial ice-cap in the central Grampians. *Transactions of the Institute of British Geographers*, 62, 95–114.
- Sissons, J.B. (1974c) The Quaternary in Scotland: a review. *Scottish Journal of Geology*, 10, 311–37.
- Sissons, J.B. (1974d) Lateglacial marine erosion in Scotland. *Boreas*, 3, 41–8.
- Sissons, J.B. (1975a) A fossil rock glacier in Wester Ross. *Scottish Journal of Geology*, 11, 83–6.
- Sissons, J.B. (1975b) The Loch Lomond Readvance in the south-east Grampians. In *Quaternary Studies in North East Scotland* (ed. A.M.D. Gemmell). Department of Geography, University of Aberdeen, Aberdeen, pp. 23–9.
- Sissons, J.B. (1975c) The geomorphology of East Lothian. In *The Geology of the Lothians and South East Scotland An Excursion Guide* (eds G.Y. Craig and P.McL.D. Duff). Scottish Academic Press, Edinburgh, pp. 131–43.
- Sissons, J.B. (1976a) Lateglacial marine erosion in south-east Scotland. *Scottish Geographical Magazine*, 92, 17–29.
- Sissons, J.B. (1976b) *The Geomorphology of the British Isles: Scotland*. Methuen, London, 150 pp.
- Sissons, J.B. (1976c) A remarkable protalus rampart complex in Wester Ross. *Scottish Geographical Magazine*, 92, 182–90.
- Sissons, J.B. (1976d) A fossil rock glacier in Wester Ross. Reply to W.B. Whalley. *Scottish Journal of Geology*, 12, 178–9.
- Sissons, J.B. (1976e) The geomorphology of the upper Forth Valley. *Forth Valley Naturalist and Historian*, 1, 5–20.
- Sissons, J.B. (1977a) The Loch Lomond Readvance in the northern mainland of Scotland. In *Studies in the Scottish Lateglacial Environment* (eds J.M. Gray and J.J. Lowe). Pergamon Press, Oxford, pp. 45–59.
- Sissons, J.B. (1977b) Former ice-dammed lakes in Glen Moriston, Invernessshire, and their significance in upland Britain. *Transactions of the Institute of British Geographers*, NS 2, 224–42.
- Sissons, J.B. (1977c) The Loch Lomond Readvance in southern Skye and some palaeoclimatic implications. *Scottish Journal of Geology*, 13, 23–36.
- Sissons, J.B. (ed.) (1977d) *The Scottish Highlands*. INQUA X Congress 1977. Guidebook for Excursions A11 and C11. Geo Abstracts, Norwich, 51 pp.
- Sissons, J.B.L. (1977e) *Glen Roy National Nature Reserve: The Parallel Roads of Glen Roy*. Nature Conservancy Council, London, 12 pp.
- Sissons, J.B. (1978) The Parallel Roads of Glen Roy and adjacent glens, Scotland. *Boreas* 7, 229–44.
- Sissons, J.B. (1979a) The later lakes and associated fluvial terraces of Glen Roy, Glen Spean and vicinity. *Transactions of the Institute of British Geographers*, NS 4, 12–29.
- Sissons, J.B. (1979b) The limit of the Loch Lomond Advance in Glen Roy and vicinity. *Scottish Journal of Geology*, 15, 31–42.
- Sissons, J.B. (1979c) Catastrophic lake drainage in Glen Spean and the Great Glen, Scotland. *Journal of the Geological Society of London*, 136, 215–24.
- Sissons, J.B. (1979d) Palaeoclimatic inferences from former glaciers in Scotland and the Lake District. *Nature*, 278, 518–21.

- Sissons, J.B. (1979e) The Loch Lomond Stadial in the British Isles. *Nature*, 280, 199–203.
- Sissons, J.B. (1979f) The Loch Lomond Advance in the Cairngorm Mountains. *Scottish Geographical Magazine*, 95, 66–82.
- Sissons, J.B. (1980a) The Loch Lomond Advance in the Lake District, northern England. *Transactions of the Royal Society of Edinburgh: Earth Sciences*, 71, 13–27.
- Sissons, J.B. (1980b) Palaeoclimatic inferences from Loch Lomond Advance glaciers. In *Studies in the Lateglacial of North-west Europe* (eds J.J. Lowe, J.M. Gray and J.E. Robinson). Pergamon Press, Oxford, pp. 3143.
- Sissons, J.B. (1980c) The glaciation of the Outer Hebrides (Letter). *Scottish Journal of Geology*, 16, 81–4.
- Sissons, J.B. (1981a) British shore platforms and ice-sheets. *Nature*, 291, 473–5.
- Sissons, J.B. (1981b) The last Scottish ice sheet: facts and speculative discussion. *Boreas*, 10, 1–17.
- Sissons, J.B. (1981c) Lateglacial marine erosion and a jökulhlaup deposit in the Beaully Firth. *Scottish Journal of Geology*, 17, 7–19.
- Sissons, J.B. (1981d) Ice-dammed lakes in Glen Roy and vicinity: a summary. In *The Quaternary in Britain* (eds J. Neale and J. Henley). Pergamon Press, Oxford, pp. 174–83.
- Sissons, J.B. (1982a) A former ice-dammed lake and associated glacier limits in the Ach-nasheen area, central Ross-shire. *Transactions of the Institute of British Geographers*, NS, 7, 98–116.
- Sissons, J.B. (1982b) The so-called high 'interglacial' rock shoreline of western Scotland. *Transactions of the Institute of British Geographers*, NS, 7, 205–16.
- Sissons, J.B. (1982c) Interstadial and last interglacial deposits covered by till in Scotland: a reply. *Boreas*, 11, 123–4.
- Sissons, J.B. (1983a) Shorelines and isostasy in Scotland. In *Shorelines and Isostasy* (eds D.E. Smith and A.G. Dawson). Academic Press, London, pp. 209–25.
- Sissons, J.B. (1983b) Quaternary. In *Geology of Scotland*, 2nd edn. (ed. G.Y. Craig). Scottish Academic Press, Edinburgh, pp. 399–424.
- Sissons, J.B. (1983c) The Quaternary geomorphology of the Inner Hebrides: a review and reassessment. *Proceedings of the Geologists' Association*, 94, 165–75.
- Sissons, J.B. and Brooks, C.L. (1971) Dating of early postglacial land and sea-level changes in the Western Forth Valley. *Nature Physical Science*, 234, 124–7.
- Sissons, J.B. and Cornish, R. (1982a) Rapid localized glacio-isostatic uplift at Glen Roy, Scotland. *Nature*, 297, 213–4.
- Sissons, J.B. and Cornish, R. (1982b) Differential glacio-isostatic uplift of coastal blocks at Glen Roy, Scotland. *Quaternary Research*, 18, 268–88.
- Sissons, J.B. and Cornish, R. (1983) Fluvial landforms associated with ice-dammed lake drainage in upper Glen Roy, Scotland. *Proceedings of the Geologists' Association*, 94, 45–52.
- Sissons, J.B. and Dawson, A.G. (1981) Former sea-levels and ice limits in part of Wester Ross, north-west Scotland. *Proceedings of the Geologists' Association*, 12, 115–24.
- Sissons, J.B. and Grant, A.J.H. (1972) The last glaciers in the Lochnagar area, Aberdeenshire. *Scottish Journal of Geology*, 8, 85–93.

