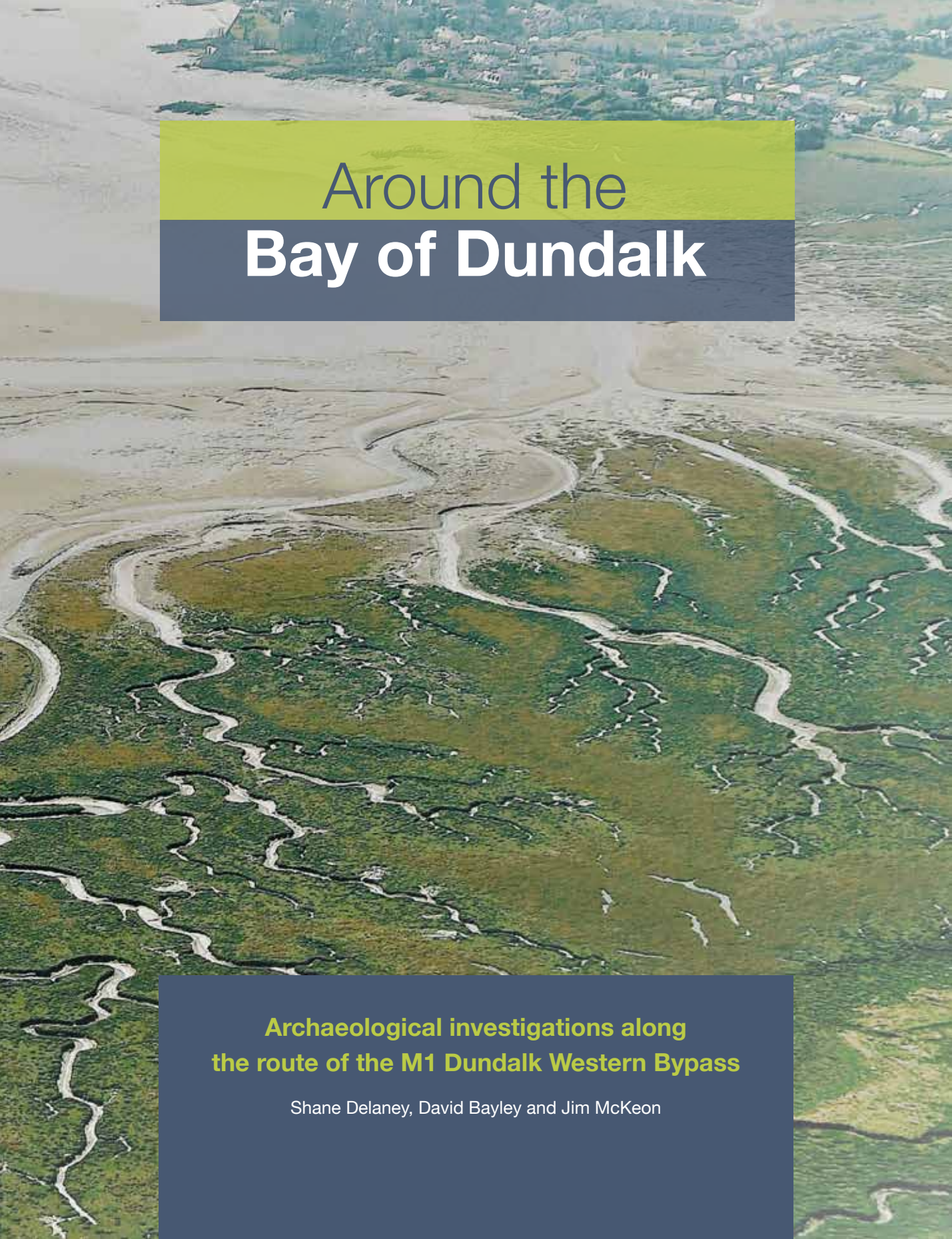

Around the Bay of Dundalk

Archaeological investigations along the route of the M1 Dundalk Western Bypass

Shane Delaney, David Bayley and Jim McKeon

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with contributions by E Grogan, A Hayes, B McSherry, E Nelis,
B O'Connor, H Roche, S Scully and S Zajac

TII Heritage Series 10

First published in 2020 by
Transport Infrastructure Ireland
Parkgate Business Centre, Parkgate Street, Dublin 8, DO8 DK10

Library of Congress Cataloguing-in Publication Data are available for this book.

A CIP catalogue record for this book is available from the British Library.

ISBN 978-1-911633-21-1
ISSN 2009-8480
TII Heritage 10

Copy-editing: Editorial Solutions (Ireland) Ltd
Cover design, typesetting and layout: Dogtag Creative
Index: Julitta Clancy
Printed by: W&G Baird Ltd on paper sourced from sustainable forests

Front and back cover—Aerial view of salt marshes and tidal sands on the north shore of the Castletown River estuary, below Dundalk town (view from north) (Studio Lab).

Facing title page—Aerial view of the salt marsh and sandy estuarine landscape of Dundalk Bay overlooked by the mountains of the Cooley peninsula in the background (view from south) (Studio Lab).

Title page—Artist's impression of the Neolithic ceremonial enclosure at Balregan (Niall Roycroft).

Contents

Foreword

Transport Infrastructure Ireland is committed to creating a legacy of published archaeological work in the TII Heritage series. We do this with a sense of duty, because we must comply with national heritage policy and with the conditions of development consent for national road schemes. But we also do it with a sense of excitement, because in each book we rediscover the capacity of the landscape to offer us encounters with past peoples from remote periods and lives that were very unlike our own.

Around the Bay of Dundalk is a rare treat. Here the landscape of the past has a grandeur and diversity seldom encountered in a single archaeological project. Highlights include a Neolithic ceremonial site at Balregan, a complex Bronze Age cemetery at Carn More 5, an early medieval cemetery-settlement at Balriggan, beautifully built early medieval souterrains at Newtownbalregan and Tateetra, and the Anglo-Norman earthwork castle on Fort Hill—which is part of the story of the medieval origins of Dundalk town. There is much here for readers to explore.

Any journey of exploration needs competent guides, especially among strange peoples and remote times. Throughout the book readers will hear the voices of experienced field archaeologists mulling over the evidence and searching out signs along the way. This is a business of fine discriminations, but patient inquiry can be rewarded by vivid glimpses of life in the past. At Littlemill, for instance, clusters of 'post-pits' for upright timbers indicate early prehistoric buildings (Littlemill 4 and 5). Several pits contained charcoals and one had a cache of chipped flint and chert pieces. The authors surmise that the chipped stone objects were a ritual deposit—perhaps at the construction of a building; and the charcoals may represent the deliberate destruction of the buildings by fire, presumably at the end of their useful life, and perhaps to purify the site for some other use.

These are two glimpses in the life cycle of Neolithic buildings that also show us two different aspects of archaeological thinking and writing. The first is concerned with observed facts as encountered in the field: pits, chipped stone and charcoals. The second is concerned with an interpretation of those facts: ritual deposition and deliberate destruction. But did things really happen as described by our guides? The shift from evidence to interpretation is story telling as much as science. It asks readers for an act of faith but it is not just a conjuring trick. A competent archaeologist will always keep the primary evidence in view because information, not entertainment, is the first responsibility of archaeological writing.

The authors of *Around the Bay of Dundalk* have discharged both duties with admirable skill. Here are all the stories from archaeological sites excavated along the M1 Dundalk Western Bypass route, told in a bright and attractive manner, but

also enough evidence for readers to make their own journeys and arrive at different interpretive conclusions if they choose. It is a job well done. We hope you will agree and will join us in congratulating Jim McKeon, Shane Delaney and David Bayley, their colleagues in Irish Archaeological Consultancy Ltd and Aegis Archaeology Ltd, all the specialist contributors and illustrators, and our own colleagues in TII Heritage, for producing another valuable and attractive book in the series.

