

Culduthel

An Iron Age Craftworking Centre in North-East Scotland

Candy Hatherley and Ross Murray

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Abbreviations

BAR British Archaeological Reports
CBA Council for British Archaeology

NMAS National Museum of Antiquities of Scotland

(now National Museums Scotland)

Proc Soc Antiq Scot Proceedings of the Society of Antiquaries of

Scotland

RCAHMS Royal Commission on the Ancient & Historical

Monuments of Scotland (now Historic Environ-

ment Scotland)

Secondary sources

- Abdy, R. 2003. A Roman coin hoard from Longhorsley. *Archaeologia Aeliana* (5th series), 32, 189–91.
- Aitken, W. 1970. Excavations of bloomeries in Rannoch, Perthshire, and elsewhere. *Proc Soc Antiq Scot*, 102, 188–204.
- Anderson, J. 1900. Description of a collection of objects found in excavations at St Blane's Church, Bute, exhibited by the Marquis of Bute. *Proc Soc Antiq Scot*, 34, 307–25.
- Anon. 1892. Catalogue of the National Museum of Antiquities of Scotland. Edinburgh: Society of Antiquaries of Scotland.
- Arletti, R., Quartieri, S. & Vezzalini, G. 2006. Glass mosaic tesserae from Pompeii: an archaeometrical investigation. *Periodico di Mineralogia*, 75, 2–3, 25–38.
- Armit, I. 1991. The Atlantic Scottish Iron Age: five levels of chronology. *Proc Soc Antiq Scot*, 121, 181–214.
- Armit, I. 2005. Land-holding and inheritance in the Atlantic Scottish Iron Age. In: Turner, V. E., Nicholson, R. A., Dockrill, S. J., & Bond, J. M. (eds) *Tall stories? Two millennia of brochs*. Lerwick: Shetland Amenity Trust, 129–43.
- Armit, I. 2006. Anatomy of an Iron Age roundhouse: the Cnip Wheelhouse excavations, Lewis. Edinburgh: Society of Antiquaries of Scotland.
- Armit, I. & McKenzie, J. 2013. An inherited place: Broxmouth Hillfort and the South-East Scottish Iron Age. Edinburgh: Society of Antiquaries of Scotland.
- Armit, I., Schulting, R., Knüsel, C. & Shepherd, I. 2011. Death, decapitation and display? The Bronze and Iron Age human remains from the Sculptor's Cave, Covesea, North-east Scotland. *Proceedings of the Prehistoric Society*, 77, 251–78.
- Arnold, D. 1985. Ceramic theory and cultural process. Cambridge: Cambridge University Press.
- Auton, C., Firth, C. & Merritt, J. 1990. Beauly to Nairn: field guide. Coventry: Quaternary Research Association.

- Ballin Smith, B. 1994. Howe: four millennia of Orkney prehistory. Edinburgh: Society of Antiquaries of Scotland.
- Ballin Smith, B., Bjarke Ballin, T., Clarke, A., Forster, A., Goldberg, M., Hunter, F., Jones, R., Lelong, O., McLaren, D. & Newton, A. 2019. Craftwork at Milla Skerra: metalworking and bone, stone and iron tools. In: Lelong, O. (ed.) Excavations at Milla Skerra, Sandwick, Unst: rhythms of life in Iron Age Shetland. Oxford: Oxbow Books.
- Barber, J. 1997. The archaeological investigation of a prehistoric landscape: excavations on Arran 1978–81. Edinburgh: Scottish Trust for Archaeological Research.
- Barclay, G. 1993. The excavation of pit circles at Romancamp Gate, Fochabers, Moray, 1990. *Proc Soc Antiq Scot*, 123, 255–68.
- Barclay, G. & Maxwell, G. 1991. Excavation of a Neolithic long mortuary enclosure within the Roman legionary fortress at Inchtuthil, Perthshire. *Proc Soc Antiq Scot*, 121, 27–44.
- Barnes, I. 1985. The analysis and re-creation of bronze and brass mould residues. In: Bryce, T. & Tate, J. (eds) *The laboratories of the National Museum of Antiquities of Scotland, 2*. Edinburgh: NMAS, 40–6.
- Bateson, J. 1981. Enamel-working in Iron Age, Roman and Sub-Roman Britain: the products and techniques. British Series 93. Oxford: BAR.
- Bateson, J. & Hedges, R. 1975. The scientific analysis of a group of Roman-Age enamelled brooches. *Archaeometry*, 17 (2), 177–90.
- Bateson, J. & Holmes, N. 2006. Roman and medieval coins found in Scotland, 2001–2005. *Proc Soc Antiq Scot*, 136, 161–98.
- Bayley, J. 1990. Evidence for metalworking (Finds Research Group 700–1700: datasheet 12). Norwich: Finds Research Group.
- Bayley, J. 1992. Anglo-Scandinavian non-ferrous metalworking from 16–22 Coppergate. York: York Archaeological Trust.
- Bayley, J. & Butcher, S. 2004. Roman brooches in Britain: a technological and typological study based on the Richborough Collection. London: Society of Antiquaries of London.
- Bayley, J., Dungworth, D. & Paynter, S. 2001. *Archaeometallurgy*. London: English Heritage.
- Bayley, J. & Rehren, T. 2007. Towards a functional and typological classification of crucibles. In: La Niece, S., Hook, D. & Craddock, P. (eds) *Metals and mines: studies in archaeometallurgy*. London: Archetype Books, 46–55.
- Benton, S. 1931. The excavation of the Sculptor's Cave, Covesea. *Proc Soc Antiq Scot*, 65, 177–216.
- Bersu, G. 1947. 'Fort' at Scotstarvit Covert, Fife. *Proc Soc Antiq Scot*, 82, 241–63.
- Bertini, M., Mokso, R. & Krupp, E. M. 2014. Unwinding the spiral: discovering the manufacturing method of Iron Age Scottish glass beads. *Journal of Archaeological Science*, 43, 256–66.

- Bertini, M., Shortland, A., Milek, K. & Krupp, E. M. 2011. Investigation of Iron Age north-eastern Scottish glass beads using element analysis with LA-ICP-MS. *Journal of Archaeological Science*, 38, 2750–66.
- Bishop, R., Church, M. & Rowley-Conwy, P. 2009. Cereals, fruits and nuts in the Scottish Neolithic. *Proc Soc Antiq Scot*, 139, 47–103.
- Blakelock, E., Martinón-Torres, M., Veldhuijzen, H. & Young, T. 2009. Slag inclusions in iron objects and the quest for provenance: an experiment and a case study. *Journal of Archaeological Science*, 36, 1745–57.
- Bond, J. 1998. Ashes to the earth: the making of a settlement mound. In: Nicholson, R. A. & Dockrill, S. (eds) *Old Scatness Broch, Shetland: retrospect and prospect*, Bradford: University of Bradford (Bradford Archaeo Sci Res 5, NABO monograph no. 2), 81–96.
- Boschetti, C., Bonamartini, A. C., Fabbri, B., Leonelli, C., Macchiarola, M., Ruffini, A., Santoro, S., Speranza, M. & Veronesi, P. 2007. Caratterizzazione Archeometrica dei Mosaici del Ninfeo della Domus del Centenario. In: Santoro, S. (ed.) *Pompei. Insula del centenario (Ix, 8) Indagini Diagnostiche Geofisiche Analisi Archeometriche*, Studi e Scavi, nuova serie 16. Bologna.
- Bradley, R. 2000. The good stones: a new investigation of the Clava Cairns. Edinburgh: Society of Antiquaries of Scotland.
- Bradley, R., Watson, A. & Scott, R. 2016. The earlier prehistoric collections from the Culbin Sands, northern Scotland: the construction of a narrative. In: Hunter, F. & Sheridan, A. (eds) Ancient lives: object, people and place in Early Scotland. Essays for David V Clarke on his 70th birthday. Leiden: Sidestone Press.
- Brill, H. 1999. *Chemical analyses of early glasses, Vols I and II.* New York: Corning Museum of Glass.
- Brill, H. & Cahill, N. 1988. A red opaque glass from Sardis and some thoughts on red opaques in general. *Journal of Glass Studies*, 30, 16–27.
- Bronk, H. & Freestone, I. 2001. A quasi non-destructive microsampling technique for the analysis of intact glass objects by SEM/EDXA. *Archaeometry*, 43, 517–27.
- Bronk Ramsey, C. 2009. Dealing with outliers and offsets in radio-carbon dating. *Radiocarbon*, 51(3), 1023–45.
- Brophy, K. 1999. Cursus monuments of Scotland. In: Barclay, A. & Harding, J. (eds) Pathways and Ceremonies: the Cursus monuments of Britain and Ireland. Oxford. 119–29.
- Brophy, K. & Noble, G. 2011. Within and beyond pits: deposition in lowland Neolithic Scotland. In: Anderson-Whymark, H. & Thomas, J. (eds) Regional perspectives on Neolithic pit deposition: beyond the mundane, Neolithic Studies Group Seminar Papers. Oxford, 63–76.
- Brown, G. 2003. Holm Mains Farm, Inverness (Inverness & Bona parish), Short Cists. *Discovery and Excavation in Scotland, New,* 4, 87.
- Brück, J. 1999. Houses, lifecycles and deposition on Middle Bronze Age settlements in southern England. *Proceedings of the Prehistoric Society* 65, 145–66
- Brun, N. 1991. Etude de verres opaques celtiques et gallo-romains. Unpublished PhD thesis. Université de Paris-Sud, Centre D'Orsay.
- Brun, N. & Pernot, M. 1992. The opaque red glass of Celtic enamels from continental Europe. *Archaeometry*, 34, 235–52.
- Burley, E. 1956. A catalogue and survey of the metal-work from Traprain Law. *Proc Soc Antiq Scot*, 89, 118–226.
- Büster, L. & Armit, I. 2013. Phase 6: the Late Iron Age village, in An Inherited Place: Broxmouth hillfort and the south-east Scottish Iron Age, by

