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‘On the shoulders of giants’: re-establishing the Moynagh Lough Project

Research on material excavated from the County Meath crannog is finally telling its story.

DISCOVERY

JUST OVER 136 YEARS AGO, in June 1886, a north Meath farmer named Owen Smith trudged across marshy ground south-west of Nobber to a place known locally as ‘the Island’. Strictly speaking, it wasn’t an island—more a peninsula in a small lake. Smith and others used to go there to fish the little dark pool that was—and is—Moynagh Lough (Figs 1 and 2).

On this occasion, Smith’s motivation wasn’t fishing. He had been reading a new book by William Wood-Martin on *The lake dwellings of Ireland*, and there he saw things that he recognised from previous trips to Moynagh, probably when digging for worms or pulling up firewood. Smith knew exactly where to dig, and it wasn’t long before he had uncovered a grinding stone, part of a jet bracelet, a bone scoop, a flint knife, an ingot mould and what turned out to be an ogham-inscribed antler. He sent them with a covering letter to Wood-Martin, who exhibited them in Dublin. Judging by Smith’s description, Wood-Martin realised that he had found the remains of a crannog.

The Moynagh finds were acquired by the National Museum of Ireland (NMI) and Wood-Martin

approached the Royal Irish Academy (RIA) for a grant ‘in aid of the exploration of the newly discovered crannog’. He was awarded £10 for this purpose and in November 1888 he presented a paper on his findings. Wood-Martin’s involvement ended that year and Moynagh Lough crannog slipped from memory once again.

REDISCOVERY

Almost a century later, in 1977, the landowner embarked on some land reclamation. He bulldozed a mound—‘the Island’—and started to spread the earth across the marshy field. Large quantities of bones, broken quern-stones and some smaller objects were uncovered. When local archaeologist George Eogan was called in, he immediately recognised the remains of a crannog. Moynagh had been re-found.

The crannog was so damaged that it was estimated that one month of archaeological excavation would suffice to record what remained. George was excavating at Knowth, so he seconded his young assistant, John Bradley, to lead the Moynagh rescue excavation. John was at UCD and lectured there until 1996, when he joined the Department of History at Maynooth University (MU) (Fig. 3).



Above: Fig. 1—Aerial photograph of site, 1995 (Con Brogan).

Opposite page:
Fig. 2—Moynagh Lough surrounded by ringforts (Gary Devlin).

It was soon realised that a four-week dig would not be enough, because more had survived than anyone imagined. Evidence of several phases survived, including crannog construction levels and multiple stages of habitation. The discovery of layers of prehistoric activity beneath the crannog was a bonus. Ultimately, fourteen seasons of fieldwork took place throughout the 1980s and 1990s (Fig. 4), with Heather King as John’s Assistant



Climatic improvement around 1900 BC enabled early Bronze Age settlers to deposit timber and stones on the now-dry surface. This formed the foundations for a habitation layer containing the remains of two circular houses associated with pottery, scrapers, arrowheads, bone and querns. The site was again abandoned, probably owing to inundation.

By about 890 BC it had dried out and became suitable for settlement again. There were several open-air hearths associated with quern-stones, coarse pottery, a spindle-whorl and a bronze 'hair-ring'. This level was covered by stones, debris and charcoal dated to *c.* 890–790 BC. It contained animal bones and bronze weapons, tools and jewellery, as well as amber, antler, ceramic, glass, lignite and stone. These finds indicate inhabitants of high status.