Peter Walsh
Chief Executive
Transport Infrastructure Ireland

Acknowledgements

The authors thank everyone who assisted in bringing the archaeological investigations on the M1 Dundalk Western Bypass scheme to completion. The archaeological investigations were commissioned by Louth County Council with funding from the NRA (now TII) and were licensed by the National Monuments Service, in consultation with the National Museum of Ireland. The Project Archaeologist for Louth County Council was Niall Roycroft (NRA). The Project Engineers were Seán Molony and David McGuill (Louth County Council), and Richard Power and Eoin Corrigan (Roughan O'Donovan Consulting Engineers).

The excavations were directed for Irish Archaeological Consultancy (IAC) Ltd by David Bayley, Shane Delaney, Brian Ó Donnchadha and Brian Halpin; and for Aegis Archaeology Ltd by Avril Hayes. All of the fieldworkers who participated in the excavations are acknowledged with our thanks.

The excavation supervisors were Tom Janes, James Kyle, Derek Gallagher, Patricia Ryan, Lisa Ennis, Laurence McGowan and Susie Westall. Plant hire was supplied by Joe O'Brien and his team from Cavan. At post-excavation stage, specialist analyses and comment were contributed by Jennie Coughlan (human remains), Eoin Grogan (prehistoric pottery), Penny Johnston (plant remains), Susannah Kelly (artefacts conservation), Susan Kidner (human remains), Barbara Leon (stone axehead), Camilla Lofqvist (human and animal bone), Linda Lynch (human bone), Patricia Lynch (animal bone), Aoife McCarthy (animal bone), Margaret McCarthy (animal bone), Clare McCutcheon (medieval and post-medieval pottery), Eiméar Nelis (chipped stone), Ellen O Carroll (charcoal, plant remains), Blaze O'Connor (†) (megalithic art), Effie Photos-Jones (metallurgy), Helen Roche (prehistoric pottery), Siobhán Scully (finds reporting), Ingelise Stjuits (charcoal) and Sue Zajac (Souterrain Ware). Neil Carlin and Jessica Smyth provided additional background information on the prehistoric sites. Ian Johnston helped to co-ordinate post-excavation work. Faith Bailey, Sarah Cummins, Helen Kavanagh, Mary-Liz McCarthy and Maeve Tobin assisted in the production of the excavation reports. The project team received valuable support at all stages of the project from other colleagues at IAC Ltd including Rob Lynch and Conor Gormley (senior management), Fintan Walsh and Tim Coughlan (senior archaeologists), and all the office staff.

Dr Jim McKeon compiled a first full draft of the book based on reports by the individual excavation directors. Dr Eoin Grogan provided academic comment at draft stage. Paul Higgins, of IAC Ltd, produced most of the illustrations with some additional drawings by Sara Nylund. The maps in Chapter 1 are by Kieron Goucher.

Alva McGowan drew the artefacts. Aerial photography was by Ian McMahon of Studio Lab with some additional images courtesy of Noel Meehan of Copter View Ireland. Tracy Collins and Aegis Archaeology Ltd provided additional photographs and plans.

This final version of *Around the Bay of Dundalk* was prepared for publication by TII Archaeologists Jerry O'Sullivan and Ken Hanley and reviewed by TII Archaeologist Richard O'Brien. The book was designed and produced for TII by Editorial Solutions Ireland Ltd.

TII Digital Heritage Collections

The following reports on archaeological excavations on the M1 Dundalk Western Bypass route are published in the TII Digital Heritage Collections at the Digital Repository of Ireland website (www.dri.ie). Individual reports may be downloaded in PDF format using the corresponding listed web links.

DRI identifier	Site description	Web link
E3975 Site 135 Tateetra	Early medieval souterrain	https://doi.org/10.7486/DRI.d2184428z
E3976 Site 137 Carn More 6	Bronze Age cist burial	https://doi.org/10.7486/DRI.d7925w965
02E1325 Site 121 Balriggan 1 Volume 1	Early medieval enclosure	https://doi.org/10.7486/DRI.v1194v293
02E1325 Site 121 Balriggan 1 Volume 2	Early medieval enclosure	https://doi.org/10.7486/DRI.tt4532617
02E1326 Site 120 Fort Hill	Medieval earthwork castle; post-medieval burial	https://doi.org/10.7486/DRI.v6936m97g
02E1330 Site 108 Donaghmore 1	Neolithic/Chalcolithic occupation	https://doi.org/10.7486/DRI.vd678d65z
02E1331 Site 109 Donaghmore 4	Neolithic occupation	https://doi.org/10.7486/DRI.vm41b6335
02E1333 Site 110A Donaghmore 5	Early medieval hearth	https://doi.org/10.7486/DRI.vt15d001n
02E1335 Site 110B Donaghmore 6	Undated pits	https://doi.org/10.7486/DRI.w089fr69p
02E1483 Site 131 Donaghmore 7	Iron Age ring-ditch	https://doi.org/10.7486/DRI.wd37kb05c
02E1752 Site 101 Littlemill 1	Neolithic occupation	https://doi.org/10.7486/DRI.wm11n373s
02E1753 Site 102 Littlemill 2	Early medieval burnt mound	https://doi.org/10.7486/DRI.ws85pw412
02E1833 Site 103 Littlemill 4 and 5	Neolithic occupation	https://doi.org/10.7486/DRI.x059rp093
02E1835 Site 111A Newtownbalregan 1.1	Bronze Age kiln	https://doi.org/10.7486/DRI.x633tf77h
02E1836 Site 111B Newtownbalregan 1.2	Bronze Age occupation	https://doi.org/10.7486/DRI.xd07w7450

DRI identifier	Site description	Web link
03E0062 Site 105 Donaghmore 2 and 3	Early modern farmstead (site)	https://doi.org/10.7486/DRI.xk81z1135
03E0063 Site 106 Donaghmore 8	Railway embankment	https://doi.org/10.7486/DRI.xs560s81t
03E0064 Site 107 Donaghmore 9	Early modern farmstead and road	https://doi.org/10.7486/DRI.z0302k49k
03E0113 Site 112 Newtownbalregan 2	Chalcolithic occupation	https://doi.org/10.7486/DRI.z6044c172
03E0114 Site 113 Newtownbalregan 5	Neolithic, Chalcolithic and Bronze Age artefacts / occupation	https://doi.org/10.7486/DRI.zc786485q
03E0115 Site 114 Newtownbalregan 6	Early medieval enclosure and souterrain	https://doi.org/10.7486/DRI.zk527x53r
03E0157 Site 116 Balregan 1 and 2	Neolithic enclosure and Iron Age terrace	https://doi.org/10.7486/DRI.tm711893r
03E0158 Site 119 Balregan 3 and 4	Modern building remnants	https://doi.org/10.7486/DRI.0000cd788
03E0159 Site 118 Balregan 5 and 6	Modern mill complex	https://doi.org/10.7486/DRI.0574f646q
03E0867 Site 124 Carn More 1	Bronze Age houses; early medieval ringfort and souterrain	https://doi.org/10.7486/DRI.5x226w18c
03E0871 Site 125 Carn More 3	Nil archaeology	https://doi.org/10.7486/DRI.63968n862
03E0872 Site 126 Carn More 4	Pits and hollows with charcoal (undated)	https://doi.org/10.7486/DRI.6970bf548
03E0873 Site 127 Carn More 5	Bronze Age cemetery	https://doi.org/10.7486/DRI.6h44d722r
03E0874 Site 123 Balriggan 8	Hearth (undated)	https://doi.org/10.7486/DRI.6q18g090f
03E1181 Site 122 Balriggan 7	Nil archaeology	https://doi.org/10.7486/DRI.8336wg663
03E1249 Site 130 Faughart Lower 4	Nil archaeology	https://doi.org/10.7486/DRI.8910z8349
03E1397 Site 128 Faughart Lower 1–3	Bronze Age burnt mound and hut	https://doi.org/10.7486/DRI.9p29cr10t
03E1574 Site 132 Faughart Lower 5	Neolithic occupation	https://doi.org/10.7486/DRI.b277h9467
04E0811 Site 134 Faughart Lower 6	Chalcolithic pits, Beaker pottery	https://doi.org/10.7486/DRI.dv14c798h
04E0817 Site 133 Newtownbalregan 7	Burnt mound (undated)	https://doi.org/10.7486/DRI.f188f1660

CHAPTER 1

Around the Bay

by Jim McKeon
with contributions by B McSherry

Around the Bay

Dundalk is a port town on the Irish Sea coast, in north County Louth. The surrounding landscape is a fertile rolling plain, which is drained by several rivers that converge on the bay, and is overlooked by mountains from the north. This landscape is rich in archaeological remains. It has attracted people to live, work, build and worship in all periods of prehistory and early history. Over the millennia people have changed the landscape in many ways: by clearing and enclosing farmland; draining bogs and marshes; reclaiming land from the sea; building homesteads, fortified sites, ritual and funerary monuments; and, of course, by founding a town. Despite this, the fundamentals in the landscape are unchanged. The mountains stand on the horizon, the rivers flow into the bay, and the sea still breaks against the shore (Illus. 1.1).