- Armit, I. & McKenzie, J.. Edinburgh: Society of Antiquaries of Scotland, 115–86.
- Büster, L. & Armit, I. 2014. Occupation Cave 1 & 2, Covesea, Moray. Discovery and Excavation in Scotland, New, 15, 134–5.
- Büster, L. & Armit, I. 2015. Occupation Cave 1 & 2, Covesea, Moray. Discovery and Excavation in Scotland, New, 16, 124.
- Callander, J. 1916. Notice of a jet necklace found in a cist in a Bronze Age cemetery, discovered on Burgie Lodge Farm, Morayshire, with notes on Scottish prehistoric jet ornaments. *Proc Soc Antiq Scot*, 50, 201–40
- Callander, J. 1921. Report on the excavation of Dun Beag, a broch near Struan, Skye. *Proc Soc Antiq Scot*, 55, 110–31.
- Campbell, E. 1991. Excavations of a wheelhouse and other Iron Age structures at Sollas, North Uist, by R. J. C. Atkinson in 1957. *Proc Soc Antiq Scot*, 121, 117–73.
- Campbell, E. 1998. Metal pins. In: Sharples, N. (ed.) Scalloway: a broch, Late Iron Age settlement and medieval cemetery in Shetland. Oxford: Oxbow, 168–71.
- Carter, S. 1993. Tulloch Wood, Forres, Moray; the survey and dating of a fragment of prehistoric landscape. *Proc Soc Antiq Scot*, 123, 215–33.
- Carter, S., Hunter, F. & Smith, A. 2010. A 5th century BC Iron Age chariot burial from Newbridge, Edinburgh. *Proceedings of the Prehistoric Society*, 76.
- Carter, S. & Russell-White, C. 1993. The investigation of two cropmark sites near Inverness. Proc Soc Antiq Scot, 123 (1993), 235–43.
- Carver, M. 1999. Surviving in symbols. Edinburgh: Canongate.
- Carver, M. 2008. Portmahomack Monastery of the Picts. Edinburgh: Edinburgh University Press.
- Caulfield, S. 1978. Quern replacement and the origin of the brochs. *Proc Soc Antig Scot*, 109, 129–39.
- Chapman, E., Hunter, F., Booth, P., Wilson, P., Worrell, S. & Tomlin, R. 2009. Roman Britain in 2008. *Britannia*, 40, 219–364.
- Christison, D. & Anderson, J. 1905. Report on the Society's excavations of forts on the Poltalloch Estate, Argyll, in 1904–5. *Proc Soc Antiq Scot*, 39, 259–322.
- Clarke, D. 1971. Small finds in the Atlantic province: problems of approach. *Scottish Archaeological Forum*, 3, 22–54.
- Cleere, H. F. 1971. Ironmaking in a Roman furnace. *Britannia*, 2, 203–17.
- Cleere, H. F. 1977. Comments on the ironworking activities. In: Hanworth, R. & Tomalin, D. J. (eds) Weybridge: the excavation of an Iron Age and medieval site 1964–5 and 1970–1. Guildford: Research Volume of the Surrey Archaeological Society, 4, 8–22.
- Close-Brooks, J. 1987. The clay moulds. In: Hedges, J. (ed.) *Bu, Gurness and the brochs of Orkney II: Gurness*. Oxford: British Archaeological Reports British Series 163, 303–5.
- Coleman, R. & Hunter, F. 2002. The excavation of a souterrain at Shanzie Farm, Alyth, Perthshire. *Tayside and Fife Archaeological Journal*, 8, 77–101.
- Cook, M. 2003. Grantown Road, Forres (Forres parish), evaluation. Discovery and Excavation in Scotland, New, 4, 96.
- Cook, M. 2008. Grantown Road, R2, Forres, Moray (Forres parish), excavation. Discovery and Excavation in Scotland, New, 9, 123.
- Cook, M. 2010a. Grantown Road, Forres, Moray (Forres parish), evaluation and excavation. *Discovery and Excavation in Scotland, New,* 11, 113.
- Cook, M. 2010b. New light on oblong forts: excavations at Dunnideer, Aberdeenshire. Proc Soc Antiq Scot 140, 79–91.

- Cook, M. & Dunbar, L. 2008. Rituals, Romans and roundhouses: excavations at Kintore, Aberdeenshire 2000–2006. Volume 1: Forest Road. Edinburgh: STAR.
- Cool, H. E. M. 2003. Local production and trade in glass vessels in the British Isles in the first to seventh centuries AD. In: Foy, D. & Nenna, M.D. (eds) Échanges et Commerce du verre dans le monde antique, Monographies Instrumentum 24. Montagnac: Éditions Monique Mergoil, 139–43.
- Cool, H. E. M. 2007. The coarse stone tools. In: Dunwell, A. (ed.) Cist burials and an Iron Age settlement at Dryburn Bridge, Innerwick, East Lothian, Scottish Archaeological Internet Reports, 24, 75–8.
- Cool, H. E. M. 2008. Finds associated with the bead cache pit. In: Kenney, J. (ed.) Recent excavations at Parc Bryn Cegin, Llandygai, near Bangor, North Wales. Archaeologica Cambrensis, 157, 9–142 (97–9).
- Cool, H. E. M., Lloyd-Morgan, G. & Hooley, A. D. 1995. The archaeology of York. Vol. 17/10 Finds from the fortress. York: York Archaeological Trust.
- Coutts, H. 1971. Tayside before history. A guide-catalogue of the collection of antiquities in Dundee Museum. Dundee: Dundee Museum and Art Gallery.
- Cowie, T. & O'Connor, B. 2009. Some Early Bronze Age stone moulds from Scotland. In: Kienlin, T. & Roberts, B. (eds) *Metals and societies. Studies in honour of Barbara S. Ottaway.* 313–27.
- Craddock, P., Cowell, M. & Stead, I. 2004. Britain's first brass. *Antiquaries Journal*, 84, 339–46.
- Craw, J. 1930. Excavations at Dunadd and at other sites on the Poltalloch Estates, Argyll. *Proc Soc Antiq Scot*, 64, 111–46.
- Cree, J. 1923. Account of the excavations on Traprain Law during the summer of 1922. *Proc Soc Antig Scot*, 57, 180–226.
- Cree, J. 1924. Account of excavations on Traprain Law during the summer of 1923. *Proc Soc Antiq Scot*, 58, 241–84.
- Cressey, M. & Anderson, S. 2011. A later prehistoric settlement and metalworking site at Seafield West, near Inverness, Highland. *Scottish Archaeological Internet Reports*, 47.
- Crew, P. 1987. Bryn y Castell Hillfort A late prehistoric iron working settlement in north-west Wales. In: Scott, B. & Cleere, H. (eds) *The crafts of the blacksmith*. Belfast: UISPP, 91–100.
- Crew, P. 1994. Currency bars in Great Britain, typology and function. In: Mangin, M. (ed.), La Sidérurgie Ancienne de l'Est de la France dans son Context Européen. Besançon, 345–50.
- Crew, P. 1995. Aspects of the iron supply, In: Cunliffe, B. W. (ed.) Danebury: an Iron Age hillfort in Hampshire, vol 6: a hillfort community in perspective. CBA Research Report 102, 276–84.
- Crew, P. 1998. Excavations at Crawcwellt, West Merioneth 1990–1998: a late prehistoric upland iron-working settlement. *Archaeology in Wales*, 38, 22–35.
- Crew, P. & Rehren, T. 2002. High temperature workshop residues from Tara: iron, bronze and glass. In: Roche, H. (ed.) *Excavations at Ráith na Ríg, Tara, c.o. Meath, 1997*. Dublin: Royal Irish Academy, Discovery Programme Reports 6, 83–102.
- Cruickshanks, G. 2010. Iron smelting and smithing at Birnie. In: Beakers, bones and Birnie: archaeological works in progress associated with Elgin Museum, 27. Elgin: Elgin Museum, The Moray Society.
- Cruickshanks, G. 2017 Iron in Iron Age Scotland: a long term case study of production and use c.800 BC to AD 800. Unpublished PhD thesis. University of Edinburgh.

- Cruickshanks, G. & McLaren, D. 2011 'The vitrified material from Culduthel Farm, Phases 7 and 8'. Unpublished archive report compiled on behalf of Headland Archaeology Ltd.
- Cunliffe, B. W. 2005, *Iron Age communities in Britain* (4th edn.). London: Routledge.
- Curle, A. 1915. Account of excavations on Traprain Law in the parish of Prestonkirk, county of Haddington, in 1914. Proc Soc Antiq Scot, 49, 139–202
- Curle, A. 1936. Account of the excavation of an Iron Age smeltery, and of an associated dwelling and tumuli at Wiltrow in the parish of Dunrossness, Shetland. *Proc Soc Antiq Scot*, 70, 153–69.
- Curle, A. & Cree, J. 1916. Account of excavations on Traprain Law in the parish of Prestonkirk, county of Haddington, in 1915. Proc Soc Antiq Scot, 50, 64–144.
- Davis, M. & Gwilt, A. 2008. Material, style and identity in first century AD metalwork, with particular reference to the Seven Sisters Hoard. In: Garrow, D., Gosden, C. & Hill, J. D. (eds) *Rethinking Celtic Art*. Oxford: Oxbow, 145–83.
- Degryse, P. & Schneider, J. 2008. Pliny the Elder and Sr-Nd isotopes: tracing the provenance of raw materials for Roman glass production. *Journal of Archaeological Science*, 35, 1993–2000.
- DeRoche, C. D. 1997 Studying Iron Age production. In: Gwilt, A. & Haselgrove, C. (eds) Reconstructing Iron Age societies: new approaches to the British Iron Age. Oxford: Oxbow, 19–25.
- Dockrill, S. J. 2007. Investigations in Sanday, Orkney Vol 2: Tofts Ness, Sanday, an island landscape through 3000 years of prehistory. Edinburgh: Historic Scotland.
- Dungworth, D. 1996. The production of copper alloys in Iron Age Britain. *Proceedings of the Prehistoric Society*, 62, 399–421.
- Dungworth, D. 1997. Iron Age and Roman copper alloys from Northern Britain. *Internet Archaeology* 2.
- Dungworth, D. 2000. A note on the analysis of crucibles and moulds. *Historical Metallurgy*, 34 (2), 83–6.
- Dungworth, D. 2007. Heckfield, Hampshire: an examination of Middle Iron Age iron melting slags. Research Department Report Series, 104. Portsmouth: English Heritage.
- Dungworth, D. 2011. Examination of metalworking debris from the 1939 excavations at Trevelgue Head. In: Nowakowski, J. & Quinnell, H. (eds) Trevelgue Head, Cornwall an Iron Age cliff-castle: the story of the 1939 excavations by the late C. K Croft Andrew. Truro: Cornwall County Council
- Dungworth, D. & Paynter, S. 2011. Nano-scale investigation of some dichroic/opalescent archaeological materials. In: Turbanti-Memmi, I. (ed.) Advances in archaeometry: proceedings of the 37th International Symposium on Archeometry, 13th–16th May 2008, Sienna, Italy. Springer, 371–75.
- Dungworth, D. & Wilkes, R. 2009. Understanding hammerscale: the use of high-speed film and electron microscopy. *Historical Metallurgy*, 43, 33–46.
- Dunwell, A. 2007. Cist burials and an Iron Age settlement at Dryburn Bridge, Innerwick, East Lothian. *Scottish Archaeological Internet Reports*, 24.
- Dunwell, D. & Ralston, I. B. M. 2008. Archaeology and early history of Angus. Stroud: Tempus.
- Dutton, A. 2004. Culduthel Mains Farm, Inverness Archaeological evaluation. Headland Archaeology Ltd. Unpublished client report.
- Dutton, A. 2007. Results of an archaeological excavation at Upper Slackbuie, Inverness, Phase P. Unpublished client report.