- Sissons, J.B. and Rhind, D.W. (1970) Drift stratigraphy and buried morphology beneath the Forth at Rosyth. *Scottish Journal of Geology*, 6, 272–84.
- Sissons, J.B. and Smith, D.E. (1965a) Raised shorelines associated with the Perth Read-vance in the Forth Valley and their relation to glacial isostasy. *Transactions of the Royal Society of Edinburgh*, 66, 143–68.
- Sissons, J.B. and Smith, D.E. (1965b) Peat bogs in a post-glacial sea and a buried raised beach in the western part of the Carse of Stirling. *Scottish Journal of Geology*, 1, 247–55.
- Sissons, J.B. and Sutherland, D.G. (1976) Climatic inferences from former glaciers in the southeast Grampian Highlands, Scotland. *Journal of Glaciology*, 17, 325–46.
- Sissons, J.B. and Walker, M.J.C. (1974) Lateglacial site in the central Grampian Highlands. *Nature*, 249, 822–4.
- Sissons, J.B., Cullingford, R.A. and Smith, D.E. (1965) Some pre-carse valleys in the Forth and Tay basins. *Scottish Geographical Magazine*, 81, 115–24.
- Sissons, J.B., Smith, D.E. and Cullingford, R.A. (1966) Late-glacial and post-glacial shorelines in south-east Scotland. *Transactions of the Institute of British Geographers*, 39, 9–18.
- Sissons, J.B., Lowe, J.J., Thompson, K.S.R. and Walker, M.J.C. (1973) Loch Lomond Readvance in the Grampian Highlands of Scotland. *Nature Physical Science*, 244, 75–7.
- Small, A. and Smith, J.S. (1971) *The Strathpeffer and Inverness area*. British Landscapes Through Maps. Geographical Association, Sheffield, 25 pp.
- Smiles, S. (1878) *Robert Dick, Baker, of Thurso, Geologist and Botanist*. John Murray, London, 436 pp.
- Smith, A.G. (1984) Newferry and the Boreal–Atlantic transition. *New Phytologist*, 98, 3555.
- Smith, A.G. and Cloutman, E.W. (1988) Reconstruction of Holocene vegetation history in three dimensions at Waun–Fignen–Felen, an upland site in south Wales. *Philosophical Transactions of the Royal Society of London*, B322, 159–219.
- Smith, A.G. and Pilcher, J.R. (1973) Radiocarbon dates and vegetational history of the British Isles. *New Phytologist*, 72, 903–14.
- Smith, D.E. (1965) Late and Postglacial changes of shoreline on the north side of the Forth Valley and estuary. Unpublished PhD thesis, University of Edinburgh.
- Smith, D.E. (1968) Post-glacial displaced shorelines in the surface of the carse clay on the north bank of the River Forth, in Scotland. *Zeitschrift für Geomorphologie*, NF, 12, 388–408.
- Smith, D.E. (1984) Lower Ythan Valley: deglaciation and Flandrian relative sea level change. In *Buchan Field Guide* (ed. A.M. Hall). Quaternary Research Association, Cambridge, pp. 47–58.
- Smith, D.E. (1986) Relative sea-level changes in the lower South Esk Valley. Excursion Guide for a meeting of IGCP–200 at the Burn, Edzell, May 1986, 15 pp.
- Smith, D.E. and Cullingford, R.A. (1985) Flandrian relative sea-level changes in the Montrose Basin area. *Scottish Geographical Magazine*, 101, 91–105.
- Smith, D.E. and Dawson, A.G. (1990) Tsunami waves in the North Sea. *New Scientist*, 127 (1728), 46–9.
- Smith, D.E., Cullingford, R.A. and Jones, R.L. (1977) Radiocarbon assay of duck bones from Late Devensian raised marine deposits near Montrose, Angus. *Quaternary Newsletter*, 23, 5–6.

- Smith, D.E., Morrison, J., Jones, R.L. and Cullingford, R.A. (1980) Dating the Main Postglacial Shoreline in the Montrose area, Scotland. In *Timescales in Geomorphology* (eds R.A. Cullingford, D.A. Davidson and J. Lewin). John Wiley, Chichester, pp. 225–45.
- Smith, D.E., Cullingford, R.A. and Seymour, W.P. (1982) Flandrian relative sea-level changes in the Philorth Valley, north-east Scotland. *Transactions of the Institute of British Geographers*, NS 7, 321–36.
- Smith, D.E., Cullingford, R.A. and Brooks, C.L. (1983) Flandrian relative sea level changes in the Ythan Valley, north-east Scotland. *Earth Surface Processes and Landforms*, 8, 423–38.
- Smith, D.E., Cullingford, R.A. and Haggart, B.A. (1985a) A major coastal flood during the Holocene in eastern Scotland. *Eizeitalter and Gegenwart*, 35, 109–18.
- Smith, D.E., Dawson, A.G., Cullingford, R.A. and Harkness, D.D. (1985b) The stratigraphy of Flandrian relative sea-level changes at a site in Tayside, Scotland. *Earth Surface Processes and Landforms*, 10, 17–25.
- Smith, D.E., Sissons, J.B. and Cullingford, R.A. (1969) Isobases for the Main Perth raised shoreline in south-east Scotland as determined by trend surface analysis. *Transactions of the Institute of British Geographers*, 46, 45–52.
- Smith, D.E., Thompson, K.S.R. and Kemp, D.D. (1978) The Late Devensian and Flandrian history of the Teith Valley, Scotland. *Boreas*, 7, 97–107.
- Smith, D.E., Turbayne, S.C., Dawson, A.G. and Hickey, K.R. (1991a) The temporal and spatial variability of major floods around European coasts. C.E.C. Contract Report EV4C0047UK-(H), Brussels, 129 pp.
- Smith, D.E., Turbayne, S.C., Firth, C.R. and Brooks, C.L. (1991b) Creich. In *Late Quaternary Coastal Evolution in the Inner Moray Firth. Field Guide* (eds C.R. Firth and B.A. Haggart). West London Press, London, pp. 33–42.
- Smith, J. (1838) On the last changes in the relative levels of the land and sea in the British Islands. *Edinburgh New Philosophical Journal*, 25, 378–94.
- Smith, J. (of Jordanhill) (1862) *Researches in Newer Pliocene and Post-Tertiary Geology*. John Gray, Glasgow, 191 pp.
- Smith, J. (1850a) Note on the shells found in the till by Mr Cleghorn. *Quarterly Journal of the Geological Society of London*, 6, 386.
- Smith, J. (1850b) On the occurrence of marine shells in the stratified beds below the till. *Quarterly Journal of the Geological Society of London*, 6, 386–8.
- Smith, J. (1891) The great ice age in the Garnock Valley. *Transactions of the Geological Society of Glasgow*, 9, 151–91.
- Smith, J. (1896a) The great submergence: an interpretation of the Clava section, near Inverness, Scotland. *Geological Magazine*, Decade 4, 3, 498–502.
- Smith, J. (1896b) The geological position of the Irvine whale bed. *Transactions of the Geological Society of Glasgow*, 10, 29–50.
- Smith, J. (1896c) Discovery of interglacial shell-beds in Ayrshire. *Geological Magazine*, Decade 4, 3, 286–7.
- Smith, J. (1898) The drift or glacial deposits of Ayrshire. *Transactions of the Geological Society of Glasgow*, 11, (supplement), 134 pp.
- Smith, J. (1901) The drift or glacial formation of the Clyde drainage area. In *Fauna Flora and Geology of the Clyde Area Handbook on the Natural History of Glasgow and the West of Scotland* (eds G.F.S. Elliot, M. Laurie and J.B. Murdoch). British Association for the Advancement of Science, Glasgow, pp. 520–7.