Illus. 1.1 View over part of the estuarine landscape of Dundalk Bay at the mouth of the Flurry River, looking north towards County Armagh, where Slieve Gullion dominates the horizon (Studio Lab).

Landscape and geology[1]

The landscape around Dundalk is defined to the east by the sea, to the south and west by the north Louth coastal plain, and to the north by Carlingford Lough and the Cooley Mountains, as well as the uplands of south Armagh (Illus. 1.2). The mountains provide excellent opportunities for settlement and agriculture on their well-watered, south-facing terraces, with the higher lands suitable for grazing sheep. The Castletown River (alias Creggan River) is the dominant drainage feature. Rising in south Armagh, it gathers the waters of the Kilcurry River (alias Cull Water) and several other, minor tributaries on its way to a long, shallow estuary on Dundalk Bay. The town is situated on the river mouth, mostly on the south bank. The Flurry River forms a second, conjoined estuary, entering the bay from the north.

Inland from Dundalk town and south of the Castletown River, the land undulates gently between 20 m and 30 m OD and has good soils particularly suitable for tillage. The Ramparts, Fane, Glyde and Dee rivers wind across this landscape on their journeys to the sea. The River Dee is the southernmost of these. It forms a boundary between the coastal plain of north Louth and higher ground that separates it from the Boyne Valley, to the south. The Dee was also the boundary between the early historic provinces of Ulster and Meath *(Mide)*, and was probably a major territorial boundary in prehistory too.

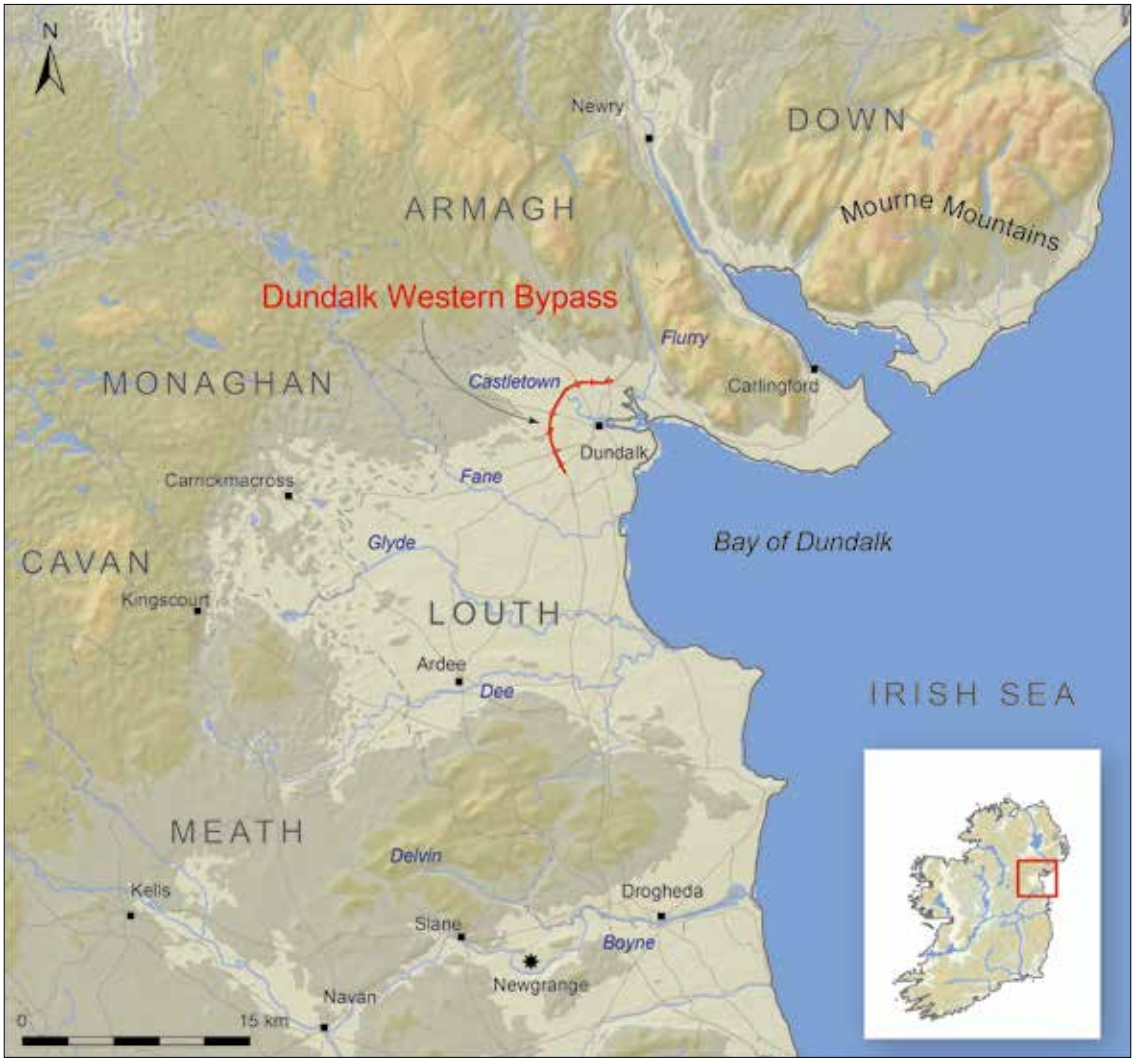
Dundalk itself lies near the interface between distinct geologies. (For a recent summary of the geology of County Louth see Gallagher et al. 2013.) To the west there is a gently undulating landscape of low drumlins rising from the coastal plain. Beneath the surface are thick strata of heavily contorted Ordovician and Silurian slates, shales, mudstones and sandstones over 400 million years old, which extend across most of north Louth. Outcrops of this readily fractured rock—especially the coarse Silurian sandstone known as 'greywacke'— have long been exploited as a convenient source of local building stone. The soils that cover them are rich, fertile 'brown earth' mineral soils (Illus. 1.3). North of the bay, the Cooley peninsula has a complex geology with Palaeogene igneous rocks (granite, gabbro), c. 60 million years old, forming the rugged mountain ridges, and Carboniferous limestones, c. 350 million years old, forming a fertile fringe of lower ground.