- Edwards, K. J. & Ralston, I. B. M. 1978. New dating and environmental evidence from Burghead Fort, Moray. *Proc Soc Antiq Scot*, 109, 202–10.
- Engl, R. 2008. Coarse stone. In: Cook, M. & Dunbar, L. (eds) Rituals, roundhouses and Romans: excavations at Kintore, Aberdeenshire, 2000– 2006. Edinburgh: Scottish Trust for Archaeological Research, 210–25.
- Engl, R. 2011. East Beechwood, Inverness: excavation data structure report. Unpublished report. AOC Archaeology Group.
- Fairhurst, H. C. 1984. Excavations at Crosskirk broch, Caithness. Edinburgh: Society of Antiquaries of Scotland.
- Farrell, S. 2010. Final report of an archaeological evaluation at Slacksuit, Inverness, Highland. Unpublished client report.
- Feachem, R. W. 1963. Unenclosed platform settlements. Proc Soc Antiq Scot, 94, 79–85.
- Feachem, R. W. 1966. The hillforts of northern Britain. In: Rivet, A. L. F. (ed.) *The Iron Age in Northern Britain*. Edinburgh: Edinburgh University Press, 66–86.
- Fell, V. 1997. Iron Age iron files from England. Oxford Journal of Archaeology, 16 (1), 79–98.
- Fell, V. 1998. Iron Age ferrous hammerheads from Britain. Oxford Journal of Archaeology, 17 (2), 207–25.
- Fletcher, T. P., Auton, C. A., Highton, A. J., Merritt, J. W., Robertson, S. & Rollin, K. E. 1996. Geology of Fortrose and eastern Inverness district, Memoir for 1:50000 Geological Sheet 84W (Scotland). London: British Geological Survey.
- Fojut, N. & Love, P. 1983. The defences of Dundarg Castle, Aberdeenshire. *Proc Soc Antiq Scot*, 113, 449–56.
- Freestone, I. 2005. The provenance of ancient glass through compositional analysis. *Materials Research Soc Symposium Proceedings*, Materials Research Society, 008.1.1–0081.14, 852.
- Freestone, I. C. 2006. Glass production in late Antiquity and the Early Islamic period: a geochemical perspective. In: Maggetti, M. & Messiga, B. (eds) *Geomaterials in cultural heritage*. London: The Geological Society of London (Special Publications 257), 201–16.
- Freestone, I. C., Stapleton, C. P. & Rigby, V. 2002. The production of red glass and enamel in the later iron Age, Roman and Byzantine periods. In: Entwistle, C. (ed.) Through a glass brightly – studies in Byzantine Art and Archaeology presented to David Buckton. Oxford: Oxbow, 142–54.
- Frölich, A. 2003. The armamentarium of the army surgeon. In: Jørgensen, L., Storgaard, B. & Thomsen, L. G. (eds) *The spoils of victory: the north in the shadow of the Roman Empire*. Copenhagen: National Museum, 342–43.
- Fyles, C. 2007. Archaeological excavation at Slackbuie, Inverness. SUAT Ltd. Unpublished client report.
- Giles, M. 2007. Making metal and forging relations: ironworking in the British Iron Age. Oxford Journal of Archaeology, 26, 395–413.
- Gillies, W. 1981. The craftsmen in early Celtic literature. Scottish Archaeological Forum 11, 70–85.
- Ginnever, M. 2017. An Iron Age settlement and souterrain at Dubton Farm East, Brechin, Angus. *Tayside and Fife Archaeological Journal*, 23 1–13
- Goldberg, M. 2015. Belief and ritual(isation) in later prehistoric Scotland. In: Hunter, F. & Ralston, I. B. M. (eds) *Scotland in Later Prehistoric Europe*. Oxford: Oxbow.
- Gratuze, B. 2009. Les premieres verres au natron retrouvés en Europe Occidentale; composition chimique et chrono-typologie. In: Janssens, K., Degryse, P., Cosyns, P., Caen, J. & Van 't Dack, L. (eds)

- Annales of the 17th Congress of the International Association for the History of Glass 2006. Antwerp: University Press Antwerp, 8–14.
- Greig, C. 1971. Excavations at Cullykhan, Castle Point, Troup, Banffshire. Scottish Archaeological Forum, 3, 15–21.
- Greig, C. 1972. Cullykhan. Current Archaeology, 32, 227-31.
- Grose, D. F. 1989. Toledo Museum of Art. Early ancient glass. New York: Hudson Hill Press.
- Guido, M. 1978. The glass beads of the prehistoric and Roman periods in Britain and Ireland. London: Society of Antiquaries of London.
- Halkon, P. 2011. Iron, landscape and power in Iron Age East Yorkshire. *Archaeological. Journal*, 168, 133–65.
- Halkon, P. & Millett, M. 1999. Rural settlement and industry: studies in the Iron Age and Roman archaeology of lowland East Yorkshire. Leeds: Yorkshire Archaeological Society.
- Halliday, S. 1985. Unenclosed upland settlements in the east and southeast of Scotland. In: Spratt, D. & Burgess, C. (eds) *Upland settlement in Britain: the second millennium* BC and after. Oxford: British Archaeological Reports British Series 143, 231–51.
- Halliday, S. 1999. Hut-circle settlements in the Scottish landscape. In: Frodsham, P., Topping, P. & Cowley, D. (eds) 'We were always chasing time.' Papers presented to Keith Blood, Northern Archaeology 17/18. Newcastle upon Tyne: Northern Archaeology Group, 49–66.
- Halliday, S. 2000. Milton of Leys, Inverness, Highland (Inverness & Bona parish), evaluation. Discovery and Excavation in Scotland, New, 1, 53.
- Hamilton, J. R. C. 1968. Excavations at Clickhimin, Shetland. Edinburgh: HMSO
- Harden, G. & Bone, J. 1990. Aerial photographic surveys. Discovery and Excavation in Scotland, 23–24.
- Harding, D. 2006. Redefining the northern British Iron Age. Oxford Journal of Archaeology, 25 (1), 61–82.
- Harding, D. W. & Dixon, T. N. 2000. Dun Bharabhat, Cnip: an Iron Age settlement in west Lewis. Volume 1: the structures and material culture. Edinburgh: University of Edinburgh Department of Archaeology.
- Harding, D. W. & Gilmour, S. 2000. The Iron Age settlement at Beirgh, Riof, Isle of Lewis. Excavations, 1985–95. Volume 1: the structures and stratigraphy. Edinburgh: University of Edinburgh Department of Archaeology.
- Harrison, S. 2005. *Mine Howe: fieldwork and excavation 2000–2005*. Kirkwall: Friends of Orkney Archaeological Trust.
- Hastie, M. 2004. Report of an archaeological evaluation at Culduthel Mains Farm Phase 1 & 4, Inverness. Unpublished client report.
- Hatherley, C. & Scholma-Mason, O. [forthcoming]. Forging identities: later prehistoric metalworking and occupation at Bellfield Farm, North Kessock. *Scottish Archaeological Internet Reports*.
- Heald, A. 2001. Knobbed spearbutts of the British and Irish Iron Age: new examples and new thoughts. *Antiquity*, 75, 689–96.
- Heald, A. 2005. Non-ferrous metalworking in Iron Age Scotland, c.700 BCto AD 800. Unpublished PhD thesis, University of Edinburgh.
- Heald, A. 2007. Baleshare. Discovery and Excavation in Scotland, New, 8, 203
- Heald, A. 2010. The interpretation of non-ferrous metalworking in Early Historic Scotland, In: Driscoll, S. T., Geddes, J. & Hall, M. A. (eds) *Pictish progress: new studies on Northern Britain in the Early Middle Ages.* Leiden: Brill, 221–45.
- Heald, A., McDonnell, G. & Mack, I. 2011. Ironworking debris. In: Cressey, M. & Anderson, S. (eds) A later prehistoric settlement and metalworking site at Seafield West, near Inverness, Highland. *Scottish Archaeological Internet Reports*, 47, 20–4.