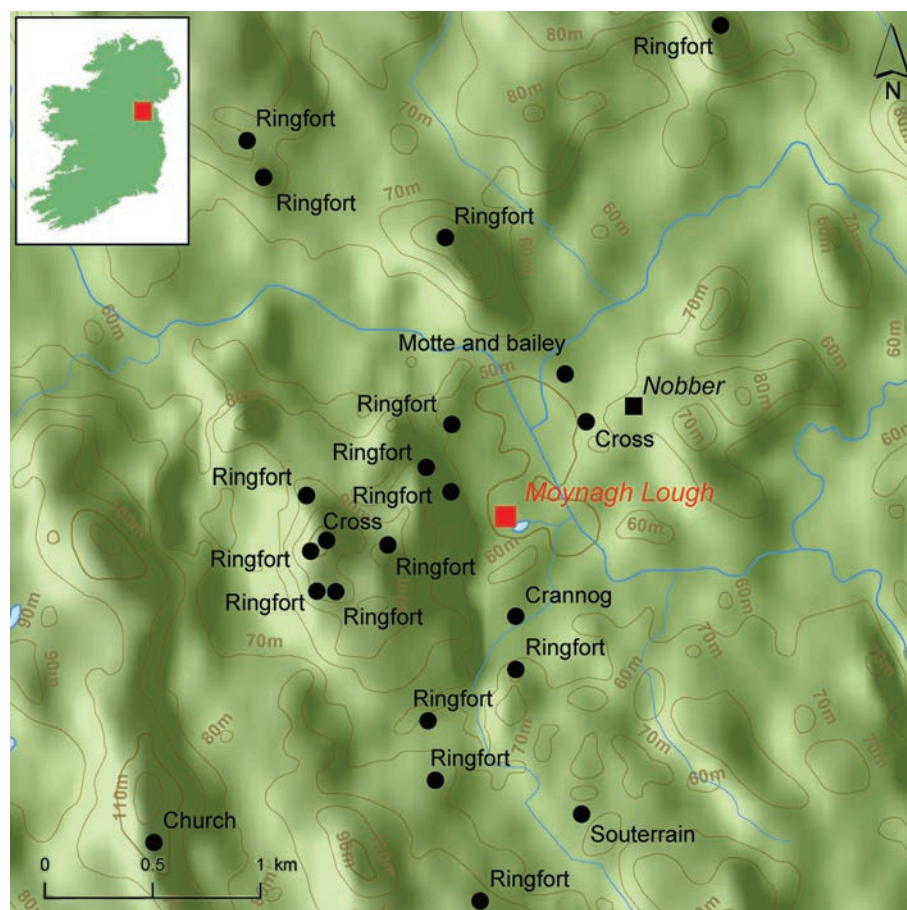
Director. The excavation was licensed by the NMI and the National Monuments Service (NMS) and funded (again) by the RIA, for whom it became a flagship project.