The sea has contributed very significantly to the soils and topography of the coastal plain. The flat, low-lying maritime area around the town is characterised by alluvial and estuarine clays and silts deposited in the shallow waters of Dundalk Bay since the end of the last glaciation, about 12,000 years ago. This has not been a constant and uninterrupted process. Around 6000 BC the sea inundated the plain where Dundalk town now stands. At its maximum extent, it was about 4 m above current sea level (Mitchell 1986, 76). After c. 5500 BC the sea retreated again, but much of the plain remained tidal salt marsh until the 17th century AD. Remnants of this salt marsh are still found along the coast at Marsh South and along the north side of the Castletown River estuary, but most of it has now been reclaimed. A

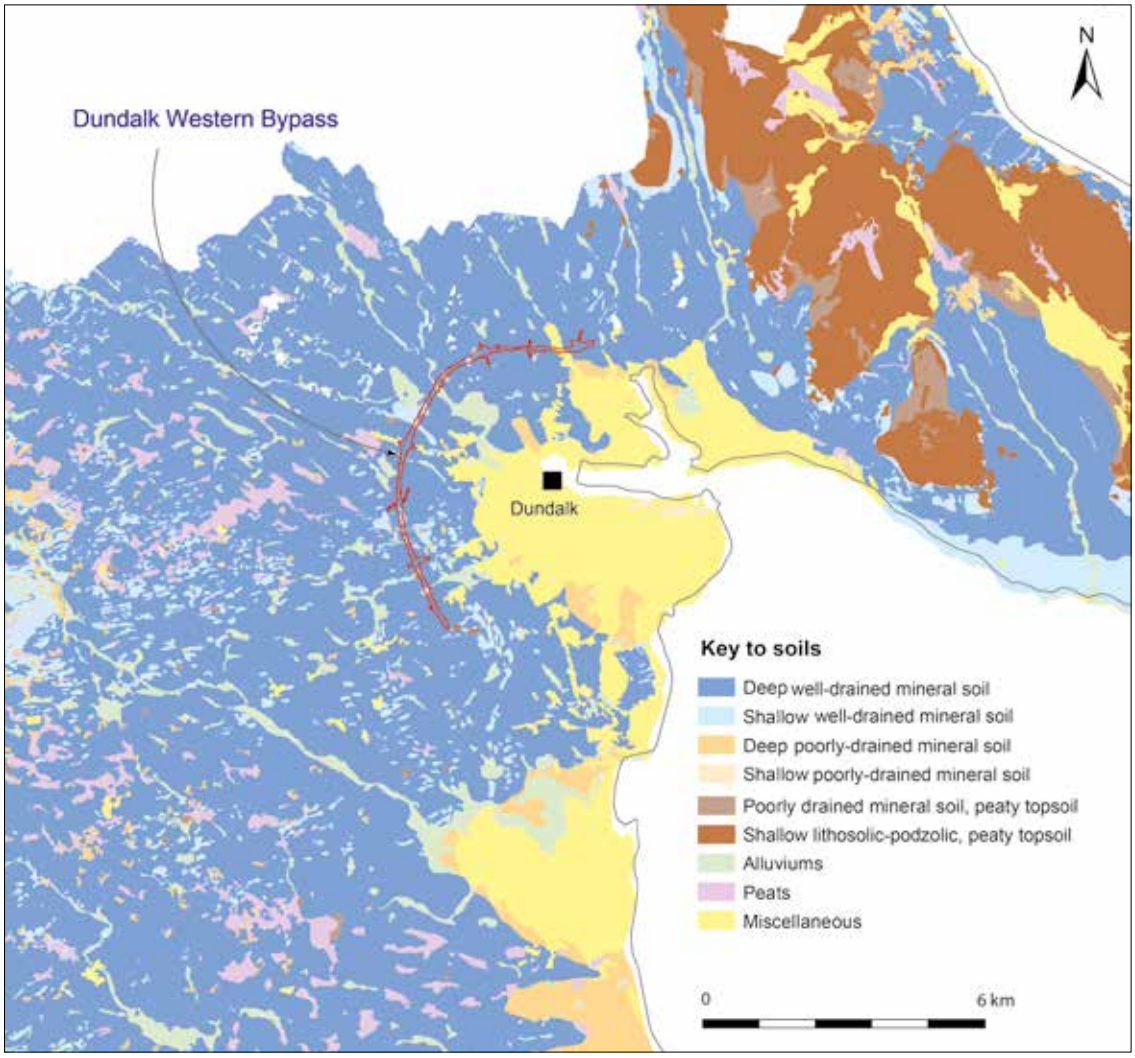
1 This chapter draws heavily on Paul Gosling's book *From Dún Delca to Dundalk,* published by the Louth Archaeological and Historical Society (1993, 237–8), and on Irish Historic Towns Atlas No. 16, *Dundalk,* compiled by Harold O'Sullivan for the Royal Irish Academy.

memory of the marshes is preserved in townland names, including Marshes Upper and Marshes Lower to the south, and Marsh North and Moorlands to the north (west of the Flurry River).

This changing estuarine topography has had a major influence on human settlement. Over thousands of years, sand and gravel bars in the estuary of the Castletown River formed two prominent, well-drained ridges in what was otherwise a low-lying, marshy environment. The Anglo-Normans recognised an advantageous setting that combined natural defences, potential port facilities and control over the lowest crossing point of the Castletown River, and founded the town of Dundalk on these sandy ridges in the late 12th century.



Illus. 1.2 Relief map of the north-east region, showing rivers that flow into the Bay of Dundalk, and the M1 Dundalk Western Bypass (red) (IAC Ltd based on the Ordnance Survey of Ireland map).



Illus. 1.3 Soils in the region include fertile mineral soils inland, peaty soils on the Cooley peninsula uplands and estuarine/marine deposits ('Miscellaneous') around Dundalk Bay (IAC Ltd based on Teagasc & EPA).

Archaeology and history

Dundalk occupies a rich cultural landscape. The built heritage ranges from prehistoric tombs and standing stones to country mansion houses and modern industrial buildings, and including, along the way, early medieval monastic sites and farmstead enclosures (ringforts), and later medieval churches, castles and tower houses. The town takes its name from an early medieval assembly place called Dún Dealgan or Dún Delca (Chapter 6). The site is about 2 km west of modern Dundalk town centre, in the townland of Castletown. The Anglo-Normans recognised the importance of this place and

built a motte-and-bailey earthwork castle there (Illus. 1.4), with an associated planned settlement. This inland settlement soon gave precedence to their walled port town of Dundalk (Illus. 1.5 and 1.6) and, by the early 14th century, it was already known as 'the old town of the castle of Dundalk' (O'Sullivan 2006, 1).

Illus. 1.4 From a hilltop at Castletown, County Louth, the ancient royal mound of Dún Dealgan overlooks the modern town of Dundalk. Anglo-Norman conquerers modified the ancient Gaelic *dún* to form a motte mound for a wooden fort or castle. The present masonry tower is an 18th-century folly (Noel Meehan, Copter View Ireland).

Illus. 1.5 A detail from Richard Bartlett's 'Map of the Moyry Pass and Cooley Peninsula' (c. 1602) shows the character and setting of the medieval walled town, on the south bank of the Castletown River (National Library of Ireland).

Illus. 1.6 In this view of Dundalk from Thomas Wright's *Louthiana* (1748) the town still retains the scale and intimate character of its medieval origins, though there is now a fine masonry bridge shown on the Castletown River crossing (Royal Irish Academy).