- Heck, M., Rehren, T. & Hoffmann, P. 2003. The production of lead-tin yellow at Merovingian Schleitheim (Switzerland). Archaeometry, 45, 33-44.
- Hedges, J. W. 1987. Bu, Gurness and the Brochs of Orkney. Vol 2: Gurness. Oxford: British Archaeological Reports British Series, 163–5.
- Hedges, R. E. M. & Salter, C. J. 1979. Source determination of iron currency bars. *Archaeometry*, 21, 161–75.
- Helms, M. 1993. Craft and the kingly ideal. Art, trade and power. University of Texas Press.
- Hencken, T. C. 1938. The excavation of the Iron Age camp on Bredon Hill, Worcestershire, 1935–7. *Archaeological Journal*, 95, 1–111.
- Henderson, J. 1987a. The archaeology and technology of glass from Meare Village East. In: Coles, J. M. (ed.) *Meare Village East. The excavations of A. Bulleid and H. St. George Gray 1932–1956.* Exeter, 170–82.
- Henderson, J. 1987b. The Iron Age of 'Loughey' and Meare: some inferences from glass analysis. *Antiquaries Journal*, 67, 29–42.
- Henderson, J. 1987c. Glass analyses. In: Cunliffe, B. (ed.) Hengistbury Head Dorset, Volume 1: The prehistoric and Roman settlement 3500 BC-AD 500. Oxford: Oxford University Committee for Archaeology Monograph no.13, 180-6.
- Henderson, J. 1989a. The evidence for regional production of Iron Age glass in Britain. In: Feugère, M. (ed.) *Le verre préromain en Europe occidentale*, Montagnac: Editions Monique Mergoil, 63–72.
- Henderson, J. 1989b. The scientific analysis of ancient glass and its archaeological interpretation. *Scientific Analysis in Archaeology*, Oxford University Committee for Archaeology, Monograph 19, UCLA Institute of Archaeology, Archaeological Research Tools 5.
- Henderson, J. 1991a. The chemical analysis of glass beads from Burton Fleming and Rudston. In: Stead, I. M. (ed.) Iron Age cemeteries in East Yorkshire: excavations at Burton Flemming, Rudston, Garton-on-the-Wolds, and Kirkburn. London: English Heritage Archaeological Report 22. 167–9.
- Henderson, J. 1991b. Industrial specialisation in Late Iron Age Britain and Europe. In: *The Archaeological Journal*, 148. London: The Royal Archaeological Institute. 104–48.
- Henderson, J. 1994. The glass. In: Ballin Smith, B. (ed.) *Howe: four millennia of Orkney prehistory excavations 1978–1982*. Edinburgh: Society of Antiquaries Scotland, 234–6.
- Henderson, J. 1995. A reconsideration of the glass: some archaeological and technological aspects. In: Coles, J. & Minnitt, S. (eds) 'Industrious and fairly civilized'. The Glastonbury Lake Village. Exeter, 155–60.
- Henderson, J. 2005. Dun Glashan. Discovery and Excavation in Scotland, New, 6, 166.
- Henderson, J. & Freestone, I. 1991. The examination of red inlay on the brooches from Rudston and Burton Fleming. In: Stead, I. M. (ed.) Iron Age cemeteries in East Yorkshire: excavations at Burton Flemming, Rudston, Garton-on-the-Wolds, and Kirkburn. London: English Heritage Archaeological Report 22, 164–7.
- Henderson, J. & Gilmour, S. 2011. A 1st millennium AD Atlantic round-house in Argyll: survey and excavation in Loch Glashan. *Proc Soc Antiq Scot*, 141, 75–102.
- Henderson, J. & Warren, S. E. 1982. Analysis of prehistoric lead glass. In: Aspinall, A. & Warren, S. E. (eds) Proceedings of the 22nd Symposium on Archaeometry. Bradford: University of Bradford Press, 168–80.
- Henshall, A. 1982. The finds. In: Taylor, D. B. (ed.) Excavation of a promontory fort, broch and souterrain at Hurly Hawkin, Angus. *Proc Soc Antiq Scot*, 112, 225–44.

- Henshall, A. & Ritchie, J. N. G. 2001. The chambered cairns of the Central Highlands: an inventory of their structures and their context. Edinburgh: Edinburgh University Press
- Herbert, E. W. 1993. Iron, gender and power: rituals of transformation in African societies. Bloomington: Indiana University Press.
- Heslop, D. H. 2008. Patterns of quern production, acquisition and deposition.

 A Corpus of beehive querns from northern Yorkshire and southern Durham.

 Leeds: Yorkshire Archaeological Society.
- Hill, J. D. 1995. *Ritual and rubbish in the Iron Age of Wessex*. Oxford: British Archaeological Reports British Series 242.
- Hingley, R. 1990. Iron Age 'currency bars': the archaeological and social context. Archaeological Journal, 147, 91–117.
- Hingley, R. 1992. Society in Scotland from 700 BC to AD 200. Proc Soc Antiq Scot, 122, 91–117.
- Hingley, R. 1997. Iron working and regeneration: a study of the symbolic meaning of metalworking in Iron Age Britain. In: Gwilt, A. & Haselgrove, C. (eds) Reconstructing Iron Age societies: new approaches to the British Iron Age. Oxford: Oxbow, 9–18.
- Hingley, R. 2006. The deposition of iron objects in Britain during the later prehistoric and Roman periods: contextual analysis and the significance of iron. *Britannia* XXXVII, 213–57.
- Historic England. 2011. Introductions to heritage assets: pre-industrial iron-works. English Heritage.
- Hodges, H. 1989. Artifacts: an introduction to early materials and technology. London: Duckworth.
- Horne, J. & Hinxman, L. W. 1914. The Geology of the Country Round Beauly and Inverness. Sheet Memoir 83: Memoirs of the Geological Survey of Scotland. Edinburgh: HMSO.
- Howard, W. J. 2002. Kirton of Bourtle. Perforated stone object. *Discovery Excav Scot, New*, 3, 8.
- Hughes, M. J. 1972. A technical study of opaque red glass of the Iron Age in Britain. *Proceedings of the Prehistoric Society*, 38, 98–107.
- Humphries, D. W. 1992. The preparation of thin sections of rocks, minerals, and ceramics. Microscopy Handbooks 24. Oxford: Royal Microscopical Society.
- Hunter, F. 1997. Iron Age hoarding in Scotland and northern England. In: Gwilt, A. & Haslegrove, C. (eds) Reconstructing Iron Age societies: new approaches to the British Iron Age. Oxford: Oxbow Books.
- Hunter, F. 1998a. Copper alloy. In: Main, L. (ed.) Excavation of a timber round-house and broch at the Fairy Knowe, Buchlyvie, Stirlingshire, 1975–8, *Proc Soc Antiq Scot*, 128, 338–46.
- Hunter, F. 1998b. Iron. In: Main, L. (ed.) Excavation of a timber round-house and broch at the Fairy Knowe, Buchlyvie, Stirlingshire, 1975–8, Proc Soc Antiq Scot, 128, 356–67.
- Hunter, F. 1999. Fieldwork at Birnie, Moray, 1998. Department of Archaeology, National Museums Scotland. Unpublished interim report.
- Hunter, F. 2000. Excavations at Birnie, Moray, 1999. Department of Archaeology, National Museums Scotland. Unpublished interim report.
- Hunter, F. 2001a. Roman and native in Scotland: new approaches. *Journal of Roman Archaeology*, 14, 289–309.
- Hunter, F. 2001b. Iron Age objects. In: Mitchell, K. L., Murdoch, K. R. & Ward, J. R. (eds) Fast Castle: excavations 1971–86. Edinburgh: Edinburgh Archaeological Field Society, 90–1.
- Hunter, F. 2001c. The carnyx in Iron Age Europe. Antiquity Journal, 81,
- Hunter, F. 2002. Excavations at Birnie, Moray, 2001. Department of Archaeology, National Museums Scotland. Unpublished interim report.

- Hunter, F. 2003. Excavations at Birnie, Moray, 2002. Department of Archaeology, National Museums Scotland. Unpublished interim report.
- Hunter, F. 2004. *Excavations at Birnie, Moray, 2003*. Department of Archaeology, National Museums Scotland. Unpublished interim report.
- Hunter, F. 2005a. Birnie (Birnie Parish). Discovery and Excavation in Scotland, New, 6, 93-4.
- Hunter, F. 2005b. The image of the warrior in the British Iron Age coin iconography in context. In: Haselgrove, C. & Wigg, D. (eds) Ritual and Iron Age coinage in north-west Europe. Studien zu Fundmünzen der Antike 20. Mainz: Von Zabern, 43–68.
- Hunter, F. 2005c. Metalwork. In: Alexander, D. (ed.) Redcastle, Lunan Bay, Angus: the excavation of an Iron Age timber-lined souterrain and a Pictish barrow cemetery. *Proc Soc Antiq Scot*, 135, 82–7.
- Hunter, F. 2005d. Excavations at Birnie, Moray, 2004. Department of Archaeology, National Museums Scotland. Unpublished interim report.
- Hunter, F. 2006a. New light on Iron Age massive armlets. *Proc Soc Antiq Scot*, 136, 135–60.
- Hunter, F. 2006b. Recent finds from Strageath Roman fort. *Tayside and Fife Archaeological Journal*, 12, 81–8.
- Hunter, F. 2006c. Excavations at Birnie, Moray, 2005. Edinburgh: Department of Archaeology, National Museums Scotland. Unpublished interim report.
- Hunter, F. 2007a. Beyond the edge of the Empire: Caledonians, Picts and Romans. Rosemarkie: Groam House Museum.
- Hunter, F. 2007b. Excavations at Birnie, Moray, 2006. Department of Archaeology, National Museums Scotland. Unpublished interim report.
- Hunter, F. 2007c. Silver for the Barbarians: interpreting denarii hoards in north Britain and beyond. In: Hingley, R. & Willis, S. (eds) Roman finds: Context and theory. Oxford: Oxbow, 214–24.
- Hunter, F. 2007d. Artefacts, regions and identities in the northern British Iron Age. In: Haselgrove, C. & Moore, T. (eds) *The later Iron Age in Britain and beyond*. Oxford: Oxbow, 286–96.
- Hunter, F. 2007e. Discussion of the lead beads. In: Toolis, R. (ed.) Intermittent occupation and forced abandonment: excavation of an Iron Age promontory fort at Carghidown, Dumfries and Galloway. Proc Soc Antiq Scot, 137, 284–9.
- Hunter, F. 2007f. The chariot linchpin from Phantassie. In: Lelong, O. & MacGregor, G. (eds) The lands of ancient Lothian: interpreting the archaeology of the A1. Edinburgh: Society of Antiquaries of Scotland, 170
- Hunter, F. 2008a. Torbreck metal-detector find. Discovery and Excavation in Scotland, New, 9, 108.
- Hunter, F. 2008b. Excavations at Birnie, Moray, 2007. Department of Archaeology, National Museums Scotland. Unpublished interim report.
- Hunter, F. 2009a. Urquhart metal-detector find. *Discovery and Excavation in Scotland*, New, 10, 126.
- Hunter, F. 2009b. Grahamstone metal-detector find. *Discovery and Excavation in Scotland, New*, 10, 157.
- Hunter, F. 2009c. Excavations at Birnie, Moray, 2008. Department of Archaeology, National Museums Scotland. Unpublished interim report.
- Hunter, F. 2010. Excavations at Birnie, Moray, 2009. Department of Archaeology, National Museums Scotland. Unpublished interim report.