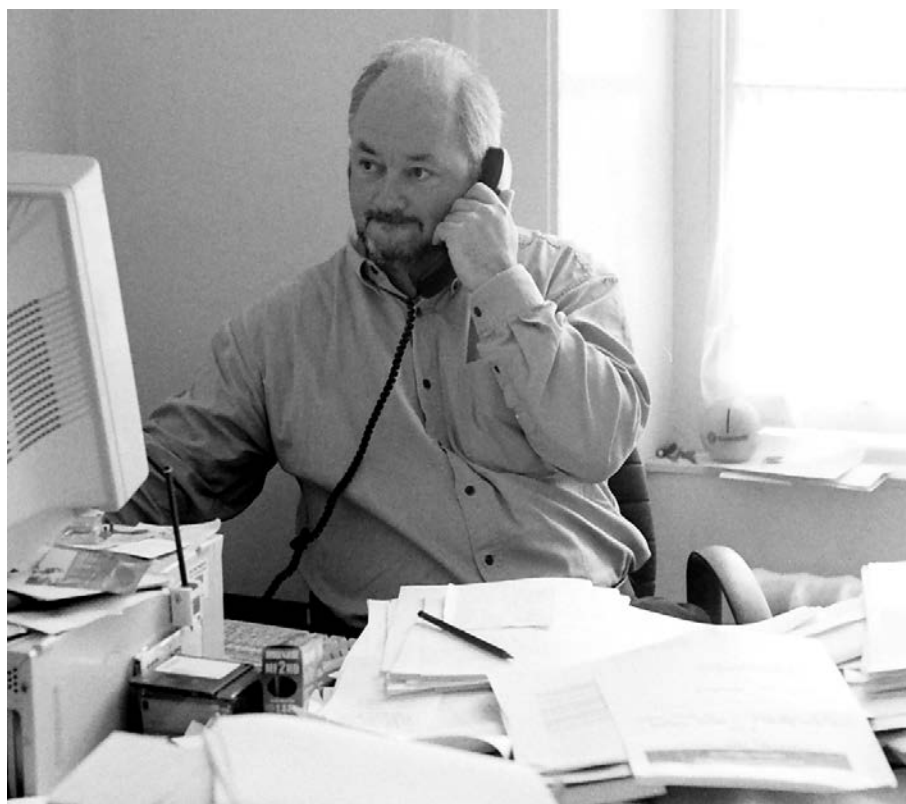
PREHISTORY

Human occupation at Moynagh commenced in the centuries before 4000 BC when a community of Mesolithic hunter-gatherers constructed several platforms in the lake, possibly on natural knolls or islets. Some 2,000 stone artefacts were recovered, as well as a handful of bone and wooden objects and charcoal, some of which dated from *c.* 4300–4000 BC.

It initially seemed that Moynagh was uninhabited through the Neolithic, but the discovery of a cache of flint implied otherwise. Ongoing analysis of other lithics (see below) confirms a more significant Neolithic horizon than expected.

The climate became wetter, and rising lake water covered the Mesolithic surface with mud.





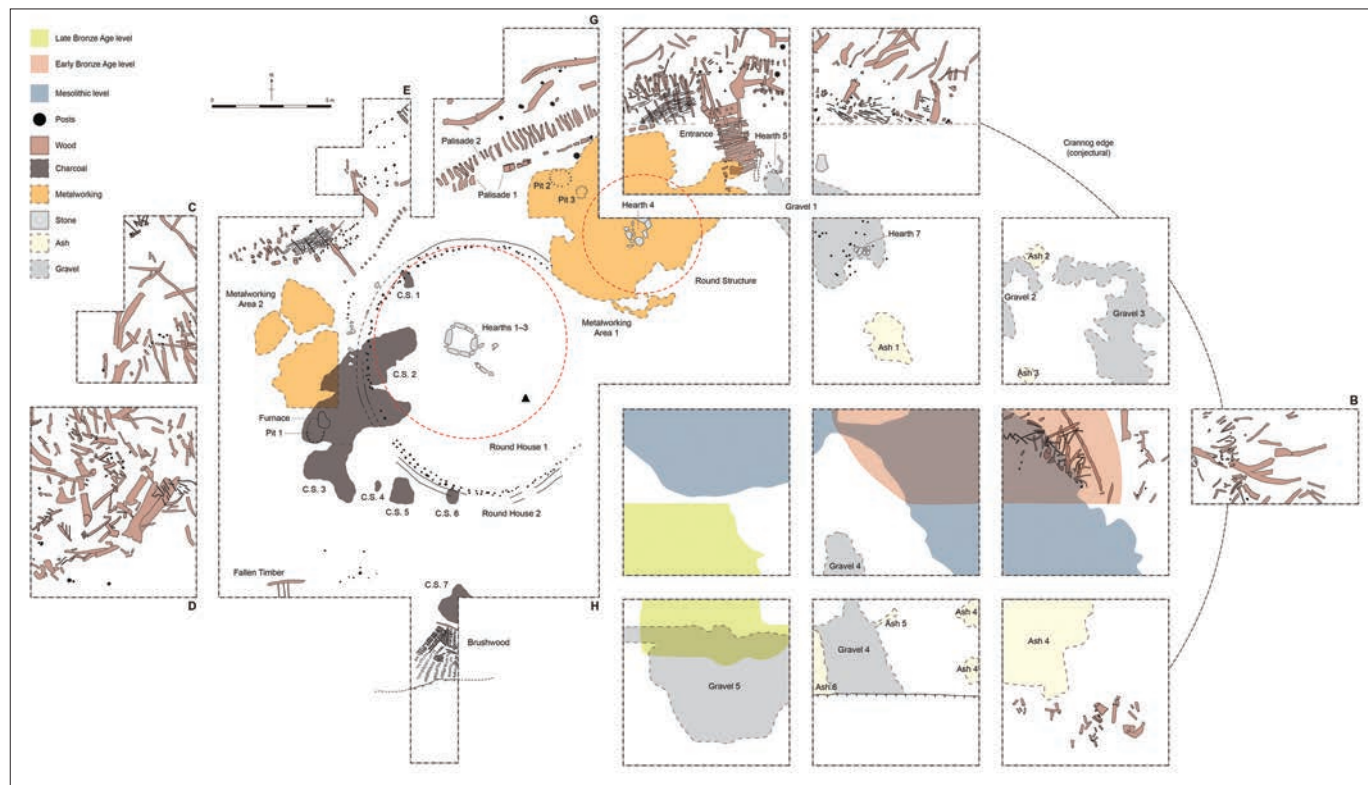
Above: Fig. 3—John Bradley at work in Maynooth University, 2001 (Thaddeus Breen).