The Great North Road

Brendan McSherry

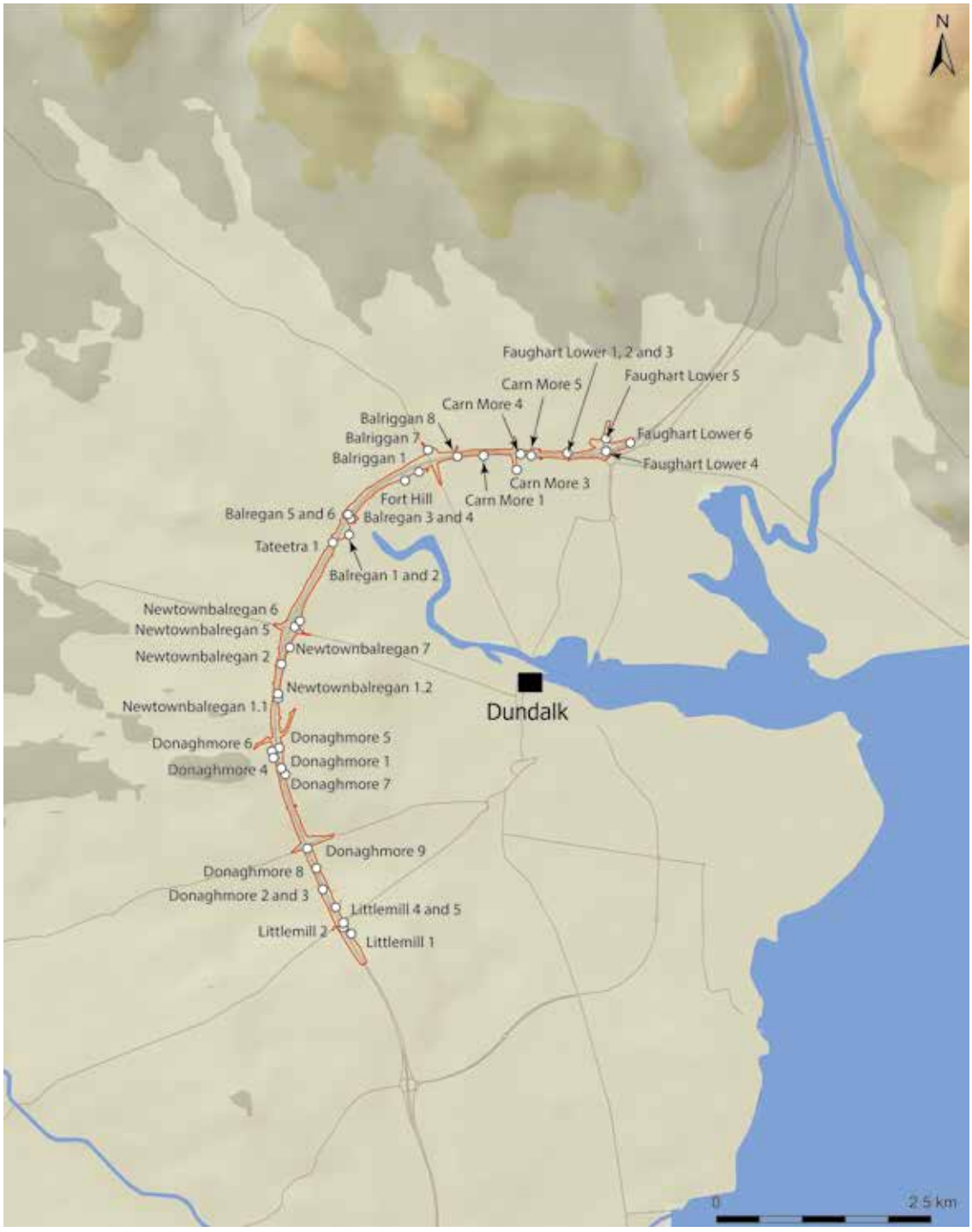
Dundalk is built on flat, marshy land on the estuary of the Castletown River. Stretching away to the south is a broad, fertile plain, watered by meandering rivers. To the north-west there is an almost impenetrable drumlin belt. To the north and north-east there is a wall of ice-carved mountains. These landscape features have influenced routeways in the region in all periods.

The ancient road between east Ulster and the early Irish kingdom of Míde was the *Slighe Midhluachra.* This was one of the five great roads converging on Tara. It crossed the Castletown River at a ford below its confluence with the Kilcurry River. This was at a place identified by some of the old Ordnance Survey maps (1909 and 1949) as 'the highest point to which medium tides flow', near Toberona Bridge.

The ford was overlooked by the earthwork fort of Dún Dealgan, also known as Castletown Motte and, more romantically, Cú Chulainn's Castle. This ancient royal Gaelic site, afterwards a Norman fort, is the highest point in the Dundalk basin. It is easy to imagine warriors here keeping a lookout over the old north road on which Cú Chulainn once harried the armies of Queen Maebh of Connacht, in ancient Irish legend, and on which Lord Mountjoy led a campaign against Hugh O'Neill, Earl of Tyrone, in 1600.

Known archaeological and historical sites like Dún Dealgan were avoided when the route of the new road was chosen, but archaeological investigations along the route uncovered a wealth of new sites, features and artefacts dating from early prehistory to the modern period (Table 1.1 and Illus. 1.7). Only Mesolithic activity is missing from this long sequence. The investigations recorded settlement/habitation sites from almost every period. There were burials too, dating to the Bronze Age, Iron Age, early medieval and post-medieval periods. And there were industrial features of Bronze Age (kiln/oven), Iron Age (cereal kiln, metalworking) and modern date (grain mill). Some of these discoveries are exceptional in terms of their quality and significance. The outstanding sites were a Neolithic embanked ceremonial enclosure (a henge-like monument) at Balregan 1 (Illus. 1.8), a large Bronze Age funerary complex at Carn More 5 (Illus. 1.9), an early medieval cemetery-settlement at Balriggan 1, and a later medieval earthwork castle on Fort Hill. The well-preserved early medieval souterrains at Carn More 1 (Illus. 1.10), Tateetra and Newtownbalregan 6 also deserve mention here. At Tateetra and Newtownbalregan the roofstones of the souterrains included re-used, decorated slabs that originated in megalithic tombs of the Neolithic period. There were two medieval cross-inscribed slabs in the roof of the Tateetra souterrain.

The artefacts recovered from the excavated sites were remarkable, particularly the quality and quantity of pottery from nearly every period. Early Neolithic pottery was found at five sites, and the ceremonial enclosure at Balregan 1 yielded one of the largest and most important assemblages of Middle Neolithic pottery discovered in Ireland in recent times. That site also produced a quantity of Late Neolithic Grooved Ware, representing a minimum of five vessels. An assemblage of Beaker pottery, from at least 25 vessels, was retrieved from four Chalcolithic sites, including a rare



Illus. 1.7 Map showing the excavated archaeological sites along the route of the M1 Dundalk Western Bypass (IAC Ltd based on the Ordnance Survey of Ireland map).

Illus. 1.8 Balregan 1. Aerial view of the Neolithic enclosure site on a promontory formed by the confluence of the Castletown and Kilcurry rivers, looking south-east towards the Bay of Dundalk (Studio Lab).

polypod bowl from Newtownbalregan 2. The Bronze Age funerary complex at Carn More 5 yielded a splendid array of food vessel bowls representing at least 20 pots, three of which were intact. Sherds from at least 87 Souterrain Ware pots were recovered from the early medieval cemetery-settlement at

Illus. 1.9 Carn More 5. Recording cist burials in the Bronze Age cemetery. A ring of cists surrounded remnants of a central cairn, which overlay a primary burial pit with further cists (Niall Roycroft).

Illus. 1.10 Carn More 1. A previously unrecorded ringfort was entirely levelled over the centuries by tillage, but a souterrain in the interior survived (Studio Lab).

Balriggan 1, and later medieval and post-medieval pottery was found on Fort Hill. In addition to pottery, many other artefacts were found, including flint tools, a bronze shield boss from Carn More 5, and an ornately decorated penannular ring brooch and a 'Meare spiral' glass bead from a ringfort at Newtownbalregan 6.

These discoveries were all made within a narrow corridor of land corresponding to the footprint of the new bypass. They testify to the potential for many more discoveries in the rich archaeological landscape of north County Louth and especially in the environs of Dundalk Bay.

Project background

The M1 Dundalk Western Bypass involved the design and construction of a new section of motorway 11 km long and forming an arc c. 3 km to the west and north of the town. The new road improves transport links between Dublin and Belfast and forms part of the strategic north–south road corridor, Euroroute E01, which is part of the Trans-European Road Network proposed by the European Union. A Public-Private Partnership contract was awarded to Celtic Roads Group (Dundalk) Ltd in 2004 for the construction and operation of the bypass, which is fully funded by tolls collected at plazas elsewhere on the motorway, south of the River Boyne Bridge. The bypass was opened in September 2005.

The town of Dundalk

Brendan McSherry

Dundalk became the county town of Louth, which was one of 12 counties created in the original shiring of Ireland by 'bad king John' in 1210. Louth was originally part of Ulster but, unlike the rest of that province, it also formed part of the core territory of English rule in medieval Ireland, known as 'the Pale'. Towards the end of the 16th century, Louth was formally transferred out of Ulster and into a much expanded and unhistoric province of Leinster.