- Hunter, F. 2011a. Clarkly Hill, Moray (Duffus parish), excavation. Discovery and Excavation in Scotland, New, 12, 124.
- Hunter, F. 2011b. Small finds. In: Cressey, M. & Anderson, S. (eds) A later prehistoric settlement and metalworking site at Seafield West, near Inverness, Highland. Scottish Archaeological Internet Reports, 47, 20–4.
- Hunter, F. 2012. Excavations at Clarkly Hill, Roseisle, Moray 2011. Interim Report. National Museums Scotland.
- Hunter, F. 2014a. Art in context: the massive metalworking tradition of North-East Scotland. In: Celtic art in Europe: making connections. Essays in honour of Vincent Megaw on his 80th birthday. Oxbow, Oxford, 325–40.
- Hunter, F. 2014b. Birnie (Birnie Parish). Garguston metal-detector find. Discovery and Excavation in Scotland, New, 10, 109–10.
- Hunter, F. 2014c. Birnie (Birnie Parish). Kinnaird metal-detector find. Discovery and Excavation in Scotland, New, 10, 169.
- Hunter, F. 2015. Craft in context: artefact production in later prehistoric Scotland. In: Hunter, F. & Ralston, I. B. M. (eds) Scotland in later prehistoric Europe. Oxford: Oxbow.
- Hunter, F. [forthcoming a]. The non-ferrous metalworking evidence. In: Sharman, P. (ed.) *Excavations at Bretta Ness, Rousay.*
- Hunter, F. [forthcoming b]. The glass. In: Birch, S. A., McKenzie J. T. & Cruickshanks, G. (eds) *High Pasture Cave: ritual, memory and identity in the Iron Age of Skye.* Oxford: Oxbow.
- Hunter, F. [in prep.]. Excavations at Birnie, Moray.
- Hunter, F., Cowie, T. & Heald, A. 2006. Research priorities for archaeometallurgy in Scotland. Scottish Archaeological Journal, 28 (1), 49-62.
- Hunter, F. & Heald, A. 2008. The metal finds. In: Cook, M. & Dunbar, L. (eds) Rituals, roundhouses and Romans: excavations at Kintore, Aberdeenshire, 2000–2006. Edinburgh: Scottish Trust for Archaeological Research, 190–206.
- Hunter, F. & MacSween, A. 2006. The ceramic artefacts. In: Armit, I. (ed.) *Anatomy of an Iron Age roundhouse. The Cnip wheelhouse excavations, Lewis.* Edinburgh: Society of Antiquaries Scotland, 131–3.
- Hunter, F., McLaren, D. & Cruickshanks, G. 2018. The material world of Iron Age Wigtownshire. In: Crone, A. & Cavers, G. (eds) A Lake Dwelling in its Landscape: Iron Ages settlement at Clts Loch, Castle Kennedy, Dumfries & Galloway. Oxford: Oxbow, 195–218.
- Hutcheson, A. R. J. 1997. Native or Roman? Ironwork hoards in northern Britain. In: Meadows, K., Lemke, C. & Heron, J. (eds) TRAC 96: proceedings of the sixth annual Theoretical Roman Archaeology Conference. Oxford: Oxbow, 65–72.
- Jackson, C. M. 2005. Making colourless glass in the Roman period. Archaeometry, 47 (4), 763–80.
- Jackson, J. & Ambrose, T. M. 1978. Excavations at Wakerley. Britannia, 9, 115–242.
- Jones, B., Keillar, I. & Maude, K. 1993. The Moray Aerial Survey: discovering the prehistoric and proto-historic landscape. In: Sellar, W. D. H. (ed.) Moray: province and people. Edinburgh: The Scottish Society for Northern Studies.
- Jones, E. 2009. Bellfield, North Kessock, Ross-shire: Area 1 Archaeological Excavation. Unpublished report. Edinburgh: Headland Archaeology Ltd
- Jope, E. M. 1961. Daggers of the Early Iron Age in Britain. Proceedings of the Prehistoric Society, 27, 307–43.
- Kelly, F. 1988 A euide to early Irish law. Dublin: Dublin Institute for Advanced Studies.

- Kendrick, J. 1995. Excavation of a Neolithic enclosure and Iron Age settlement at Douglasmuir, Angus. *Proc Soc Antiq Scot*, 125, 29–67.
- Kilbride-Jones, H. E. 1938. Glass armlets in Britain. *Proc Soc Antiq Scot*, 72, 366-95.
- Kilpatrick, M. 2009. Inverness Flood Relief Channel, Highland (Inverness and Bona parish), evaluation and excavation. Discovery and Excavation in Scotland, New, 10, 100.
- Kilpatrick, M. C. 2010. Inverness Flood Relief Channel, Highland (Inverness and Bona parish), watching brief and excavation. *Discovery and Excavation in Scotland*, New, 11, 96.
- Kinnes, I., Gibson, A., Ambers, J., Bowman, S., Leese, M. & Boast, R. 1991. Radiocarbon dating of the British Beakers: the British Museum programme. Scottish Archaeological Review, 8, 35–68.
- Laing, L. 1975. The archaeology of late Celtic Britain and Ireland c.400–1200 ad. London: Methuen.
- Laing, L. & Longley, D. 2006. The Mote of Mark: a Dark Age Hillfort in South-West Scotland. Oxford: Oxbow.
- Lane, A. & Campbell, E. 2000. Dunadd: an early Dalriadic Capital. Oxford: Oxbow.
- Lang, J. 2006. The technology of some of the swords. In: Stead, I. M. (ed.) *British Iron Age swords and scabbards*. London: British Museum, 85_114
- Lethbridge, T. C. 1952. Excavations at Kilphedir, South Uist, and the problem of brochs and wheel-houses. *Proceedings of the Prehistoric Society*, 18 (2), 176–93.
- Love, P. 1989. Recent excavations at Carn Liath Broch, Golspie, Sutherland. *Glasgow Archaeological Journal*, 15, 157–69.
- Lowery, P. R., Savage, R. D. A. & Wilkins, R. L. 1971. Scriber, graver, scorper, tracer: notes on experiments in bronzeworking technique. *Proceedings of the Prehistoric Society*, 37, 167–82.
- Lund Hansen, U. 2009. Among the elite of Europe. In: Adamsen, C., Lund Hansen, U., Ole Nielsen, F. & Watt, M. (eds) *Sorte Muld:* wealth, power and religion at an Iron Age Central settlement on Bornholm. Rønne: Bornholms Museum, 83–9.
- MacAdam, W. I. 1887. Notes on the ancient iron industry of Scotland. *Proc Soc Antiq Scot*, 21, 89–131.
- MacDonald, P. & Davis, M. 2002. Old Castle Down revisited: some recent finds from the Vale of Glamorgan. In: Aldhouse-Green, M. & Webster, P. (eds) Artefacts and archaeology: aspects of the Celtic and Roman world. Cardiff: University of Wales Press, 20–32.
- MacGregor, M. 1976. Early Celtic art in Northern Britain: a study of decorative metalwork from the third century B.C. to the third century A.D. Volume 2. Leicester: Leicester University Press.
- Macinnes, L. 1984. Brochs and the Roman occupation of lowland Scotland. *Proc Soc Antiq Scot*, 114, 235–49.
- MacKie, E. W. 1971. English migrants and Scottish brochs. *Glasgow Archaeological Journal*, 2, 39–71.
- MacKie, E. W. 1974. Dun Mor Vaul: an Iron Age broch on Tiree. Glasgow: University of Glasgow Press.
- MacKie, E. W. 1987. Impact on the Scottish Iron Age of the discoveries at Leckie Broch. *Glasgow Archaeological Journal*, 14, 1–18.
- MacKie, E. W. 2000. Excavations at Dun Ardtreck, Skye, in 1964 and 1965. *Proc Soc Antiq Scot*, 130, 301–411.
- Mackreth, D. F. 1996. The bronze brooch. In: Simpson, D. D. A. (ed.) Excavation of a kerbed funerary monument at Stoneyfield, Raigmore, Inverness, Highland, 1972–3. *Proc Soc Antiq Scot*, 126, 77.
- MacSween, A. 1990. The Neolithic and Late Iron Age pottery from Pool, Sanday, Orkney. Unpublished PhD Thesis, University of Bradford.