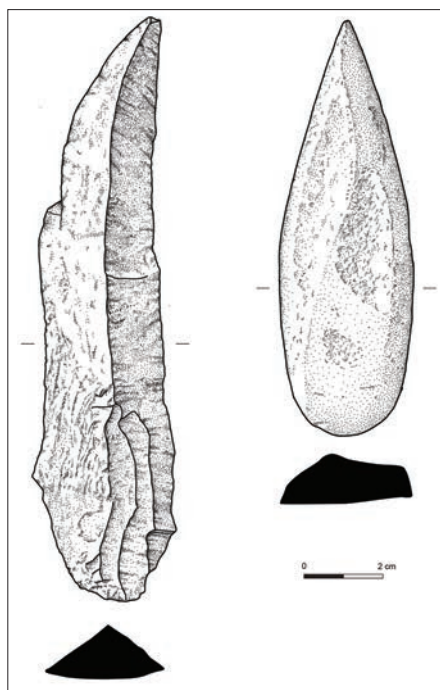
Below: Fig. 4—General plan of excavated features, 1989 (Sarah Nylund).

CRANNOG

The site was abandoned again around 790 BC. Open-water mud accumulated but the knolls were not covered entirely, and the shallows attracted settlers in the seventh century AD. Set in a landscape peppered with ringforts (Fig. 2), the crannog was occupied for approximately 200 years. Six habitation phases were identified, perhaps representing the activities of as many generations. Ground surrounding the knolls was reclaimed using stones, gravel, timbers, brushwood and much redeposited peat, retained by a timber palisade.

Excavation revealed the vestiges of round huts and houses, pathways, metalworking areas, cesspits, furnaces, hearths and palisades. There was a remarkable array of iron and bronze weapons, jewellery and tools, antler, horn and bone, glass, leather, crucibles, moulds, enamel, flint, jet and gold. Imports included amber, E-ware and Merovingian glass. Two structural timbers were dated to AD 625 and 748. At 11.2m across, the main house is the largest





Left: Fig. 5—Mesolithic chert blade (left) and 'Moynagh Point' (right) (Sarah Nylund).

Below: Fig. 6—Early medieval bramble (*Rubus*) seeds (David Stone).

known from early medieval Ireland. Chris Lynn suggested that it was home to a king or senior aristocrat.

PICKING UP THE PIECES

John Bradley produced preliminary reports and published updates, but when he passed away in 2014 the main excavation report remained incomplete and unpublished. The archive is housed at MU, including some 10,000 artefacts, hundreds of notebooks and files, and thousands of plans, drawings and photographs. Some important specialist reports had been completed.