By the 19th century Dundalk came to have all the administrative buildings typically found in county towns: a military barracks, courthouse (Illus. 1.11), gaol, hospital and workhouse. (Workhouses were built in the seats of all Poor Law Unions, not just county towns.) It also boasted several fine churches, some of them with medieval origins. Dundalk differed from many other Irish county towns, however, in being an industrial town.

As the centre of a large and rich agricultural district, Dundalk became an important port soon after its foundation as a Norman burgh in the high medieval period. In industrial times there was a steam ferry to Liverpool. Dundalk became a railway town in 1849, where north–south and west–east lines converged, and was the centre of railway engineering for the Great Northern Railway of Ireland. In this period the town had two foundries, a small shipyard and other industries based on processing agricultural produce. It also provided the surrounding district with the new consumer luxuries of the 19th century.

Today Dundalk is a prosperous town with a population of 39,000. It still has several light industries, and boasts a lively retail trade, and attractive bars and restaurants, in a recently regenerated town centre. It is home to the Louth County Museum, Dundalk Institute of Technology, private art galleries and artists' studios including An Táin Arts Centre and Bridge Street Studios, and the Creative Spark centre for creative and innovative enterprises. The town has sporting clubs in every major code, from horse racing to Gaelic games, including a celebrated association football club—Dundalk FC.

Illus. 1.11 Dundalk Courthouse (Brendan McSherry).

Table 1.1—Chronology of the excavated sites on the M1 Dundalk Western Bypass (excluding excavations with 'nil archaeology' found)

Excavated sites	**Mesolithic** 8000–3900 BC	**Neolithic** 3900–2450 BC	**Chalcolithic** 2450–2200 BC	**Bronze Age** 2200–800 BC	**Iron Age** 800 BC–AD 400	**Early medieval** AD 400–1200	**Later medieval** AD 1200–1550	**Post-medieval** 1550–1700	**Early modern** 1700–1900	**Nil period** Undated site
E3975 Tateetra										
E3976 Carn More 6										
02E1325 Balriggan 1										
02E1326 Fort Hill										
02E1330 Donaghmore 1										
02E1331 Donaghmore 4										
02E1333 Donaghmore 5										
02E1335 Donaghmore 6										
02E1483 Donaghmore 7										
02E1752 Littlemill 1										
02E1753 Littlemill 2										
02E1833 Littlemill 4 and 5										
02E1835 Newtownbalregan 1.1										
02E1836 Newtownbalregan 1.2										
03E0062 Donaghmore 2 and 3										
03E0063 Donaghmore 8										
03E0064 Donaghmore 9										
03E0113 Newtownbalregan 2										
03E0114 Newtownbalregan 5										
03E0115 Newtownbalregan 6										
03E0157 Balregan 1 and 2										
03E0158 Balregan 3 and 4										
03E0159 Balregan 5 and 6										
03E0867 Carn More 1										
03E0872 Carn More 4										
03E0873 Carn More 5										
03E0874 Balriggan 8										
03E1397 Faughart Lower 1–3										
03E1574 Faughart Lower 5										
04E0811 Faughart Lower 6										
04E0817 Newtownbalregan 7										

Archaeological investigations

The requirement for archaeological investigations on the Dundalk Western Bypass were stated in the Environmental Impact Statement for the road project and confirmed in the Ministerial Directions issued to Louth County Council by the Minister for the Environment, Heritage and Local Government under Section 14A (2) of the National Monuments Acts 1930–2014. In 1999–2000, long before any excavations were begun, the route of the new road was subject to an archaeological impact assessment by Valerie J Keeley Ltd. The assessment included an aerial survey of the route and a paper survey, based on information in the statutory Record of Monuments and Places, the national Sites and Monuments Record, the Topographical Files of the National Museum of Ireland, early maps and other documentary sources. Also, geophysical surveys were carried out by GSB Prospection in 2002 (not illus.).

This first stage of non-invasive assessment work was followed by a three-phase programme of further and more intensive archaeological investigations. Phase 1 consisted of test excavations along the entire route by Irish Archaeological Consultancy Ltd in 2002, followed by 34 fully recorded manual excavations, in eight townlands, in Phase 2. The excavations were conducted principally by Irish Archaeological Consultancy Ltd in 2002–2003, but also by Aegis Archaeology Ltd in 2004. Phase 3 comprised analysis of samples, conservation of artefacts and all final reporting arising from the excavations.

Several public lectures have been given by archaeologists involved in the project and the excavation results were presented in an exhibition at the Louth County Museum in Dundalk in 2009–10. Some of the prehistoric pottery from the excavations is still on display at the Museum.

Dating evidence

Radiocarbon dating of selected charcoal samples from the excavated sites was by the Accelerator Mass Spectrometry method. The radiocarbon dates cited in this publication are calendrical dates, quoted to a two-sigma or 95% degree of statistical confidence. (See Appendix 1 for details of the radiocarbon dates.) The project team relied heavily on artefact typologies for dating evidence and, because of this, there are fewer radiocarbon dated samples from this project than has become the norm on other roads projects. We have chosen to publish the results as reported, in any case, because of the significance of the excavated sites, and trust that the archive of the project records, finds and samples will afford opportunities for future researchers to interrogate and further refine these results.[2]

2 The project archive is curated by the National Museum of Ireland (archaeological objects) and the National Monuments Service (excavation records and reports).

CHAPTER 2

Settlement and ceremony in the Neolithic period

by David Bayley and Shane Delaney
with contributions by E Grogan, H Roche and E Nelis

Settlement and ceremony in the Neolithic period

The M1 Dundalk Western Bypass traverses some of the most fertile land in Ireland. Here, one may expect to find remains of the first sedentary farming communities, from the fourth and third millennia BC. Nine Neolithic sites were discovered by our investigations along the bypass route (Table 2.1). Three stones bearing megalithic art were also found at two other sites, where the stones were incorporated in early medieval souterrains. Settlement evidence of the period included possible building remains at several sites. These were mostly light structures suggesting huts rather than substantial houses. The buildings were variously dated to the Early and Middle Neolithic periods. The most significant Neolithic site was an embanked enclosure at Balregan 1, where Middle and Late Neolithic ceremonial activity was recorded. The site yielded a large assemblage of Middle Neolithic pottery, and provides the first significant evidence for Late Neolithic activity in the Dundalk area. The stones decorated with passage-tomb art were found re-used in early medieval souterrains at Tateetra and Newtownbalregan 6. They may originally have come from the ceremonial complex at Balregan. Considering the narrow ribbon of land investigated for the road scheme, the combined evidence of these sites demonstrates that the area around Dundalk Bay was well populated throughout the Neolithic period.

Buildings, flints and pottery

Littlemill 1

Excavations at Littlemill 1[3] recorded three separate clusters of features (Illus. 2.1), interpreted as two buildings and a cooking area. Flakes of worked flint and sherds of Early and Middle Neolithic pottery were recovered from these features, indicating two phases of activity. There was also burnt bone (119 fragments); some fragments were butchered and a few could be identified as pig. The site was located on a gentle, east-facing slope in prime agricultural land. Approximately 100 m north of the site there was a bowl-shaped depression with natural freshwater springs.

The most plausible building evidence was a line of five post-holes, aligned north–south over a distance of 7.5 m (Illus. 2.2). Some of the post-holes had packing stones. These features may represent a rectangular house—either a row of internal roof support posts or one of the side walls. The structure is not typical of Early Neolithic rectangular houses. Most recorded examples had walls of upright

3 Excavation No. 02E1752; Director Brian Ó Donnchadha; ITM 705178 808839; height 33 m OD; parish of Ballybarrack; barony of Upper Dundalk; County Louth.