- MacSween, A. 2008. The prehistoric pottery. In: Cook, M. & Dunbar, L. (eds) Rituals, roundhouses and Romans: excavations at Kintore, Aberdeenshire 2000–2006, volume 1: Forest Road. Edinburgh: Scottish Trust for Archaeological Research, 173–89.
- Main, L. 1998. Excavation of a timber round-house and broch at the Fairy Knowe, Buchlyvie, Stirlingshire, 1975–8. *Proc Soc Antiq Scot*, 128, 293–417.
- Mann, L. McL. 1925. Note on the results of the exploration of the fort at Dunagoil. *Trans Buteshire Natural History Society*, 9, 56–60.
- Manning, W. H. 1985. Catalogue of the Romano-British iron tools, fittings and weapons in the British Museum. London: British Museum
- Martninón-Torres, M. & Rehren, T. 2009. Post-medieval crucible production and distribution: a study of materials and materialities. *Archaeometry*, 51, 49–74.
- Maryon, H. 1938. Some prehistoric metal-workers' tools. *Antiquity*, 18, 243–50.
- Maryon, H. 1971. Metalwork and enamelling (5th edn). New York: Dover. Masser, P. 2009. Archaeological excavation at Clyde Windfarm substation site, Whelphill, near Crawford, South Lanarkshire. Headland Archaeology Ltd. Unpublished client report.
- Maxwell, H. E. 1889. Primitive implements, weapons, ornaments, and utensils from Wigtownshire. *Proc Soc Antiq Scot*, 23, 200–32.
- McCarthy, M. R. 1990. A Roman, Anglian, and medieval site at Blackfriars Street, Carlisle: excavations 1977–9. Kendal: Cumberland & Westmorland Antiquarian & Archaeological Society.
- McCondichie, A. 2006. *Culduthel Phase 6, Inverness: results of archaeological monitoring.* Headland Archaeology Ltd. Unpublished client report.
- McDonnell, G. 1998a. Preliminary metallurgical analysis of some iron objects. In: Main, L. (ed.) Excavation of a timber round-house and broch at the Fairy Knowe, Buchlyvie, Stirlingshire, 1975–8. *Proc Soc Antig Scot*, 128, 367–9.
- McDonnell, G. 1998b. Irons in the fire evidence of ironworking on broch sites. In: Nicholson, R. A. & Dockrill, S. J. (eds) *Old Scatness Broch, Shetland: retrospect and prospect.* Bradford: Department of Archaeological Sciences University of Bradford, 150–62.
- McDonnell, G. & Berg, S. 2007. Iron and ironworking. In: Hunter, J. (ed.) Investigations in Sanday, Orkney. Vol 1: excavations at Pool, Sanday. A multi-period settlement from Neolithic to Late Norse Times. Kirkwall: The Orcadian, 439–59.
- McDonnell, J. G. 1986. *The classification of early ironworking* slags. Unpublished PhD thesis, Aston University.
- McDonnell, J. G. 1994. Slag report. In: Ballin Smith, B. (ed.) *Howe: four millennia of Orkney prehistory; Excavations 1978–82*. Edinburgh: Society of Antiquaries of Scotland, 228–34.
- McDonnell, J. G. & Dockrill, S. J. 2005. Cutting edge the search for the Iron Age metals economy. In: Turner, V., Nicholson, R. A., Dockrill, S. J. & Bond, J. M. (eds) *Tall stories? Two millennia of brochs*. Lerwick: Shetland.
- McGill, C. 2003. The excavation of a palisaded enclosure and associated structures at Ironshill East, near Inverkeilor, Angus. *Tayside and Fife Archaeological Journal*, 10, 95–118.
- McLaren, D. & Heald, A. 2008. Ferrous metalworking debris. In: Lowe, C. (ed.) Inchmarnock: an Early Historic island monastery and its archaeological landscape. Edinburgh: Society of Antiquaries of Scotland, 202–7.
- McLaren, D. & Hunter, F. 2007. The coarse stone. In: Ellis, C. (ed.) Total excavation of a later prehistoric enclosure at Braehead, Glasgow. *Proc Soc Antiq Scot*, 137, 221–9.

- McLaren, D. & Hunter, F. 2008. New aspects of Scottish rotary querns. *Proc Soc Antiq Scot*, 138, 105–28.
- McLaren, D. & Hunter, F. [forthcoming]. The coarse stone tools. In: Moore, H. & Wilson, G. (eds) Excavations at Langskaill, Westray.
- Merritt, J. W. 1990. Evidence for events predating the maximum development of the last ice-sheet. In: Auton, C., Firth, C. & Merritt, J. (eds) *Beauly to Nairn: field guide*. Coventry: Quaternary Research Association, 1–3.
- Morton, G. R. & Wingrove, J. 1969. Constitution of bloomery slags, part 1: Roman. *Journal of the Iron and Steel Institute*, 207, 1556–64.
- Müller, F. 2009. Art of the Celts 700 BC to AD 700. Berne: Historisches Museum; Brussels: Mercatorfonds.
- Munro, R. 1882. Ancient Scottish lake-dwellings or Crannogs. Edinburgh: David Douglas.
- Murray, R. 2007. Culduthel Mains Farm, Inverness. Phase 5. Excavation of a later prehistoric settlement: assessment report. Headland Archaeology Ltd. Unpublished report.
- Murray, R. 2008. Data structure report of an archaeological excavation at Culduthel Farm Phases 7 and 8. Headland Archaeology Ltd. Unpublished client report.
- Murray, R. 2009. Slacknamarnock Quarry, Inverness. Excavation of a cist and cremation burial. Unpublished client report.
- Murray, R. 2011. Bellfield, North Kessock, Ross-shire: Area 2 and 3 archaeological excavation. Unpublished report, Headland Archaeology Ltd.
- Nenna, M. D., Vichy, M. & Picon, M. 1997. L'Atelier de verrier de Lyon, du Ier siècle après J.-C., et l'origine des verres 'Romains'. *Revue d'Archéomètrie*, 21, 81–7.
- Nicholson, A. 1997. The iron. In: Hill, P. (ed.) Whithorn and St Ninian: the excavation of a monastic town, 1984–91. Stroud: Alan Sutton; Whithorn Trust, 404–33.
- Nieke, M. R. 1990. Fortifications in Argyll: retrospect and future prospect. In: Armit, I. (ed.) Beyond the brochs: changing perspectives on the Atlantic Scottish Iron Age. Edinburgh: Edinburgh University Press, 131–42
- Noble, G. & Sveinbjarnarson, O. 2016 Burghead Fort (Northern Picts Project), excavation. *Discovery and Excavation in Scotland, New*, 16, 125.
- Ordnance Survey. 1874. *Inverness-shire (Mainland) Sheet XII*. Surveyed: 1868–70
- O'Sullivan, J. 1998. The architecture of prehistoric settlement at Lairg. In: McCullagh, R. P. J. & Tipping, R. (eds) *The Lairg Project 1988–1996. The evolution of an archaeological landscape in Northern Scotland.* Edinburgh: Scottish Trust for Archaeological Research Monograph 3, 102–12.
- Parker Pearson, M. 1996. Food, fertility and front doors in the first millennium BC. In: Champion, T. & Collis, J. (eds) *The Iron Age in Britain and Ireland: recent trends.* Sheffield: J R Collis, 117–32.
- Parker Pearson, M. & Sharples, N. 1999. Between land and sea: excavations at Dun Vulan, South Uist. Sheffield: Sheffield Academic Press.
- Paynter, S. 2006. Analyses of colourless Roman glass from Binchester, County Durham. *Journal of Archaeological Science*, 33, 1037–57.
- Paynter, S. 2007a. Innovations in bloomery smelting in Iron Age and Romano-British England. In: LaNiece, S., Hook, D. & Craddock, P. (eds) Metals and mines: studies in archaeometallurgy. London: British Museum. 202–10.
- Paynter, S. 2007b. Romano-British workshops for iron smelting and smithing at Westhawk Farm, Kent. *Historical Metallurgy*, 41, 15–31.
- Paynter, S. 2008. Experiments in the reconstruction of Roman wood-fired glassworking furnaces: waste products and their formation processes. *Journal of Glass Studies*, 50, 271–90.

- Peltenburg, E. 1982. Excavations at Balloch Hill, Argyll. *Proc Soc Antiq Scot*, 112, 142–214.
- Peteranna, M. 2011. South West Inverness Flood Relief Channel Phase 3: archaeological watching brief and evaluation. RoCAS. Unpublished Client Report
- Photos-Jones, E. 2000. Metallurgical examination of ferrous industrial waste and a shaft-hole axe from Dun Ardtreck. In: MacKie, E. W. (ed.) Excavations at Dun Ardtreck, Skye, in 1964 and 1965. Proc Soc Antiq Scot, 130, 301–411.
- Photos-Jones, E., Atkinson, J. A., Hall, A. J. & Banks, I. 1998. The bloomery mounds of the Scottish Highlands. Part I: the archaeological background. *Historical Metallurgy*, 32, 15–32.
- Piggott, S. 1950. Swords and scabbards of the British Early Iron Age. Proceedings of the Prehistoric Society, 16, 1–28.
- Piggott, S. 1972. Excavation of the Dalladies long barrow, Fettercairn, Knicardineshire. *Proc Soc Antig Scot*, 104, 23–47.
- Piggott, S. 1986. Horse and chariot: the price of prestige. In Ellis, D., Evans, J., Griffith, G. & Jope, E. M. (eds) Proceedings of the Seventh International Congress of Celtic Studies, 25–30.
- Pleiner, R. 2000. Iron in archaeology. The European bloomery smelters. Praha: Archaeologický ústav AVČR.
- Pope, R. E. 2003. Prehistoric dwelling. Circular structures in north and central Britain c.2500 BC-AD 500. Unpublished PhD thesis, Department of Archaeology, University of Durham.
- Pope, R. E. 2015. Bronze Age architectural traditions: dates and landscapes. In: Hunter, F. & Ralston, I. B. M. (eds) Scotland in later prehistoric Europe. Oxford: Oxbow.
- Porter, D. 1997. The small finds. In: Buteux, S. (ed.) Settlements at Skaill, Deerness, Orkney. Excavations by Peter Gelling of the Prehistoric, Pictish, Viking and Later Periods, 1963–81. Oxford: British Archaeological Reports, British Series 260, 96–146.
- Ralston, I. B. M. 1980. The Green Castle and the promontory forts of north-east Scotland. In: Thoms, L. M. (ed.) Settlements in Scotland 1000 BC-AD 1000. Scottish Archaeological Forum, 10, 27–40.
- Ralston, I. B. M. 1987. Portknockie: promontory forts and Pictish settlement in the North-East. In: A. Small (ed.) *The Picts: a new look at old problems*. Dundee, 15–26.
- Ralston, I. B. M. & Halliday, S. 2009. How many hillforts are there in Scotland? In: Cooney, G., Becker, K., Coles, J., Ryan, M. & Sievers, S. (eds) Relics of old decency: archaeological studies in later prehistory, Festschrift for Barry Raftery. Dublin: Wordwell, 455–67.
- Ralston, I. B. M. & Inglis, J. 1984. Foul hordes: the Picts in the North-East and their background. Aberdeen: Anthropological Museum.
- RCAHMS. 1978. The archaeological sites and monuments of Nairn District, Highland Region. Edinburgh: Royal Commission on the Ancient and Historical Monuments of Scotland, Society of Antiquaries of Scotland
- RCAHMS. 1979. The archaeological sites and monuments of North-east Inverness, Inverness District, Highland Region, The archaeological sites and monuments of Scotland series no. 8. Edinburgh: Royal Commission on the Ancient and Historical Monuments of Scotland.
- RCAHMS. 2007. In the shadow of Bennachie: a field archaeology of Donside, Aberdeenshire. Edinburgh: The Royal Commission on the Ancient and Historical Monuments for Scotland.
- Redknap, M. 2000. Vikings in Wales: an archaeological quest. Cardiff: National Museums and Galleries of Wales.
- Rees, S. E. 1979. Agricultural implements in prehistoric and Roman Britain. Oxford: British Archaeological Reports, British Series 69.