- Smith, J.A. (1858) Notice of the horn of a reindeer (*Cervus tarandus*, Linn), found in Dumbartonshire. *Proceedings of the Royal Physical Society of Edinburgh*, 1, 247–49. (Also *Edinburgh New Philosophical Journal*, 6, 165–7.)
- Smith, J.A. (1871) Notice of remains of the reindeer, *Cervus tarandus*, found in Ross-shire, Sutherland and Caithness; with notes of its occurrence throughout Scotland. *Proceedings of the Society of Antiquaries of Scotland*, 8, 186–222.
- Smith, J.S. (1966) Morainic limits and their relationship to raised shorelines in the east Scotland Highlands. *Transactions of the Institute of British Geographers*, 39, 61–4.
- Smith, J.S. (1968) Shoreline evolution in the Moray Firth. Unpublished PhD thesis, University of Aberdeen.
- Smith, J.S. (1977) The last glacial epoch around the Moray Firth. In *The Moray Firth Area Geological Studies* (ed. G. Gill). Inverness Field Club, Inverness, pp. 72–82.
- Smith, S.M. (1971) Palaeoecology of post-glacial beaches in East Lothian. *Scottish Journal of Geology*, 8, 31–49.
- Smith, S.M. and Heppell, D. (1991) Checklist of British marine Mollusca. *National Museums of Scotland Information Series*, No. 11, 114 pp.
- Soderman, G., Kejonen, A. and Kujansuu, R. (1983) The riddle of the tors at Lauhavuori, western Finland. *Fennia*, 161, 91–144.
- Sollid, J.L., Andersen, S., Hamre, N., Kjeldsen, O., Salvigsen, O., Sturød, S., Tveita, T. and Willhelmsen, A. (1973) Deglaciation of Finmark, North Norway. *Norsk Geografisk Tidsskrift*, 27, 233–325.
- Somervail, A. (1879) Observations on the higher summits of the Pentland Hills. *Transactions of the Edinburgh Geological Society*, 3, 191–9.
- Sparks, B.W. and West, R.G. (1972) *The Ice Age in Britain*. Methuen, London, 302 pp.
- Spence, D.H.N. (1957) Studies on the vegetation of Shetland. 1. The serpentine debris vegetation in Unst. *Journal of Ecology*, 45, 917–45.
- Spence, D.H.N. (1974) Subarctic debris and scrub vegetation of Shetland. In *The Natural Environment of Shetland* (ed. R. Goodier). Nature Conservancy Council, Edinburgh, pp. 73–88.
- Spencer, J.W. (1890) Ancient shores, boulder pavements, and high-level gravel deposits in the region of the Great Lakes. *Geological Society of America Bulletin*, 1, 71–86.
- Stark, J. (1902) The surface geology of the Falls of Clyde district. *Transactions of the Geological Society of Glasgow*, 12, 52–7.
- Statham, I. (1976a) A scree slope rockfall model. *Earth Surface Processes and Landforms*, 1, 43–62.
- Statham, I. (1976b) Debris flows on vegetated screes in the Black Mountain, Carmarthen-shire. *Earth Surface Processes and Landforms*, 1, 173–80.
- Stephens, N. (1957) Some observations on the 'interglacial' platform and the early post-glacial raised beach on the east coast of Ireland. *Proceedings of the Royal Irish Academy*, 58B, 129–49.
- Steven, H.M. and Carlisle, A. (1959) *The Native Pinewoods of Scotland*. Oliver and Boyd, Edinburgh, 368 pp.
- Stevenson, A.C., Jones, V.J. and Battarbee, R.W. (1990) The cause of peat erosion: a palaeolim-nological approach. *New Phytologist*, 116, 727–35.

- Stevenson, W. (1868) On Bedshiel 'Kaims', and their relations to similar deposits to eastward and westward. *History of the Berwickshire Naturalists' Club, 1863–1868*, 124–8.
- Stewart, D.A. (1979) The Flandrian vegetational history of the Loch Lomond area. Unpublished PhD thesis, University of Glasgow.
- Stewart, D.A. (1987) Further palynology and radiometric dating of Flandrian marine and freshwater sediments of Loch Lomond, Scotland. *INQUA XII Congress; Ottawa Canada 1987*. Programme and Abstracts, p. 269.
- Stewart, D.A., Walker, A. and Dickson, J.H. (1984) Pollen diagrams from Dubh Lochan, near Loch Lomond. *New Phytologist*, 98, 531–49.
- Stewart, M. (1932) Notes on the geology of North Rona. *Geological Magazine*, 69, 179–85.
- Stewart, M. (1933) Notes on the geology of Sgula Sgeir and the Flannan Islands. *Geological Magazine*, 70, 110–6.
- Stoker, M.S. (1988) Pleistocene ice–proximal glaciomarine sediments in boreholes from the Hebrides shelf and Wyville–Thomson Ridge, NW UK Continental Shelf. *Scottish Journal of Geology*, 24, 249–62.
- Stoker, M.S. and Bent, A.J.A. (1985) Middle Pleistocene glacial and glaciomarine sediments in the west central North Sea. *Boreas*, 14, 325–32.
- Stoker, M.S. and Holmes, I.L (1991) Submarine end-moraines as indicators of Pleistocene ice-limits off north-west Britain. *Journal of the Geological Society of London*, 148, 431–4.
- Stoker, M.S. and Bent, A.J.A. (1987) Lower Pleistocene deltaic and marine sediments in boreholes from the central North Sea. *Journal of Quaternary Science*, 2, 87–96.
- Stoker, M.S. and Graham, C. (1985) Pre-Late Weichselian submerged rock platforms off Stonehaven. *Scottish Journal of Geology*, 21, 205–8.
- Stoker, M.S., Long, D. and Fyfe, J.A. (1985) A revised Quaternary stratigraphy for the central North Sea. *British Geological Survey Report*, 17(2), 35 pp.
- Stone, J.C. (1959) A description of glacial retreat features in mid-Nithsdale. *Scottish Geographical Magazine*, 75, 164–8.
- Stone, K.H. (1963) Alaskan ice-dammed lakes. *Annals of the Association of American Geographers*, 53, 332–49.
- Straw, A. (1979) Eastern England. In *Eastern and Central England* (eds A. Straw and K.M. Clayton). Methuen, London, pp. 1–139.
- Stroud, D.A., Reed, T.M., Pienkowski, M.W. and Lindsay, R.A. (1987) *Birds Bogs and Forestry. The Peatlands of Caithness and Sutherland*. Nature Conservancy Council, Peterborough, 121 pp.
- Stuart, A.J. (1982) *Pleistocene Vertebrates in the British Isles*. Longman, London, 212 pp.
- Sturlurdottir, S.A. and Turner, J. (1985) The elm decline at Pawlaw Mire: an anthropogenic interpretation. *New Phytologist*, 99, 323–9.
- Sugden, D.E. (1965) Aspects of the glaciation of the Cairngorm Mountains. Unpublished DPhil thesis, University of Oxford.
- Sugden, D.E. (1968) The selectivity of glacial erosion in the Cairngorm Mountains, Scotland. *Transactions of the Institute of British Geographers*, 45, 79–92.
- Sugden, D.E. (1969) The age and form of corries in the Cairngorms. *Scottish Geographical Magazine*, 85, 34–46.

- Sugden, D.E. (1970) Landforms of deglaciation in the Cairngorm Mountains. *Transactions of the Institute of British Geographers*, 51, 201–19.
- Sugden, D.E. (1971) The significance of periglacial activity on some Scottish mountains. *Geographical Journal*, 137, 388–92.
- Sugden, D.E. (1973a) Hypotheses of deglaciation in the eastern Grampians, Scotland. *Scottish Journal of Geology*, 9, 94–5.
- Sugden, D.E. (1973b) Delimiting Zone III glaciers in the eastern Grampians. *Scottish Geographical Magazine*, 89, 62–3.
- Sugden, D.E. (1974a) Landscapes of glacial erosion in Greenland and their relationship to ice, topographic and bedrock conditions. *Institute of British Geographers Special Publication*, 7, 177–95.
- Sugden, D.E. (1974b) Deglaciation of the Cairngorms and its wider implications. In *Problems of the Deglaciation of Scotland* (eds C.J. Caseldine and W.A. Mitchell). Journal of St Andrews Geographers, Special Publication 1, 17–28.
- Sugden, D.E. (1974c) Landforms. In *The Cairngorm Their Natural History and Scenery* (eds D. Nethersole-Thompson and A. Watson). Collins, London, pp. 210–21.
- Sugden, D.E. (1977) Did glaciers form in the Cairngorms in the 17th–19th centuries? *Cairngorm Club Journal*, 18, 189–201.
- Sugden, D.E. (1978) Glacial erosion by the Laurentide ice sheet. *Journal of Glaciology*, 20, 367–91.
- Sugden, D.E. (1980) The Loch Lomond Advance in the Cairngorms (a reply to J.B. Sissons). *Scottish Geographical Magazine*, 96, 18–19.
- Sugden, D.E. (1983) The Cairngorm tors and their significance. *Scottish Mountaineering Club Journal*, 32, 327–34.
- Sugden, D.E. (1987) The polar and glacial world. In *Horizons in Physical Geography* (eds M.J. Clark, K.J. Gregory and A.M. Gurnell). Macmillan, London, pp. 214–31.
- Sugden, D.E. (1989) Modification of old land surfaces by ice sheets. *Zeitschrift für Geomorphologie NF*, Supplementband 72, 163–72.
- Sugden, D.E. (1991) The stepped response of ice sheets to climatic change. In *Antartica and Global Climatic Change* (eds C.M. Harris and B. Stonehouse). Belhaven Press, London, pp. 107–14.
- Sugden, D.E. and Clapperton, C.M. (1975) The deglaciation of upper Deeside and the Cairngorm Mountains. In *Quaternary Studies in North East Scotland* (ed. A.M.D. Gemmell). Department of Geography, University of Aberdeen, Aberdeen, pp. 30–8.
- Sugden, D.E. and John, B.S. (1976) *Glaciers and Landscape*. Edward Arnold, London, 376 pp.
- Sugden, D.E. and Ward, R. (1980) Mountains in the making. *Geographical Magazine*, 42, 425–6.
- Sugden, D.E. and Watts, S.H. (1977) Tors, felsenmeer, and glaciation in northern Cumberland Peninsula, Baffin Island. *Canadian Journal of Earth Sciences*, 14, 2817–23.
- Sugden, D.E., Clapperton, C.M. and Knight, P.G. (1985) A jökulhlaup near Søndre Strømqord, West Greenland, and some effects on the ice-sheet margin. *Journal of Glaciology*, 31, 366–8.
- Sutherland, A. (1920) A boulder containing ammonites from Dunbeath, Caithness. *Transactions of the Edinburgh Geological Society*, 11, 1.