Thanks to the support of MU and the Department of History in particular, in collaboration with UCD, this project resumed in 2018, with plans for full publication and deposition of the artefacts and archives with the NMI. External funding is provided primarily by the RIA, the NMS, Meath County Council and Creative Ireland. We established a core team and a steering committee, completed a scoping exercise and a finds database, and initiated several strands of specialist research (see below). Sara Nylund has digitised some 200 hand-drawn plans, structures, features and sections, while a collaborative arrangement

has been initiated with the ¹⁴CHRONO Centre in Belfast to carry out a programme of Accelerator Mass Spectrometry (AMS) dating.

RESEARCH

Entomological research by Steve Davis at UCD uncovered evidence to facilitate the virtual reconstruction of the local landscape from the Mesolithic to the early medieval period. Microscopic analysis of Mesolithic samples, for instance, revealed an environment comprising open wet woodland, possibly alder carr, with standing stagnant water, dead wood and clayey soils. The presence of an elmid riffle beetle indicates the input of fast-flowing water.

Faunal remains from Mesolithic levels were few but well preserved. Finbar McCormick identified at least one hare, a bear, an otter and four wild pigs. Cut-marks on the bones indicate that flesh had been removed, and perhaps tendons too. The way that the ends of long-bones were broken indicates that marrow was extracted, and it appears that skulls were cracked open to remove the brains, probably for consumption.

In the preliminary analysis of the prehistoric stone tools by Graeme Warren and Martha Revell, more than 2,500 lithics were examined—mostly

flaked stone, with chert most frequent in the later Mesolithic assemblage and flint dominant later. An early Mesolithic presence is very tentatively suggested by unusual edge-retouched flint blades, bladelet cores and a possible microburin. The later Mesolithic assemblage is rich and significant. Butt-trimmed forms are abundant, especially on chert (Fig. 5). Many have distinctive abrasion at their distal ends, possibly associated with hafting. Eight definite and two probable elongated ground 'Moynagh Points' of slaty sandstone are present (Fig. 5), along with three so-called 'Kerry Points'. Neolithic artefacts are present in small numbers—notably a leaf-shaped arrowhead, concave scrapers, possible petit-tranchet derivatives and flake convex scrapers. A substantial early Bronze Age flint industry is represented by barbed-and-tanged arrowheads, convex disc scrapers, plano-convex knives and possible fabricators. The assemblage exhibits much formal retouch, fragmentation and recycling. While knapping clearly took place on site, especially in later prehistory, many of the larger Mesolithic blades and flakes appear to have arrived complete.

Farina Sternke analysed a cache of 173 flints consisting mostly of flakes, some blades and debitage. Three hollow and concave scrapers and four burins, diagnostic of the middle Neolithic, were the tools of a wood- or bone-worker. Remarkably, Farina identified evidence for at least two knappers—an expert and a probable novice.

Bronze Age wild pigs' teeth were subjected to multi-isotope analysis by Jonathan Small at Queen's University Belfast as part of research into the





Left: Fig. 7—Coprolite with bone inclusions (Eleanor Green).

Below: Fig. 8—Double-sided bone comb with close-ups (Billy Sines).

Opposite page:

Fig. 9—Decorated leather knife sheath (John Nicholl).

animals' diet and geographical origins/range. As anticipated, they consumed a mainly herbivorous diet with trace animal protein. The pigs appear to have lived in open conditions, generally within *c.* 20km of Moynagh. One individual, however, may have come from the Cooley Mountains, 40km to the north.

Helen Roche and Eoin Grogan analysed pottery from the early middle Bronze Age (*c.* 1900–1700 BC) and the very late Bronze Age (*c.* 900–800 BC). The earlier material consists principally of domestic cordoned urns, one of which is an elegant pot with a narrow, internally bevelled rim. A thick accretion demonstrates repeated use in cooking. Neat ornament consists of lines of impressed whipped cord (rare in Ireland). The exclusive use of parallel lines is also unusual. Sherds from six late Bronze Age coil-built vessels were hard and well fired with crushed inclusions. Rim bevels appear to have supported lids. Most vessels displayed organic accretions from repeated cooking, and laboratory analysis will hopefully shed light on the vessels' contents and uses.