- Rees, T. 1998. Excavation of Culhawk Hill, ring-ditch house, Kirriemuir, Angus. *Tayside and Fife Archaeological Journal*, 4, 106–28.
- Reid, M. L. 1989. A room with a view: an examination of roundhouses, with particular reference to northern Britain. Oxford Journal of Archaeology, 8 (1), 1–40.
- Reid, M. L. 1993. *Prehistoric houses in Britain*. Princes Risborough: Shire. Reimer, P. J., Bard, E., Bayliss, A., Beck, J. W., Blackwell, P. G., Ramsey, C... Van der Plicht, J. 2013. IntCal13 and Marine13 Radiocarbon Age Calibration Curves, 0–50,000 years cal BP. *Radiocarbon*, 55 (4) 1869–87.
- Rennie, C. 2013. A room with a view: excavations at Ravelrig Quarry. *Proc Soc Antiq Scot*, 143, 137–56.
- Richards, J. 1999. Inverness District landscape character assessment. Scottish Natural Heritage Review, Inverness, no. 114.
- Rideout, J. S. 1996. Excavation of a promontory fort and a palisaded homestead at Lower Greenyards, Bannockburn, Stirling, 1982–5. *Proc Soc Antiq Scot*, 126, 199–269.
- Rideout, J. S. 1997. Excavation of Neolithic enclosures at Cowie Road, Bannockburn, Stirling, 1984–5. *Proc Soc Antiq Scot*, 127, 29–68.
- Robertson, A. S. 1970. Roman finds from non-Roman sites in Scotland. *Britannia*, 1, 198–226.
- Robertson, A. S. 1975. The Romans in north Britain: the coin evidence. In: Temporini, H. (ed.) Aufstieg und Niedergang der römisches Welt II.3. Berlin and New York, 364–426.
- Robertson, A. S. 1983. Roman coins found in Scotland, 1971–1982. *Proc Soc Antiq Scot*, 113, 405–48.
- Robinson, P. 1995. Miniature socketed bronze axes from Wiltshire. Wiltshire Archaeological and Natural History Magazine, 88, 60-8.
- Rohl, B. M. 1996. Lead isotope data from the Isotrace Laboratory Oxford: Archaeometry data base 2, galena from Britain and Ireland. Archaeometry, 38, 165–80.
- Romankiewicz, T. 2009. Simple stones but complex constructions: analysis of architectural developments in the Scottish Iron Age. *World Archaeology*, 41 (3), 379–95.
- Russell-White, C. J. 1995. The excavation of a Neolithic and Iron Age settlement at Wardend of Durris, Aberdeenshire. *Proc Soc Antiq Scot*, 125. 9–27.
- Sahlén, D. 2011. Ceramic technology and technological traditions: the manufacture of metalworking ceramics in late prehistoric Scotland. Unpublished PhD Thesis, University of Glasgow.
- Scott, B. G. 1986. The status of the smith in early Ireland. In: Cleere, H. & Scott, B. G. (eds) *The crafts of the blacksmith*. Belfast: Ulster Museum, 153–6.
- Scott, B. G. 1994. Early Irish ironworking. Ulster: Ulster Museum.
- Scott, J. G. 1992. Mortuary structures and megaliths. In: Sharples, N. & Sheridan, A. (ed.) *Vessels for the ancestors*. Edinburgh: Edinburgh University Press, 104–19.
- Sekulla, M. 1982. The Roman coins from Traprain Law. Proc Soc Antiq Scot, 112, 285–94.
- Shepherd, I. A. G. 1986. Powerful pots: beakers in north-east prehistory. Aberdeen: University of Aberdeen.
- Sheridan, J. A. 1997. Pottery. In: Johnston, D. A. (ed.) Biggar Common, 1987–93: an early prehistoric funerary and domestic landscape in Clydesdale, South Lanarkshire. *Proc Soc Antiq Scot*, 127, 202–23.
- Sheridan, J. A. 2016. Scottish Neolithic pottery in 2016: the big picture and some details of the narrative. In: Hunter, F. & Sheridan, A. (eds) Ancient lives. Object, people and place in early Scotland. Essays for David V Clarke on his 70th birthday. Leiden: Sidestone, 189–212.

- Simpson, D. D. A. 1997. Excavation of a kerbed funerary monument at Stoneyfield, Raigmore, Inverness, Highland, 1972–3. *Proc Soc Antiq Scot*, 126, 53–86.
- Smith, J. 1919. Excavation of the forts of Castlehill, Aitnock and Coalhill, Ayrshire. *Proc Soc Antiq Scot*, 53, 123–34.
- Smith, R. A. 1925. A guide to the antiquities of the Early Iron Age in the Department of British and Mediaeval Antiquities. London: British Museum
- Spratling, M. G. 1979. The debris of metal working. In: Wainwright, G. J. (ed.) Gussage All Saints: an Iron Age settlement in Dorset. London: HMSO, 125–49.
- Stapleton, C. P., Freestone, I. C. & Bowman S. G. E. 1999. Composition and origin of early medieval opaque red enamel from Britain and Ireland. *Journal of Archaeological Science*, 26, 913–22.
- Starley, D. 2000. Metalworking debris. In: Buxton, K. & Howard-Davis, C. (eds) *Bremetenacum: excavations at Roman Ribchester 1980*, 1989–1990. Lancaster, Lancaster Imprints No. 9, 337–47.
- Stead, I. M. 1991. Iron Age cemeteries in East Yorkshire: excavations at Burton Fleming, Rudston, Garton-on-the-Wolds, and Kirkburn. English Heritage Archaeological Report 22, London.
- Stead, I. M. 2006. British Iron Age swords and scabbards. London: British Museum Press.
- Stevenson, R. B. K. 1955. Pins and the chronology of brochs. Proceedings of the Prehistoric Society, 21, 282–94.
- Stevenson, R. B. K. 1976. Romano-British glass bangles. Glasgow Archaeological Journal, 4, 45–54.
- Suddaby, I. 2001. Excavations on the Southern Distributor Road in 2001. CFA Archaeology Report No.650. Unpublished client report.
- Suddaby, I. 2008. Coul Braes, Moray, excavation. Discovery and Excavation in Scotland, New, 9, 125.
- Taylor, R. J. & Brailsford, J. W. 1985. British Iron Age strap-unions. Proceedings of the Prehistoric Society, 51, 247–72.
- Timpany, S. 2007. Assessment of environmental samples in Culduthel Mains Farm, Inverness. Phase 5. Excavation of a later prehistoric settlement: assessment report. Headland Archaeology Ltd. Unpublished report.
- Tite, M. S. 1992. The impact of electron microscopy on ceramic studies. In: Pollard, A. M. (ed.) *New developments in archaeological science*. Oxford: OUP for the British Academy, 111–31.
- Tite, M. S. 1999. Pottery production, distribution, and consumption the contribution of the physical sciences. *Journal of Archaeological Method and Theory*, 6, 181–233.
- Tite, M., Pradell, T. & Shortland, A. 2007. Discovery, production and use of tin-based opacifiers in glasses, enamels and glazes from the Late Iron Age onwards: a reassessment. *Archaeometry*, 50 (1), 67–84.
- Toolis, R., Cook, M., Crone, A., Dixon, J., Engl, R., Hall, A., Inglis, R. & MacSween, A. 2005. Bronze Age pastoral practices in the Clyde Valley: excavations at West Acres, Newton Mearns. *Proc Soc Antiq Scot*, 135. National Museum of Antiquities of Scotland.
- Tylecote, R. F. 1986. The prehistory of metallurgy in the British Isles. London: The Institute of Metals;
- Tylecote, R. F. 1992. A history of metallurgy (2nd edn.). The Institute of Materials, London.
- Van der Linden, V., Cosyns, P., Schalm, O., Cagno, S., Nys, K., Janssens, K., Nowak, A., Wagner, B. & Bulska, E. 2009. Deeply coloured and black glass in the northern provinces of the Roman Empire: differences and similarities in chemical composition before and after AD 150. Archaeometry, 51, 822–44.