- Sutherland, D.G. (1980) Problems of radiocarbon dating deposits from newly deglaciated terrain: examples from the Scottish Lateglacial. In *Studies in the Lateglacial of Northwest Europe* (eds J.J. Lowe, J.M. Gray and J.E. Robinson). Pergamon Press, Oxford, 139–49.
- Sutherland, D.G. (1981a) The high-level marine shell beds of Scotland and the build-up of the last Scottish ice sheet. *Boreas*, 10, 247–54.
- Sutherland, D.G. (1981b) The raised shorelines and deglaciation of the Loch Long/Loch Fyne area, western Scotland. Unpublished PhD thesis, University of Edinburgh.
- Sutherland, D.G. (1984a) The Quaternary deposits and landforms of Scotland and the neighbouring shelves: a review. *Quaternary Science Reviews*, 3, 157–254.
- Sutherland, D.G. (1984b) The Late Quaternary sequence at Castle Hill, Gardenstown and King Edward. In *Buchan Field Guide* (ed. A.M. Hall). Quaternary Research Association, Cambridge, pp. 89–96.
- Sutherland, D.G. (1984c) The submerged landforms of the St Kilda archipelago, western Scotland. *Marine Geology*, 58, 435–42.
- Sutherland, D.G. (1986) A review of Scottish marine shell radiocarbon dates, their standardisation and interpretation. *Scottish Journal of Geology*, 22, 145–64.
- Sutherland, D.G. (1987a) Achnasheen. In *Wester Ross Field Guide* (eds C.K. Ballantyne and D.G. Sutherland). Quaternary Research Association, Cambridge, pp. 65–70.
- Sutherland, D.G. (1987b) Corrieshalloch Gorge. In *Wester Ross Field Guide* (eds C.K. Ballantyne and D.G. Sutherland). Quaternary Research Association, Cambridge, pp. 93–4.
- Sutherland, D.G. (1987c) Loch Droma. In *Wester Ross Field Guide* (eds C.K. Ballantyne and D.G. Sutherland). Quaternary Research Association, Cambridge, pp. 94–7.
- Sutherland, D.G. (1987d) Submerged rock platforms on the continental shelf west of Sula Sgeir. *Scottish Journal of Geology*, 23, 251–60.
- Sutherland, D.G. (1991a) Late Devensian glacial deposits and glaciation in Scotland and the adjacent offshore region. In *Glacial Deposits in Great Britain and Ireland* (eds J. Ehlers, P.L. Gibbard and J. Rose). A.A. Balkema, Rotterdam, pp. 53–9.
- Sutherland, D.G. (1991b) The glaciation of the Shetland and Orkney Islands. In *Glacial deposits in Great Britain and Ireland* (eds J. Ehlers, P.L. Gibbard and J. Rose). A.A. Balkema, Rotterdam, pp. 121–7.
- Sutherland, D.G. and Walker, M.J.C. (1984) A late Devensian ice-free area and possible interglacial site on the Isle of Lewis, Scotland. *Nature*, 309, 701–3.
- Sutherland, D.G., Ballantyne, C.K. and Walker, M.J.C. (1982) A note on the Quaternary deposits and landforms of St Kilda. *Quaternary Newsletter*, 37, 1–5.
- Sutherland, D.G., Ballantyne, C.K. and Walker, M.J.C. (1984) Late Quaternary glaciation and environmental change on St Kilda, Scotland, and their palaeoclimatic significance. *Boreas*, 13, 261–72.
- Synge, F.M. (1956) The glaciation of north-east Scotland. *Scottish Geographical Magazine*, 72, 129–43.
- Synge, F.M. (1963) The Quaternary succession round Aberdeen, north-east Scotland. *Report on the 6th International Congress on the Quaternary, Warsaw, 1961. Vol. 3. Geomorphological Section*. International Union for Quaternary Research, Lodz, pp. 353–61.

- Synge, F.M. (1966) The relationship of the raised strandlines and main end-moraines on the Isle of Mull and in the district of Lorn, Scotland. *Proceedings of the Geologists' Association*, 77, 315–28.
- Synge, F.M. (1977a) Records of sea levels during the Late Devensian. *Philosophical Transactions of the Royal Society of London*, B280, 211–28.
- Synge, F.M. (1977b) Land and sea level change during the waning of the last regional ice sheet in the vicinity of Inverness. In *The Moray Firth Area Geological Studies* (ed. G. Gill). Inverness Field Club, Inverness, pp. 83–102.
- Synge, F.M. (1980) A morphometric comparison of raised shorelines in Fennoscandia, Scotland and Ireland. *Geologiska Foreningens i Stockholm Forhandlingar*, 102, 235–49.
- Synge, F.M. and Smith, J.S. (1980) *A Field Guide to the Inverness Area*. Quaternary Research Association, Aberdeen, 24 pp.
- Synge, F.M. and Stephens, N. (1966) Late- and post-glacial shorelines, and ice limits in Argyll and north-east Ulster. *Transactions of the Institute of British Geographers*, 39, 101–25.
- Tait, C. (1794) An account of the peat-mosses of Kincardine and Flanders in Perthshire. *Transactions of the Royal Society of Edinburgh*, 3, 266–79.
- Tait, D. (1908) On egg-shaped stones dredged from Wick harbour. *Transactions of Edinburgh Geological Society*, 9, 135–6.
- Tait, D. (1909) On the occurrence of Cretaceous fossils in Caithness. *Transactions of Edinburgh Geological Society*, 9, 318–21.
- Tait, D. (1912) On a large glacially transported mass of Lower Cretaceous rock at Leavad in the County of Caithness. *Transactions of Edinburgh Geological Society*, 10, 1–9.
- Tait, D. (1934) Excavations in the old lake deposits at Corstorphine during 1930–1932. *Transactions of the Edinburgh Geological Society*, 13, 110–25.
- Taylor, W. (1792) Parish of Rynd. In *The Statistical Account of Scotland* Vol. 4 (ed. J. Sinclair). William Creech, Edinburgh, pp. 178–84.
- Ten Brink, N.W. (1975) Holocene history of the Greenland Ice Sheet based on radiocarbon-dated moraines in West Greenland. *Grønlands Geologiske Undersøgelse Bulletin*, 113, 44 p.
- Ten Brink, N.W. and Weidick, A. (1974) Greenland Ice Sheet history since the last glaciation. *Quaternary Research*, 4, 429–40.
- Terwindt, J.H.J. and Augustinus, P.G.E.F. (1985) Lateral and longitudinal successions in sedimentary structures in the Middle Mause esker, Scotland. *Sedimentary Geology*, 45, 161–88.
- Thomas, G.S.P. (1984) Sedimentation of a subaqueous esker-delta at Strabathie, Aberdeenshire. *Scottish Journal of Geology*, 20, 9–20.
- Thomas, G.S.P. and Connell, R.J. (1985) Iceberg drop, dump, and grounding structures from Pleistocene glacial-lacustrine sediments, Scotland. *Journal of Sedimentary Petrology*, 55, 243–9.
- Thompson, H.R. (1950) Some corries of northwest Sutherland. *Proceedings of the Geologists' Association*, 61, 145–55.
- Thompson, K.S.R. (1972) The last glaciers in western Perthshire. Unpublished PhD thesis, University of Edinburgh.