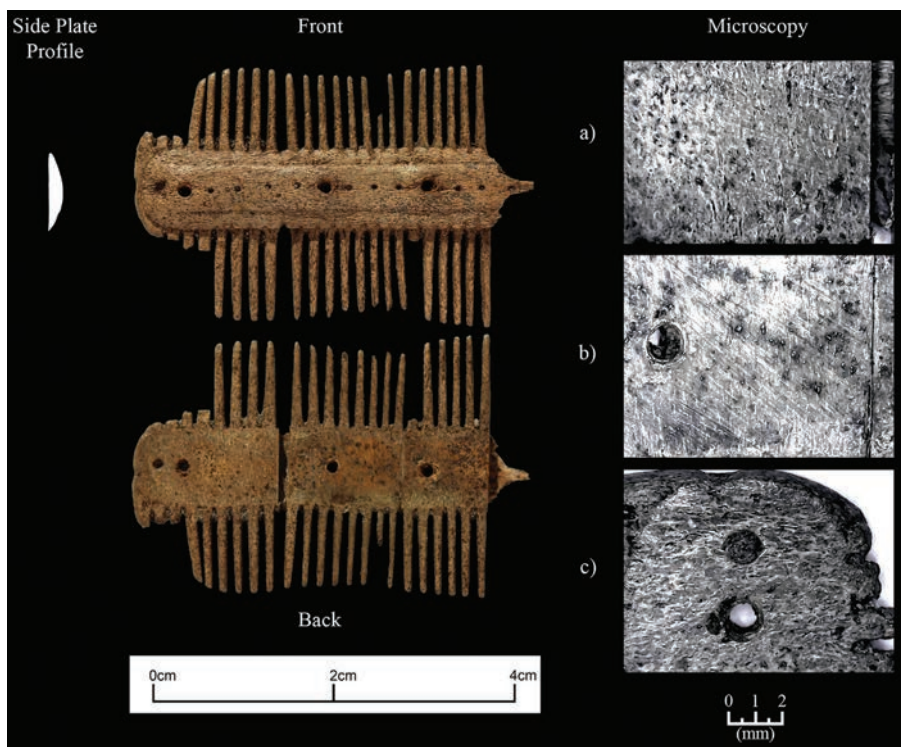
Fabienne Pigière undertook an initial assessment of the Bronze Age bones.

Cattle, pig and sheep/goat are the main species. Bones from meaty *and* non-meaty parts are represented, suggesting that not just joints of meat were brought in. Cut-marks indicative of butchery and meat removal were recorded on both young and adult livestock. Wild fauna include deer, hare and pig. In-depth

analysis by Ruth Carden is currently under way.

ENVIRONMENT

Investigating a small part of the Mesolithic charcoal assemblage, Ingelise Stuijts remarked that most pieces were 20–25-year-old hazel roundwood. She found no insect channels, suggesting the use of fresh wood. The presence of ivy indicated light, open conditions. Sixty-three charcoal samples were examined by Lorna O'Donnell, who identified over 1,000 fragments. Fourteen native Irish trees and shrubs were represented, the most abundant being hazel and oak. Alder, apple-type (hawthorn, apple, pear, rowan) and ash were also common. There were fewer birch, blackthorn/cherry, buckthorn, elm, gorse, holly, ivy, spindle and willow. It appears that firewood was gathered





from various woodland types, including hazel scrub, oak and wet woodlands. The diversity of shrubs indicates open woodland.

Preliminary assessment of environmental samples by David Stone has revealed large quantities of cultivated, gathered and wild plant species. Hulled barley and oat are common, while hulled and naked wheats are also present. Gathered foods include hazelnuts, bramble (Fig. 6), raspberry and sloe. Wild species comprise those typical of wet or damp areas, disturbed and enriched soils and cereal fields. Further research should illuminate the use of wild resources, agricultural practices and the environment.