Table 2.1—Neolithic discoveries along the route of the M1 Dundalk Western Bypass

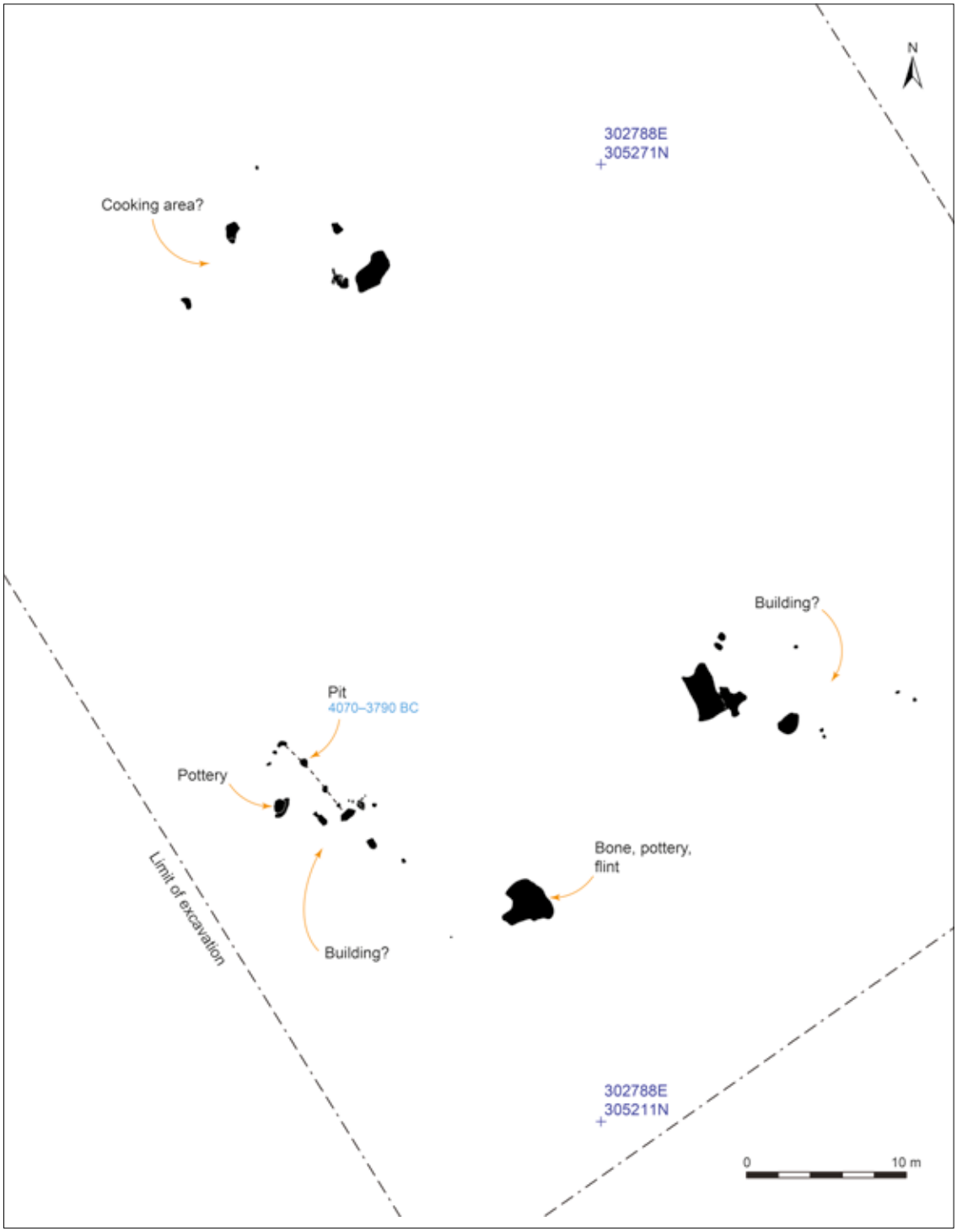
Site name	Neolithic period	Main feature(s)	Artefacts	Plants, animals
Littlemill 1	Early	Possible buildings and cooking area	Pottery, worked flint	Burnt bone (pig), charcoals (incl. oak)
Faughart Lower 5	Early	Possible building	Pottery	Charcoals (unident.), hazelnut shells
Fort Hill (Balriggan)	Early	Isolated pit	Pottery, shale axehead, flint knife	Charcoals (unident.)
Donaghmore 4	Early and Middle	Cooking pit	Pottery	Charcoals (unident.)
Newtownbalregan 5	Early and Middle	Linear feature	Pottery, flint tools	Charcoals (unident.)
Donaghmore 1	Early and Middle	Building remains, hearths	Pottery, flint tools	Charcoals (incl. alder, blackthorn, hazel, oak), burnt bone (unident.)
Littlemill 4 and 5	Middle	Building remains or ritual pits	Pottery, flint tools	Burnt and unburnt bone frags (incl. cattle)
Carn More 5	Middle	Bronze Age cemetery	Pottery (residual)	N/A
Balregan 1	Middle and Late	Embanked enclosure; cremated human bone	Pottery, flint tools	Charcoals (incl. alder, hazel, oak), burnt bone (incl. cattle, dog, horse, sheep/goat)
Stones re-used in early medieval souterrains				
Newtownbalregan 6, Tateetra	Middle to Late	Megalithic art	Decorated stones	N/A

planks, footed in large, deep slot-trenches. Posts tended to run across the shorter axis of these buildings, supporting internal partitions or lofts, or both; though examples of Early Neolithic houses with post-built walls have also been recorded (examples in Smyth 2014, fig. 3.11).

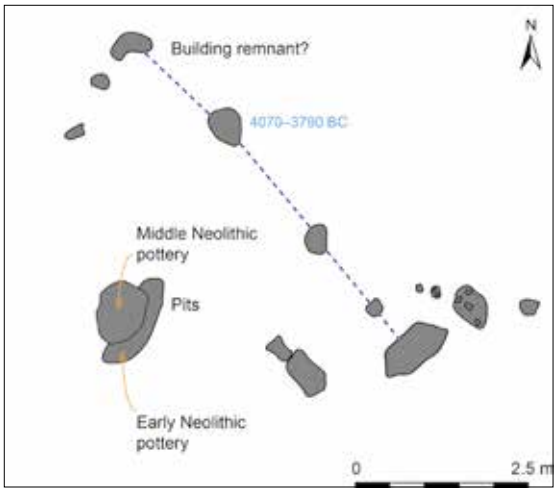
Charcoal (oak) from one post-hole was dated to 4070–3790 BC (Wk-18552). The sample charcoal came from the inner part of a tree of unknown age, so it is possible that the tree was felled some centuries later than the indicated date range (the 'old wood effect'). This putative felling date would be more consistent with the recognised dating of rectangular houses in the Irish Neolithic, broadly within the period 3750–3550 BC (Smyth 2006 and 2014; McSparron 2003).

Several other pits and stake-holes were located in the immediate vicinity of the building. Some of them contained worked flint. One pit also contained five sherds of a single Early Neolithic carinated bowl, indicating that the building and pit were broadly contemporary. This pit was cut by another containing eight sherds of a Middle Neolithic broad rimmed bowl, indicating much later activity on the same site.

There were other groups of post-holes, pits and stake-holes near the building.



Illus. 2.1 Littlemill 1. Three clusters of pits and post-holes were recorded. Some of the fills contained worked flint, bone, charcoal and pottery sherds. One group was interpreted as a ‘cooking area’ and another group (outlined) as remnants of a Neolithic building (IAC Ltd).



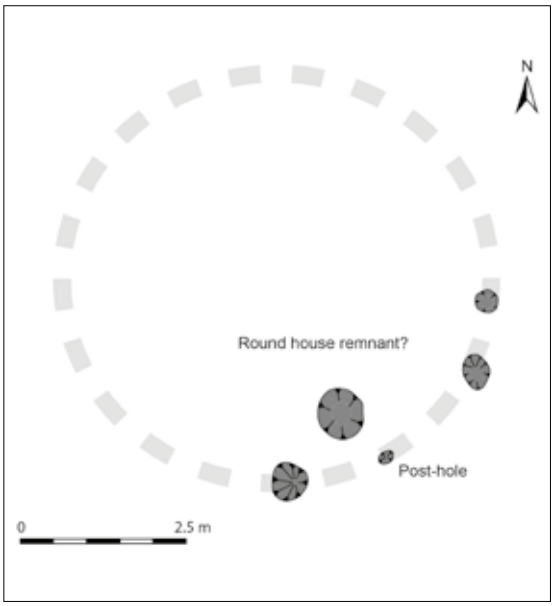
Illus. 2.2 Littlemill 1. Plan of the post-holes interpreted as structural elements (e.g. wall line or roof supports) of an Early Neolithic house (IAC Ltd).