- Thompson, R. and Morton, D.J. (1979) Magnetic susceptibility and particle-size distribution in recent sediments of the Loch Lomond drainage basin, Scotland. *Journal of Sedimentary Petrology*, 49, 801–11.
- Thomson, J. Jr. (1848) On the Parallel Roads of Lochaber. *Edinburgh New Philosophical Journal*, 45, 49–61.
- Thorp, P.W. (1981a) A trimline method for determining the upper limit of the Loch Lomond Advance glaciers: examples from the Loch Leven and Glencoe areas. *Scottish Journal of Geology*, 17, 49–64.
- Thorp, P.W. (1981b) An analysis of the spatial variability of glacial striae and friction cracks in part of the western Grampians of Scotland. *Quaternary Studies*, 1, 71–94 (City of London Polytechnic/Polytechnic of North London).
- Thorp, P.W. (1984) The glacial geomorphology of part of the western Grampians of Scotland with especial reference to the limits of the Loch Lomond Advance. Unpublished PhD thesis, City of London Polytechnic.
- Thorp, P.W. (1986) A mountain icefield of Loch Lomond Stadial age, western Grampians, Scotland. *Boreas*, 15, 83–97.
- Thorp, P.W. (1987) Late Devensian ice sheet in the western Grampians, Scotland. *Journal of Quaternary Science*, 2, 103–12.
- Thorp, P.W. (1991a) The glaciation and glacial deposits of the western Grampians. In *Glacial Deposits in Great Britain and Ireland* (eds J. Ehlers, P.L. Gibbard and J. Rose). A.A. Balkema, Rotterdam, pp. 137–49.
- Thorp, P.W. (1991b) Surface profiles and basal shear stresses of outlet glaciers from a Late-glacial mountain ice field in western Scotland. *Journal of Glaciology*, 37, 77–88.
- Ting, S. (1936) Beach ridges and other shore deposits in south-west Jura. *Scottish Geographical Magazine*, 52, 182–7.
- Ting, S. (1937) The coastal configuration of western Scotland. *Geografiska Annaler*, 19, 62–83.
- Tipping, R.M. (1984) Late Devensian and Early Flandrian vegetational history and deglacial chronology of western Argyll. Unpublished PhD thesis, City of London Polytechnic.
- Tipping, R.M. (1985) Loch Lomond Stadial *Artemisia* pollen assemblages and Loch Lomond Readvance regional firn-line altitudes. *Quaternary Newsletter*, 46, 1–11.
- Tipping, R.M. (1986) A Late-Devensian pollen site in Cowal, south-west Scotland. *Scottish Journal of Geology*, 22, 27–40.
- Tipping, R.M. (1987) The prospects for establishing synchronicity in the early post-glacial pollen peak of *Juniperus* in the British Isles. *Boreas*, 16, 155–63.
- Tipping, R. (1988) The recognition of glacial retreat from palynological data: a review of recent work in the British Isles. *Journal of Quaternary Science*, 3, 171–82.
- Tipping, R.M. (1989a) Devensian Lateglacial vegetation history at Loch Barnluasgan, Argyllshire, western Scotland. *Journal of Biogeography*, 16, 435–47.
- Tipping, R.M. (1989b) Palynological evidence for the extent of the Loch Lomond Readvance in the Awe Valley and adjacent areas, SE Highlands. *Scottish Journal of Geology*, 25, 325–37.
- Tipping, R.M. (1991a) Climatic change in Scotland during the Devensian Late Glacial: the palynological record. In *The Late Glacial in North-west Europe: Human Adaptation and Environmental Change at the End of the Pleistocene* (eds N. Barton, A.J. Roberts and D.A. Roe). Council for British Archaeology Research Report, 77, 7–21.
- Tipping, R.M. (1991b) The climatostratigraphic subdivision of the Devensian Lateglacial: evidence from a pollen site near Oban, western Scotland. *Journal of Biogeography*, 18, 89–101.

- Tivy, J. (1962) An investigation of certain slope deposits in the Lowther Hills, Southern Uplands of Scotland. *Transactions of the Institute of British Geographers*, 30, 59–73.
- Tolonen, M. (1980) Identification of fossil *Ulmus* pollen in sediments of Lake Lamminjarvi, S. Finland. *Annales Botanici Fennici*, 17, 7–10.
- Traverse, A. and Ginsberg, R.N. (1966) Palynology of the surface sediments of the Great Bahama Bank, as related to water movement and sedimentation. *Marine Geology*, 4, 417–59.
- Trenhaile, A.S. (1983) The development of shore platforms in high latitudes. In *Shorelines and Isostasy* (eds D.E. Smith and A.G. Dawson). Academic Press, London, pp. 77–93.
- Trenhaile, A.S. and Mercan, D.W. (1984) Frost weathering and the saturation of coastal rocks. *Earth Surface Processes and Landforms*, 9, 321–31.
- Tufnell, L. (1971) Erosion by snow patches in the north Pennines. *Weather*, 26, 492–8.
- Tulloch, W. and Walton, H.S. (1958) *The Geology of the Midlothian Coalfield*. Memoirs of the Geological Survey of Scotland. HMSO, Edinburgh, 157 pp.
- Turner, G.M. and Thompson, R. (1979) Behaviour of the Earth's magnetic field as recorded in the sediment of Loch Lomond. *Earth and Planetary Science Letters*, 42, 412–26.
- Turner, J. (1965) A contribution to the history of forest clearance. *Proceedings of the Royal Society*, B161, 343–54.
- Turner, J. (1970) Post-Neolithic disturbance of British vegetation. In *Studies in the Vegetational History of the British Isles* (eds D. Walker and R.G. West). Cambridge University Press, Cambridge, pp. 97–116.
- Turrill, W.B. (1927) The flora of St Kilda. *Report of the Botanical Society and Exchange Club of the British Isles*, 8, 428–44.
- Tyrrell, G.W. (1928) *The Geology of Arran*. Memoirs of the Geological Survey of Scotland, HMSO, Edinburgh, 292 pp.
- Tyndall, J. (1879) The Parallel Roads of Glen Roy. *Proceedings of the Royal Institution of Great Britain*, 8, 233–46.
- Van der Veen, C.J. (1987) The West Antarctic Ice Sheet: the need to understand its dynamics. In *Dynamics of the West Antarctic Ice Sheet* (eds C.J. van der Veen and J. Oerlemans). D. Reidel, Dordrecht, 1–16.
- Van Zeist, W. and van der Spoel-Walvius, M.R. (1980) A palynological study of the late-glacial and the post-glacial in the Paris Basin. *Palaeohistoria*, 22, 67–109.
- Vasari, Y. (1970) The Late-glacial period in northeast Scotland. In *Probleme der Weichsel-Spatglazialen Vegetationsentwicklung in Mittel- und Nordeuropa* (ed. K-D. Jager). Deutschen Akademie der Wissenschaften zu Berlin/International Union for Quaternary Research, Frankfurt/Oder, pp. 61–77.
- Vasari, Y. (1977) Radiocarbon dating of the Lateglacial and early Flandrian vegetational succession in the Scottish Highlands and the Isle of Skye. In *Studies in the Scottish Lateglacial Environment* (eds J.M. Gray and J.J. Lowe). Pergamon Press, Oxford, 143–62.
- Vasari, Y. and Vasari, A. (1968) Late- and post-glacial macrophytic vegetation in the lochs of northern Scotland. *Acta Botanica Fennica*, 80, 120 pp.
- Veyret, Y. and Coque-Delhuille, B. (1989) Les versants à banquettes de Ronas Hill. Essai de definition d'une province periglaciaire aux îles Shetland. *Hommes et Terres du Nord*, 3, 171–8.