The early medieval faunal assemblage, studied by Finbar McCormick, is among the largest ever assembled in Ireland. Most bones came from outside the palisade, as food refuse had been tossed into the lake. Cattle were dominant, followed by pig, sheep, horse and goat. When dogs and cats died, they too went over the palisade. Of incidental importance numerically were wild hare, deer, (possible) wolf and fox. Some 82% of the cattle were female, and the age-at-slaughter pattern confirms a dairying economy. The rarity of cattle metapodia and phalanges suggests that most were slaughtered, gutted and skinned off-site. The absence of neo-natal and old female pig bones indicates that pig-breeding, too, was an off-crannog practice. Sheep were raised primarily for meat. Horse bones were usually broken for marrow extraction and were occasionally cut; almost all were mature, with one displaying evidence for bit-wear.

Moynagh coprolites feature in a Wenner-Gren-financed biomolecular investigation by Eleanor Green at BioArCh, Department of Archaeology, University of York. Eleanor's Ph.D, funded by the Arts and Humanities Research Council and London's Natural History Museum, is supervised by Nathan Wales and Jessica Hendy. The coprolites contained bone fragments (Fig. 7) that were analysed by Lydia Beckett using zooarchaeology by mass spectrometry (ZooMS), showing that most were bovine, with some pig and horse/donkey also present. Some of the coprolites may be canid, and this will be checked using genomic and proteomic analysis, which might also provide further information on diet.

CRAFT

With a separate RIA grant, Brendan O'Neill and his team at UCD are examining evidence for early medieval non-ferrous metallurgical technologies at Moynagh. They have analysed more than 500 fragments of crucibles, as many moulds and 300 metal artefacts. Eight types of crucible have been identified, representing a wide range of technologies. Unprecedented evidence has been found for several stages in the fabrication of copper-alloy objects.

Billy Sines is using the Moynagh bone combs to investigate craft in early medieval Ireland. Using digital microscopy, tool marks have been identified on surfaces usually hidden (Fig. 8). Comb-making clearly required more than a simple knife, yet the tools and technologies are hard to identify in the archaeological record. Recreating the marks using experimental archaeology might allow Billy to identify lost tools

and consider understudied aspects of craft, status and the concept of kingship in medieval Ireland.

As part of her Ph.D in the School of Archaeology at UCD, Dolores Kearney assessed fragments of early medieval textile, spindle-whorls, needles and a loom-weight from Moynagh. All textiles are wool, spun in the Z-twist direction and made in a plain/tabby weave. The whorls vary in typology, material and decoration, while a simple perforated weight could prove crucial to our understanding of early Irish loom types.

Initial assessment by John Nicholl of 120 leather fragments has shown that most are off-cuts, trimmings and scraps. Some bear traces of animal hair/fur. Fragments of shoe soles suggest that turn-shoes were worn, while an incomplete sheath for a small knife shows traces of decorative linear, dot and key motifs (Fig. 9).

CONCLUSION

The deaths in recent years of giants of Irish archaeology John Bradley, George Eogan and Heather King represent an inestimable loss to the discipline. Almost half a century after the rediscovery of Moynagh Lough, bringing this legacy project to its natural conclusion will be an honour and an opportunity for those involved to showcase a remarkable site and an extraordinary team. That the Royal Irish Academy is funding research on Moynagh for the third consecutive century is testimony to its importance.

CONFERENCE

The Moynagh Lough Conference in Maynooth on 1–2 September 2022 will feature papers on the site, excavation, finds and post-excavation analysis, as well as comparable sites in Ireland and Britain (see Events, p. 53). **AI**

Further reading

- Bradley, J. 1991 Excavations at Moynagh Lough, Co. Meath. *Journal of the Royal Society of Antiquaries of Ireland* **121**, 5–26.
- McCormick, F. and Murray, E. 2007 *Knowth and the zooarchaeology of Early Christian Ireland*. Royal Irish Academy, Dublin.

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