- Van Wessel, J. 2012. Data structure report of an archaeological excavation at Culduthel Farm Phase 9. Headland Archaeology Ltd. Unpublished Client Report.
- Vogel, W. 2006. Chemistry of glass. Chichester: Wiley.
- Vouga, P. 1923. La Tène. Leipzig: Karl W Hiersemann.
- Waddington, K. 2014. The biography of a settlement: an analysis of Middle Iron Age deposits and houses at Howe, Orkney. Archaeological Journal, 171, 61–96.
- Wallace, C. 2008. The Roman pottery. In: Cook, M. & Dunbar, L. (eds) Rituals, roundhouses and Romans: excavations at Kintore, Aberdeenshire, 2000–2006, 1(Forest Rd). Edinburgh: STAR, 189–90.
- Watkins, T. 1980. Excavation of an Iron Age open settlement at Dalladies, Kincardineshire. *Proc Soc Antiq Scot*, 110, 122–64.
- Webley, l. 2007. Using and abandoning roundhouses: a reinterpretation of the evidence from Late Bronze Age–Early Iron Age Southern England. Oxford Journal of Archaeology, 26, 127–44.
- Wheeler, J. 2007. The implications of iron-working on the woodlands of Rievaulx and Bilsdale, North Yorkshire, United Kingdom: historical, palaeoecological and palaeoenvironmental perspectives circa 1068–2000. Unpublished PhD thesis, University of Bradford.
- Will, B. 1998a. Tara Farm, Forres (Rafford Parish). Discovery and Excavation in Scotland, 66.
- Will, B. 1998b. *Tarras By Forres*. Unpublished excavation report. GUARD Archaeology Ltd.
- Williams, D. F. 1983. Petrology of ceramics. In: Kempe, D. R. C. & Harvey, A. P. (eds) *The petrology of archaeological artefacts*. Oxford: Oxford University Press, 301–23.
- Williams, M. 2003. Growing metaphors. The agricultural cycle as metaphor in the later prehistoric period of Britain and North-Western Europe. *Journal of Social Archaeology*, 3 (2), 223–55.
- Willis, S. 1998. Industrial fired clay objects. In: Main, L. (ed.) Excavation of a timber round-house and broch at the Fairy Knowe, Buchlyvie, Stirlingshire, 1975–8. *Proc Soc Antiq Scot*, 128, 371–6.
- Wordsworth, J. 1999. A later prehistoric settlement at Balloan Park, Inverness. *Proc Soc Antig Scot*, 129, 239-49.

Secondary environmental sources

- Alldritt, D. 2000a. The botanical remains. In: J. Atkinson (ed.) Excavations on the Leven, Loudoun Hill, Ayreshire, 1993. *Scottish Archaeological Journal*, 22 (1), 54–7.
- Alldritt, D. 2000b. Palaeobotany. In: Banks, I. (ed.) Excavation of an Iron Age and Romano-British enclosure at Woodend Farm, Johnstonebridge, Annandale, 1994 and 1997. Proc Soc Antiq Scot, 130, 249–52.
- Allen, D. & Hatfield, G. 2004. Medicinal plants in folk tradition. An ethnobotany of Britain and Ireland. Cambridge: Timber Press.
- Asouti, E. 2001. Charcoal analysis from Çatalhöyük and Pinarbaşi, two Neolithic sites in the Konya Plain, south-central Anatolia, Turkey. Unpublished doctoral thesis. University College London.
- Berggren, G. 1981. Atlas of seeds and small fruits of Northwest-European plant species with morphological descriptions. Part 3 Salicaeae-Cruciferae. Arlöv: Berlings.
- Birks, H. 1975. Studies in the vegetational history of Scotland IV. Pine stumps in Scottish blanket peats. *Philosophical Transactions of the Royal Society of London. Series B, Biological Sciences*, 270 (905), 181–226.
- Bland, B. 1971. Crop roduction: cereals and legumes. London: Academic Press Inc.

- Boardman, S. 1995. The charred plant remains. In: Russell-White, C. J. (ed.) The excavation of a Neolithic and Iron Age settlement at Wardend of Durris, Aberdeenshire. Proc Soc Antiq Scot, 125, 18-21
- Bond, J. 2007a. The plant remains, in Hunter J. Investigations in Sanday, Orkney. Vol. 1: Excavations at Pool, Sanday. A multi-period settlement from Neolithic to Late Norse times. Kirkwall: The Orcadian Ltd and Historic Scotland, 171–207.
- Bond, J. 2007b. Plant remains. In: Dockrill, S. J. (ed.) Investigations in Sanday, Orkney. Vol 2: Tofts Ness, Sanday. An island landscape through three thousand years of prehistory. Kirkwall: The Orcadian Ltd and Historic Scotland, 164–9.
- Boyd, W. 1985. Botanical remains of edible plants from an Iron Age broch, Fairy Knowe, Buchlyvie, Stirling. *Forth Naturalist and Historian*, 7, 77–83.
- Boyd, W. 1988. Cereals in Scottish Antiquity. Circaea, 5 (2), 101-10.
- Cappers, R., Bekker, R. & Jans, J. 2006. *Digital seed atlas of the Netherlands*. Groningen: Barkhuis Publishing and Groningen University Library.
- Clapham, A., Tutin, T. & Warburg, E. 1962. Flora of the British Isles (2nd edn). Cambridge: Cambridge University Press.
- Dark, P. 2000. The environment of Britain in the first millennium A.D. Trowbridge: Redwood Books Ltd.
- Dickson, C. 1994. Plant remains. In: Ballin Smith, B. (ed.) Howe: four millennia of Orkney prehistory. Edinburgh: Society of Antiquaries of Scotland, 125–39.
- Dickson, C. & Dickson, J. 2000. Plants and people in ancient Scotland. Stroud: Tempus.
- Edwards, K. J. & Whittington, G. 1997. Vegetation change. In: Edwards, K. J. Ralston, I. B. M. (eds) Scotland after the Ice Age. Environment, archaeology and history, 8000 BC-AD 1000. Edinburgh: Edinburgh University Press, 63-82.
- Fairweather, A. D. 1996 Carbonized seeds. In: Rideout, J. S. (ed.) Excavation of a promontory fort and a palisaded homestead at Lower Greenyards, Bannockburn, Stirling, 1982–5. *Proc Soc Antiq Scot*, 126, 247–8.
- Fairweather, A. D. & Ralston, I. B. M. 1993. The Neolithic timber hall at Balbridie, Grampian Region, Scotland: the building, the date, the plant macrofossils. *Antiquity*, 67, 313–23.
- Grieg, R. A. 1991. The British Isles. In: Van Zeist, W., Wasyilkowa, K. & Behre, K. (eds) *Progress in Old World palaeoethnobotany*. Rotterdam: A. A. Balkema, 299–334.
- Hillman, G. 1981. Reconstructing crop husbandry practices from charred remains of plants. In Mercer, R. (ed.) Farming practice in British prehistory. Edinburgh: Edinburgh University Press, 123–62.
- Huntley, J. P. 2007. Environmental evidence from the Iron Age in north central Britain: putting archaeology in its place. In: Haselgrove, C. & Pope, R. (eds) *The Earlier Iron Age in Britain and the near continent*. Oxford: Oxbow Books, 135–43.
- Jacomet, S. 2006. *Identification of cereal remains from archaeological sites* (2nd edn). Basel: Institute for Prehistory and Archaeological Science
- Jones, G. & Halstead, P. 1995. Maslins, mixtures and monocrops: on the interpretation of archaeological crop samples of heterogenous composition. *Journal of Archaeological Science*, 22, 103–14.
- Jones, M. 1996. Plant exploitation. In: Champion, T. C. & Collis, J. R. (eds) The Iron Age in Britain and Ireland. Sheffield: Sheffield Academic Press, 29–40.

- Kenward, H. K., Hall, A. R. & Jones, A. K. G. 1980. A tested set of techniques for the extraction of plant and animal macrofossils from waterlogged archaeological deposits. Science and Archaeology, 22, 3–15.
- Leney, L. & Casteel, R. W. 1975. Simplified procedure for examining charcoal specimens for identification. *Journal of Archaeological Science*, 2, 153–9.
- Schweingruber, F. H. 1990. *Microscopic wood anatomy*. Birmensdorf: Eidgenössische Forschungsanstalt WSL.
- Stace, C. 2010. New flora of the British Isles (3rd edn). Cambridge University Press, Cambridge.
- Stevens, C. J. 2003. An investigation of agricultural consumption and production models for prehistoric and Roman Britain. *Environmental Archaeology*, 8, 61–76.
- Thoms, J. & Miller, J. 2008. Environmental evidence. In: Armit, I., Campbell E. & Dunwell, A. (eds) Excavation of an Iron Age, early historic and medieval settlement and metalworking site at Eilean Olabhat, North Uist. *Proc Soc Antiq Scot*, 138, 95.

- Tipping, R. 1994. The form and fate of Scotland's woodlands. *Proc Soc Antiq Scot*, 124, 1–54.
- Tipping, R. 2003. Living in the past: woods and people in prehistory to 1000 BC. In: Smout, T. C. (ed.) *People and woods in Scotland. A history*. Edinburgh: Edinburgh University Press, 14–39.
- Van der Veen, M. 1985. Carbonised plant remains. In: Barclay, G. J. (ed.) Excavations at Upper Suisgill, Shetland. Proc Soc Antiq Scot, 115, 188–91
- Van der Veen, M. 1992. Crop husbandry regimes: an archaeobotanical study of farming in Northern England 1000 BC-AD 500, Sheffield Archaeological Monographs 3. Sheffield: J. R. Collis Publications.
- Walker, A. 2003. A garden of herbs. Traditional uses of herbs in Scotland. Wiltshire: Cromwell Press Ltd.
- Watson, J. A. S. & Moore, J. A. 1956. Agriculture. The science and practice of British arming (10th edn). Edinburgh: Oliver & Boyd Ltd.
- Whittington, G. & Edwards, K. J. 1993. Ubi solitudinem faciunt pacem appellant: the Romans in Scotland, a palaeoenvironmental contribution. *Britannia*, 24, 13–25.