- Vincent, P.T and Lee, M.P. (1982) Snow patches on Farleton Fell, south-east Cumbria. *Geographical Journal*, 148, 337–42.
- Von Weymarn, J.A. (1974) Coastline development in Lewis and Harris, Outer Hebrides, with particular reference to the effects of glaciation. Unpublished PhD thesis, University of Aberdeen.
- Von Weymarn, J. (1979) A new concept of glaciation in Lewis and Harris, Outer Hebrides. *Proceedings of the Royal Society of Edinburgh*, B77, 97–105.
- Von Weymarn, J. and Edwards, K.J. (1973) Interstadial site on the Island of Lewis. *Nature*, 246, 473 4.
- Wager, L.R. (1953) The extent of glaciation in the island of St Kilda. *Geological Magazine*, 90, 177–81.
- Wahrhaftig, C. and Cox, A. (1959) Rock glaciers in the Alaska Range. *Bulletin of the Geological Society of America*, 70, 383–436.
- Wain-Hobson, T. (1981) Aspects of the glacial and post-glacial history of north-west Argyll. Unpublished PhD thesis, University of Edinburgh.
- Walker, M.J.C. (1975a) Late Glacial and Early Postglacial environmental history of the central Grampian Highlands, Scotland. *Journal of Biogeography*, 2, 265–84.
- Walker, M.J.C. (1975b) Two Lateglacial pollen diagrams from the eastern Grampian Highlands of Scotland. *Pollen et Spores*, 17, 67–92.
- Walker, M.J.C. (1975c) A pollen diagram from the Pass of Drumochter, central Grampian Highlands, Scotland. *Transactions of the Botanical Society of Edinburgh*, 42, 335–43.
- Walker, M.J.C. (1977) Corrydon: a Lateglacial site from Glenshee, south-east Grampian Highlands, Scotland. *Pollen et Spores*, 19, 391–406.
- Walker, M.J.C. (1984a) A pollen diagram from St Kilda, Outer Hebrides, Scotland. *New Phytologist*, 97, 99–113.
- Walker, M.J.C. (1984b) Pollen analysis and Quaternary research in Scotland. *Quaternary Science Reviews*, 4, 369–404.
- Walker, M.J.C. (1990a) The Dalcharn interglacial site, near Cawdor, Nairnshire. Results of pollen analysis on the Dalcharn Biogenic Complex. In *Beaully to Nairn: Field Guide* (eds C.A. Auton, C.R. Firth and J.W. Merritt). Quaternary Research Association, Cambridge, pp. 54–7.
- Walker, M.J.C. (1990b) The Allt Odhar interstadial site, Moy, Inverness-shire: results of pollen analysis. In *Beaully to Nairn: Field Guide* (eds C.A. Auton, C.R. Firth and J.W. Merritt). Quaternary Research Association, Cambridge, pp. 70–2.
- Walker, M.J.C. and Harkness, D.D. (1990) Radiocarbon dating the Devensian Lateglacial in Britain: new evidence from Llanilid, South Wales. *Journal of Quaternary Science*, 5, 135–44.
- Walker, M.J.C. and Lowe, J.J. (1977) Postglacial environmental history of Rannoch Moor, Scotland. I. Three pollen diagrams from the Kingshouse area. *Journal of Biogeography*, 4, 333–51.
- Walker, M.J.C. and Lowe, J.J. (1979) Postglacial environmental history of Rannoch Moor, Scotland. II. Pollen diagrams and radiocarbon dates from the Rannoch Station and Corrour areas. *Journal of Biogeography*, 6, 349–62.
- Walker, M.J.C. and Lowe, J.J. (1980) Pollen analyses, radiocarbon dates and the deglaciation of Rannoch Moor, Scotland, following the Loch Lomond Advance. In *Timescales in Geomorphology* (eds R.A. Cullingford, D.A. Davidson and J. Lewin). John Wiley, Chichester, pp. 247–59.

- Walker, M.J.C. and Lowe, J.J. (1981) Postglacial environmental history of Rannoch Moor, Scotland. III. Early- and mid-Flandrian pollen stratigraphic data from sites on western Rannoch Moor and near Fort William. *Journal of Biogeography*, 8, 475–91.
- Walker, M.J.C. and Lowe, J.J. (1982) Lateglacial and early Flandrian chronology of the Isle of Mull, Scotland. *Nature*, 296, 558–61.
- Walker, M.J.C. and Lowe, J.J. (1985) Flandrian environmental history of the Isle of Mull, Scotland. I. Pollen-stratigraphic evidence and radiocarbon dates from Glen More, south-central Mull. *New Phytologist*, 99, 587–610.
- Walker, M.J.C. and Lowe, J.J. (1987) Flandrian environmental history of the Isle of Mull, Scotland. III. A high-resolution pollen profile from Gribun, western Mull. *New Phytologist*, 106, 333–47.
- Walker, M.J.C. and Lowe, J.J. (1990) Reconstruction of the environmental history of the last glacial–interglacial transition: evidence from the Isle of Skye, Inner Hebrides, Scotland. *Quaternary Science Reviews*, 9, 15–49.
- Walker, M.J.C. and Lowe, J.J. (1991) Vegetational history of the Isle of Skye: I. The Late Devensian Lateglacial period (13–10 ka BP). In *The Quaternary of the Isle of Skye. Field Guide* (eds C.K. Ballantyne, D.I. Benn, J.J. Lowe and M.J.C. Walker). Quaternary Research Association, Cambridge, pp. 98–118.
- Walker, M.J.C., Gray, J.M. and Lowe, J.J. (1985) *Isle of Mull, Inner Hebrides, Scotland*. Field Guide, Quaternary Research Association, Cambridge, 89pp.
- Walker, M.J.C., Ballantyne, C.K., Lowe, J.J. and Sutherland, D.G. (1988) A reinterpretation of the Lateglacial environmental history of the Isle of Skye, Inner Hebrides, Scotland. *Journal of Quaternary Science*, 3, 135–46.
- Walker, M.J.C., Merritt, J.W., Auton, C.A., Coope, G.R., Field, M.H., Heijnis, H. and Taylor, B.J. (1992) Allt Odhar and Dalcharn: two pre-Late Devensian (Late Weichselian) sites in northern Scotland. *Journal of Quaternary Science*, 7, 69–86.
- Wallace, T.D. (1883) Shells in glacial clay at Fort George, Invernessshire. *Transactions of the Edinburgh Geological Society*, 4, 143–4.
- Wallace, T.D. (1898) Geological notes on Strathdearn and the Aviemore railway. *Transactions of the Edinburgh Geological Society*, 7, 416–9.
- Wallace, T.D. (1901) Additional notes on the geology of Strathdearn and the adjoining districts of the Aviemore railway. *Transactions of the Edinburgh Geological Society*, 8, 10–4.
- Wallace, T.D. (1906) Glacial evidence in the Moray Firth area. *Transactions of the Inverness Scientific Society and Field Club*, 6, 145–61.
- Walther, M. (1984) Geomorphologische Untersuchungen zum Spätglazial und Frühholozän in den Cuillin Hills (Insel Skye, Schottland). Unpublished PhD thesis, Free University of Berlin.
- Walther, M. (1987) Ergebnisse geomorphologischer und palynologischer Untersuchungen zum Spätglazial und Frühholozän in den Cuillin Hills auf der Insel Skye (Schottland). *Eiszeitalter und Gegenwart*, 37, 119–37.
- Walton, K. (1959) Ancient elements in the coastline of north-east Scotland. In *Geographical Essays in Honour of Alan G. Ogilvie* (eds R. Miller and J.W. Watson). Nelson, London, pp. 93–109.
- Walton, K. (1963) Geomorphology. In *The North-east of Scotland* (eds A.C. O'Dell and J. Mackintosh). British Association, Aberdeen, pp. 16–32.

- Walton, K. (1964) Aspects of the geomorphology of Scotland. In *Field Studies in the British Isles* (ed. J.A. Steers). Nelson, London, pp. 391–405.
- Warburton, J. (1987) Characteristic ratios of width to depth-of-sorting for sorted stripes in the English Lake District. In *Periglacial Processes and Landforms in Britain and Ireland* (ed. J. Boardman). Cambridge University Press, Cambridge, pp. 163–71.
- Ward, R.G. (1977) The Lochwinnoch Gap. In *Western Scotland I* (ed. R.J. Price). INQUA X Congress, 1977. Guidebook for Excursion AI2. Geo Abstracts, Norwich, pp. 10–12.
- Ward, R.G.W. (1980) Avalanche hazard in the Cairngorm Mountains, Scotland. *Journal of Glaciology*, 26, 31–41.
- Ward, R.G.W. (1981) Snow avalanches in Scotland with particular reference to the Cairngorm Mountains. Unpublished PhD thesis, University of Aberdeen.
- Ward, R.G.W. (1984a) Avalanche prediction in Scotland: I. A survey of avalanche activity. *Applied Geography*, 4, 91–108.
- Ward, R.G.W. (1984b) Avalanche prediction in Scotland: II. Development of a predictive model. *Applied Geography*, 4, 109–33.
- Ward, R.G.W. (1985a) An estimate of avalanche frequency in Glen Feshie, Scotland, using tree rings. In *Palaeoenvironmental Investigations: Research Design, Methods and Data Analysis* (eds N.R.J. Fieller, D.D. Gilbertson and N.G.A. Ralph). British Archaeological Reports International Series, 258, 237–44.
- Ward, R.G.W. (1985b) Geomorphological evidence of avalanche activity in Scotland. *Gerafiska Annaler*, 67A, 247–56.
- Ward, R.G.W., Langmuir, E.D.G. and Beattie, B. (1985) Snow profiles and avalanche activity in the Cairngorm Mountains, Scotland. *Journal of Glaciology*, 31, 18–27.
- Washburn, A.L. (1979) *Geocryology. A Survey of Periglacial Processes and Environments*. Edward Arnold, London, 406 pp.
- Waters, R.S. (1954) Pseudo-bedding in the Dartmoor granite. *Transactions of the Royal Geological Society of Cornwall*, 18, 456–62.
- Waterston, C.D. (1960) City of Edinburgh. In *Edinburgh Geology. An Excursion Guide* (eds G.H. Mitchell, E.K. Walton and D. Grant). Oliver and Boyd, Edinburgh, pp. 10–27.
- Watson, R.B. (1866) On the marine origin of the Parallel Roads of Glen Roy. *Quarterly Journal of the Geological Society*, 22, 9–12.
- Watson, J. (1985) Northern Scotland as an Atlantic–North Sea divide. *Journal of the Geological Society of London*, 142, 221–43.
- Watson, J.A. (1934) General history. In *History of the Edinburgh Geological Society* (hon. ed. R. Campbell). Edinburgh Geological Society, Edinburgh, pp. 5–15.
- Watson, W.R. (1945) The glaciation of the Highland border district of south-eastern Perthshire. Part I: glacial retreat phenomena from the River Isla to the River Tay. *Transactions of the Edinburgh Geological Society*, 14, 8–20.
- Watt, A.S. and Jones, E.W. (1948) The ecology of the Cairngorms. Part I. The environment and the altitudinal zonation of the vegetation. *Journal of Ecology*, 36, 283–304.

- Watters, R.J. (1972) Slope stability in metamorphic rocks of the Scottish Highlands. Unpublished PhD thesis, Imperial College, University of London.
- Watts, S.H. (1981) Bedrock weathering features in a portion of eastern High Arctic Canada: their nature and significance. *Annals of Glaciology*, 2, 175–6.
- Watts, S.H. (1983) Weathering processes and products under arid arctic conditions. *Geografiska Annaler*, 65A, 85–98.
- Watts, W.A. (1967) Interglacial deposits in Kil-dromin Townland, near Herbertstown, Co. Limerick. *Proceedings of the Royal Irish Academy*, 65B, 339–48.
- Watts, W.A. (1977) The Late Devensian vegetation of Ireland. *Philosophical Transactions of the Royal Society of London*, B280, 273–93.
- Watts, W.A. (1980) Regional variation in the response of vegetation to Lateglacial climatic events in Europe. In *Studies in the Lateglacial of North West Europe* (eds J.J. Lowe, J.M. Gray and J.E. Robinson). Pergamon Press, Oxford, pp. 1–22.
- Watts, W.A. (1985) Quaternary vegetation cycles. In *The Quaternary History of Ireland* (eds K.J. Edwards and W.P. Warren). Academic Press, London, pp. 155–85.
- Webb, J.A. and Moore, P.D. (1982) The Late Devensian vegetational history of the Whitlaw Mosses, south-east Scotland. *New Phytologist*, 91, 341–98.
- Weertman, J. (1961) Mechanisms for the formation of inner moraines found near the edge of cold ice caps and ice sheets. *Journal of Glaciology*, 3, 965–78.
- Welin, E., Engstrand, L. and Vaczy, S. (1975) Institute of Geological Sciences radiocarbon dates VI. *Radiocarbon*, 17, 157–9.
- Werritty, A. and Brazier, V. (1991) *The Geomorphology, Conservation and Management of the River Feshie SSSI*. Peterborough, Nature Conservancy Council Report, 73pp + figures, plates and appendices.
- Werritty, A. and Ferguson, R.I. (1980) Pattern Changes in a Scottish braided river over 1,30 and 200 years. In *Timescales in Geomorphology* (eds R.A. Cullingford, D.A. Davidson and J. Lewin). John Wiley, Chichester, pp. 247–59.
- West, R.G. (1970) Pollen zones in the Pleistocene of Great Britain and their correlation. *New Phytologist*, 69, 1179–83.
- West, R.G. (1977) *Pleistocene Geology and Biology*, 2nd edn. Longman, London, 440 pp.
- West, R.G. (1980) Pleistocene forest history of East Anglia. *New Phytologist*, 85, 571–622.
- Westoll, T.S. (1942) The corries of the Cairngorms. *Cairngorm Club Journal*, 83, 216–24.
- Whalley, W.B. (1974) *The mechanics of high-magnitude, low frequency rock failure and its importance in a mountainous area*. University of Reading, Department of Geography, Geographical Papers, No. 27, 48 pp.
- Whalley, W.B. (1976a) A fossil rock glacier in Wester Ross. *Scottish Journal of Geology*, 12, 175–8.
- Whalley, W.B. (1976b) Some aspects of the structure and development of earth pillars and corrugated lateral moraine surfaces. *Studia Geomorphologica Carpatho-Balcanica*, 10, 49–62.
- Whalley, W.B. and Martin, H.E. (1992) Rock glaciers: II models and mechanisms. *Progress in Physical Geography*, 16, 127–86.
- Whalley, W.B., Gordon, J.E. and Thompson, D.L. (1981) Periglacial features on the margins of a receding plateau ice cap, Lyngen, North Norway. *Journal of Glaciology*, 27, 492–6.

- Whalley, W.B., Douglas, G.R. and Jonsson, A. (1983) The magnitude and frequency of large rockslides in Iceland in the Postglacial. *Geografiska Annaler*, 65A, 99–110.
- White, I.D. and Mottershead, D.N. (1972) Past and present vegetation in relation to solifluction on Ben Arkle, Sutherland. *Transactions of the Botanical Society of Edinburgh*, 41, 475–89.
- White, S.E. (1976) Rock glaciers and block fields, review and new data. *Quaternary Research*, 6, 77–97.
- Whittington, G. (1990) The Dalcharn interglacial site, near Cawdor, Nairnshire. Results of pollen analysis on the Dalcharn Biogenic Member. In *Beauty to Nairn: Field Guide* (eds C.A. Auton, C.R. Firth and J.W. Merritt). Quaternary Research Association, Cambridge, pp. 57–9.
- Whittington, G. and Edwards, K.J. (1990) The cultivation and utilisation of hemp in Scotland. *Scottish Geographical Magazine*, 106, 167–73.
- Whittington, G. and Gordon, A.D. (1987) The differentiation of the pollen of *Cannabis sativa* L from that of *Humulus lupulus* L. *Pollen et Spores*, 29, 111–20.
- Whittington, G. and Ritchie, W. (1988) Flandrian environmental evolution on north-east Benbecula and southern Grimsay, Outer Hebrides, Scotland. *O'Dell Memorial Monograph (Department of Geography, University of Aberdeen)*. No. 21, 46 pp.
- Whittington, G., Edwards, K.J. and Cundill, P.R. (1990) Palaeoenvironmental investigations at Black Loch in the Ochil Hills of Fife, Scotland. *O'Dell Memorial Monograph (Department of Geography, University of Aberdeen)*, No. 22, 64 pp.
- Whittington, G., Edwards, K.J. and Cundill, P.R. (1991a) Late- and post-glacial vegetational change at Black Loch, Fife, eastern Scotland — a multiple core approach. *New Phytologist*, 118, 147–66.
- Whittington, G., Edwards, K.J. and Caseldine, C.J. (1991b) Late- and post-glacial pollen-analytical and environmental data from a near-coastal site in north-east Fife, Scotland. *Review of Palaeobotany and Palynology*, 68, 65–85.
- Whittington, G., Edwards, K.J. and Cundill, P.R. (1991c) Palaeoecological investigations of multiple elm declines at a site in north Fife, Scotland. *Journal of Biogeography*, 18, 71–87.
- Whittow, J.B. (1977) *Geology and Scenery in Scotland*. Penguin Books, Harmondsworth, 362 pp.
- Wilkins, D.A. (1984) The Flandrian woods of Lewis (Scotland). *Journal of Ecology*, 72, 251–8.
- Wilkinson, S.B. (1900) In *Summary of Progress of the Geological Survey of the United Kingdom for 1899*. Memoirs of the Geological Survey. HMSO, London, pp. 163–4.
- Wilkinson, S.B. (1907) *The Geology of Islay, including Oronsay and Portions of Colonsay and Jura*. Explanation of Sheets 19 and 27, with the western part of Sheet 20. Memoirs of the Geological Survey of Scotland, HMSO, Glasgow, 82 pp.
- Williams, R.B.G. (1975) The British climate during the last glaciation: an interpretation based on periglacial phenomena. In *Ice Ages: Ancient and Modern* (eds A.E. Wright and F. Moseley). Seel House Press, Liverpool, pp. 95–120.
- Williams, W. (1977) The Flandrian vegetational history of the Isle of Skye and the Morar Peninsula. Unpublished PhD thesis, University of Cambridge.
- Williams, R.E.G. and Johnson, A.S. (1976) Birmingham University radiocarbon dates X. *Radiocarbon*, 18, 249–67.
- Wilson, G.V., Edwards, W., Knox, J., Jones, R.C.B. and Stephens, J.V. (1935) *The Geology of the Orkneys*. Memoirs of the Geological Survey of Scotland, HMSO, Edinburgh, 205 pp.

Wilson, J.S.G. (1886) *North-east Aberdeenshire, and Detached Portions of Banffshire*. Explanation of sheet 87. Memoirs of the Geological Survey of Scotland, HMSO, Edinburgh, 32 pp.

Wilson, J.S.G. (1900) Glen Spean and the Great Glen. *Summary of Progress of the Geological Survey of the United Kingdom for 1899*. Memoirs of the Geological Survey, HMSO, London, pp. 158–62.

Wilson, J.S.G. and Hinxman, L.W. (1890) *Central Aberdeenshire* Explanation of Sheet 76. Memoirs of the Geological Survey of Scotland, HMSO, Edinburgh, 43 pp.

Wilson, M.J. (1985) The mineralogy and weathering history of Scottish soils. In *Geomorphology and Soils* (eds K.S. Richards, R.R. Arnett and S. Ellis). George Allen and Unwin, London, pp. 233–44.

Wilson, M.J. and Tait, J.M. (1977) Halloysite in some soils from north-east Scotland. *Clay Minerals*, 12, 59–66.

Wilson, M.J., Bain, D.C. and McHardy, W.J. (1971) Clay mineral formation in a deeply-weathered boulder conglomerate in northeast Scotland. *Clays and Clay Minerals*, 19, 345–52.

Wilson, M.J., Russell, J.D., Tait, J.M., Clark, D.R., Fraser, A.R. and Stephen, I. (1981) A swelling haematite/layer-silicate complex in weathered granite. *Clay Minerals*, 16, 261–78.

Wilson, M.J., Russell, J.D., Tait, J.M., Clark, D.R. and Fraser, A.R. (1984) Macaulayite, a new mineral from north-east Scotland. *Mineralogical Magazine*, 48, 127–9.

Wilson, P. (1989) Nature, origin and age of Holocene aeolian sand on Muckish Mountain, Co. Donegal, Ireland. *Boreas*, 18, 159–68.

Wilson, P. (1990a) Characteristics and significance of protalus ramparts and fossil rock glaciers on Errigal Mountain, County Donegal. *Proceedings of the Royal Irish Academy*, 90B, 1–21.

Wilson, P. (1990b) Morphology, sedimentological characteristics and origin of a fossil rock glacier on Muckish Mountain, north-west Ireland. *Geografiska Annaler*, 72A, 237–47.

Wood, J.M. (1975) *Witchcraft and Superstitious Records in the South-Western District of Scotland*. E.P. Publishing, Wakefield, 355 pp.

Wood, W. (1887) *The East Neuk of Fife: its History and Antiquities*, 2nd edn. David Douglas, Edinburgh, 586 pp.

Worsley, P. (1991) Possible early Devensian glacial deposits in the British Isles. In *Glacial Deposits in Great Britain and Ireland* (eds J. Ehlers, P.L. Gibbard and J. Rose). A.A. Balkema, Rotterdam, pp. 47–51.

Wright, J. (1896) Boulder-clay, a marine deposit. *Transactions of the Geological Society of Glasgow*, 10, 263–72.

Wright, W.B. (1911) On a preglacial shoreline in the Western Isles of Scotland. *Geological Magazine*, Decade 5, 8, 97–109.

Wright, W.B. (1914) *The Quaternary Ice Age*. Macmillan, London, 464 pp.

Wright, W.B. (1928) The raised beaches of the British Isles. *First Report of the Commission on Pliocene and Pleistocene Terraces*. International Geographical Union, Oxford, pp. 99–106.

Wright, W.B. (1937) *The Quaternary Ice Age*, 2nd edn. Macmillan, London, 478 pp.

Yamasaki, F., Hamada, T. and Hamada, C. (1969) Riken natural radiocarbon measurements V. *Radiocarbon*, 11, 451–62.

- Yates, E.M. and Moseley, F. (1967) A contribution to the glacial geomorphology of the Cheshire Plain. *Transactions of the Institute of British Geographers*, 42, 107–25.
- Young, I. (1988) Caves of the Allt nan Uamh basin. In *The Limestone Caves of Scotland, Part 2. Caves of Assynt* (ed. T.J. Lawson). The Grampian Speleological Group Occasional Publication, 6, 41–64.
- Young, J. (1864) On the former existence of glaciers in the high grounds of the south of Scotland. *Quarterly Journal of the Geological Society of London*, 20, 452–62.
- Young, J. and Craig, R. (1869) Notes on the occurrence of seeds of freshwater plants and arctic shells, along with the remains of the mammoth and reindeer in beds under the boulder clay at Kilmaurs. *Transactions of the Geological Society of Glasgow*, 3, 310–21.
- Young, J.A.T. (1966) Analysis of glacial deposits near Fala, Midlothian. Unpublished PhD thesis, University of Edinburgh.
- Young, J.A.T. (1969) Variations in till macrofabric over very short distances. *Bulletin of the Geological Society of America*, 80, 2343–52.
- Young, J.A.T. (1974) Ice wastage in Glenmore, upper Spey Valley, Inverness-shire. *Scottish Journal of Geology*, 10, 147–57.
- Young, J.A.T. (1975a) Ice wastage in Glen Feshie, Inverness-shire. *Scottish Geographical Magazine*, 91, 91–101.
- Young, J.A.T. (1975b) A re-interpretation of the deglaciation of Abernethy Forest, Inverness-shire. *Scottish Journal of Geology*, 11, 193–205.
- Young, J.A.T. (1976) The terraces of Glen Feshie, Inverness-shire. *Transactions of the Royal Society of Edinburgh*, 69, 501–12.
- Young, J.A.T. (1977a) Glacial geomorphology of the Aviemore–Loch Garten area, Strathspey, Inverness-shire. *Geography*, 62, 25–34.
- Young, J.A.T. (1977b) Glacial geomorphology of the Dulnain Valley, Inverness-shire. *Scottish Journal of Geology*, 13, 59–74.
- Young, J.A.T. (1978) The landforms of upper Strathspey. *Scottish Geographical Magazine*, 94, 76–94.
- Young, J.A.T. (1980) The fluvioglacial landforms of mid-Strathdearn, Inverness-shire. *Scottish Journal of Geology*, 16, 209–20.
- Zagwijn, W.H. (1975) Variations in climate as shown by pollen analysis in the Lower Pleistocene of Europe. In *Ice Ages: Ancient and Modern* (eds A.E. Wright and F. Moseley). Seel House Press, Liverpool, pp. 137–52.
- Zagwijn, W.H. (1986) The Pleistocene of the Netherlands with special reference to glaciation and terrace formation. *Quaternary Science Reviews*, 5, 341–5.
- Zbinden, H., Andree, M., Oeschger, H., Ammann, B., Lotter, A., Bonani, G. and Walfii, W. (1989) Atmospheric radiocarbon at the end of the last glacial: an estimate based on AMS radiocarbon dates on terrestrial macrofossils from lake sediments. *Radiocarbon*, 31, 795–804.
- Zimmerman, H.B., Shackleton, N.J., Backman, J., Baldauf, J.G., Kaltenbach, A.J. and Morton, A.C. (1984) History of Plio-Pleistocene climate in the north-eastern Atlantic, Deep Sea Drilling Project Hole 552A. *Initial Reports of the Deep Sea Drilling Project*, 81, 861–75.

[References](#)