One group, located 20 m to the east, may represent the site of a second building, but the surviving features formed no clear pattern. Another group, 30 m to the north, contained some burnt fills and is interpreted as a cooking area, with a possible windbreak or some such light structure, supported by posts. No diagnostic artefacts or suitable dating samples were recovered from either location, so their proximity is the only evidence for any association between these features and the proposed post-built Early Neolithic house.

Faughart Lower 5

At Faughart Lower 5[4] there was evidence for another possible Early Neolithic building. The site was located in level pastureland. The building was represented by an arc of four shallow pits or post-holes, with a fifth pit inside the arc (Illus. 2.3). These were interpreted in the field as remains of a circular hut with a diameter of at least 5 m. It must be acknowledged that these features were not clearly post-holes: they were all shallow (< 0.15 m deep); they did not contain the 'pipes' of dark, humic soil that represent decayed posts; and only the inner pit had stone packing. All of the pits contained sherds of Early Neolithic carinated pottery, and one contained hazelnut shells.

An alternative explanation for the pits is that they were dug and backfilled for some ritual purpose—in the same event or on separate occasions—with the buried pottery having some symbolic meaning. The sherds were very worn and most vessels were represented by only a few pieces. They were probably gathered from a domestic occupation surface, either here or nearby, where they would have been subject to a



Illus. 2.3 Faughart Lower 5. An arc of pits/post-holes containing Early Neolithic pottery sherds may represent a small circular building—a house or possibly a ritual structure (IAC Ltd).

4 Excavation No. 03E1574; Director Shane Delaney; NGR 705747 811013; parish of Ballymacscanlan; barony of Lower Dundalk; County Louth.

good deal of incidental fragmentation and abrasion.

Early Neolithic carinated bowls

Eoin Grogan and Helen Roche

The pits at Faughart Lower 5 produced 153 pottery sherds representing at least nine Early Neolithic carinated bowls. Carinated bowls were used c. 4000–3600 BC. They have been recovered mainly from domestic sites, but small quantities have come from funerary contexts, particularly from court tombs. From the surviving fragments recovered at Faughart Lower 5 it appears the vessels here were of medium size (less than 250 mm in diameter at the rim), but a few may have been larger. Only a few rim sherds were present. These are rounded and slightly everted. The shoulders are mainly of the medium stepped type although the shoulder on one vessel was slightly more prominent. These vessels generally have neutral profiles and deep rounded bodies. These forms represent the earliest type of Neolithic pottery in Ireland (Case 1961: 'Dunmurry-Ballymarlagh styles'; Sheridan 1995: 'classic' carinated bowls). In a regional context this pottery occurs at Monanny, County Monaghan (Walsh 2004; Grogan & Roche 2006), Knowth and Newgrange, County Meath (Eogan & Roche 1997; O'Kelly et al. 1978), Feltrim Hill, County Dublin (Hartnett & Eogan 1964), and the court tomb at Clontygora Large, County Armagh (Davies & Patterson 1938). Small assemblages also came from other sites excavated along the M1 Dundalk Western Bypass: at Littlemill 1, Donaghmore 1 and 4, Newtownbalregan 5 and Balregan 1.

Fort Hill

At Fort Hill, in Balriggan townland,[5] a single, large, shallow, charcoal-rich pit (not illus.) contained two body sherds of Early Neolithic pottery, and three pieces of abraded, unworked flint.

Illus. 2.4 Fort Hill. Neolithic stone axehead from topsoil, made on shale (02E1326:1:1) (Niall Roycroft).

5 Excavation No. 02E1326; Director David Bayley; ITM 703352 810591; height c. 38 m OD; parish of Faughart; barony of Upper Dundalk; County Louth

A polished stone axehead and a Neolithic flint knife were recovered from the topsoil. The axehead was made on shale. It was flaked, ground and highly polished, with an asymmetrical profile, plano-convex cross-section and pointed butt (length 98 mm, weight 151 g) (Illus. 2.4). The artefacts suggest a Neolithic habitation site but there was no evidence for buildings. This may be a result of severe truncation of the site in the later medieval period when an earthwork castle was built on the hill (Chapter 6). With outcropping rock and broad views over the surrounding countryside, Fort Hill would have attracted people in all periods, for a variety of possible reasons, including refuge, war and worship.

Donaghmore 4

At Donaghmore 4[6] a small assemblage of 20 pottery sherds was recovered from an irregular cluster of six pits and stake-holes (not illus.). The pottery sherds represented four Early Neolithic carinated bowls and a Middle Neolithic bipartite bowl. Some of the pits contained charcoal. This site was excavated on the northern flank of a ridge, in the shelter of a rock outcrop. There was a stream c. 150 m away, below the ridge. The evidence suggests domestic activity, perhaps temporary.

Balregan 1

A single sherd from an Early Neolithic carinated bowl was also recovered at Balregan 1. While this site saw significant ceremonial activity in the Middle and Late Neolithic periods (below), no other Early Neolithic evidence was identified.

Newtownbalregan 5

As we saw at Littlemill 1 (above), some of the sites with Early Neolithic activity also had evidence for a Middle Neolithic phase. Newtownbalregan 5[7] was at the base of a gentle, south-facing slope on good arable soils. On this site there were numerous pits and stake-holes, mostly of Chalcolithic or Bronze Age date. A sherd from an Early Neolithic carinated bowl and a quantity of flint tools were found in the topsoil. A sherd from a Middle Neolithic bipartite bowl was recovered from a shallow linear feature on the same site (some sort of slot-trench or perhaps just a furrow remnant). Four hollow scrapers were found in pits.

Chipped stone from Newtownbalregan 5

Eiméar Nelis

A total of 69 flint pieces was recovered at Newtownbalregan 5. Most were waste pieces derived from knapping—flake debitage (31 pieces) or angular shatter (24 pieces). There was a single core and 13 modified tools: four scrapers, four hollow scrapers, two edge-retouched tools, two slightly irregular bifacial tools—which may have been projectiles—and one other possible tool, perhaps for cutting.

The scrapers include two similar pieces formed on long, fine flakes, both of them delicately retouched at the distal end only. Two others are small, heavy types. One of these is unusual in that it alternates the axis

6 Excavation No. 02E01331; Director Brian Ó Donnchadha; ITM 701912 807304; height 37 m OD; parish of Dunbin; barony of Upper Dundalk; County Louth

7 Excavation No. 03E0114; Director David Bayley; ITM 702044 808839; height 26 m OD; parish of Castletown; barony of Upper Dundalk; County Louth.

of the tool in relation to the flake axis—i.e. the scraping edge is along the right lateral edge, rather than the distal end, as is more commonly the case. The hollow scrapers have a varied morphology (Illus. 2.5). Only one example was formed on a typical trapezoidal flake. Two others were based on long flakes, with their hollows formed along the lateral edges (e.g. 03E0114:1:8). The remaining piece is formed on a flake that is more akin to blanks for fine arrowheads, and may have been a blank that was saved for later completion but used in the meantime as a scraper (03E0114:1:147). Two of the tools may have been projectiles, but neither could be described as a typical arrowhead. One is a small percussion-flaked, leaf-shaped, bifacial tool, similar to laurel leaves; the other is a fragment of a leaf-shaped piece, with minimal bifacial retouch, which may have been broken during manufacture.

The lithic assemblage points to the small-scale production of flint tools on this site or in the vicinity. (As most of the flint was found in topsoil, at least some of it may have migrated over time from higher ground adjacent to the site.) Scrapers formed on long, fine flakes, a small laurel leaf projectile, and the assemblage of hollow scrapers all suggest that this occurred in the Early to Middle Neolithic periods.

Illus. 2.5 Newtownbalregan 5. Neolithic flint hollow scrapers (IAC Ltd).

Donaghmore 1

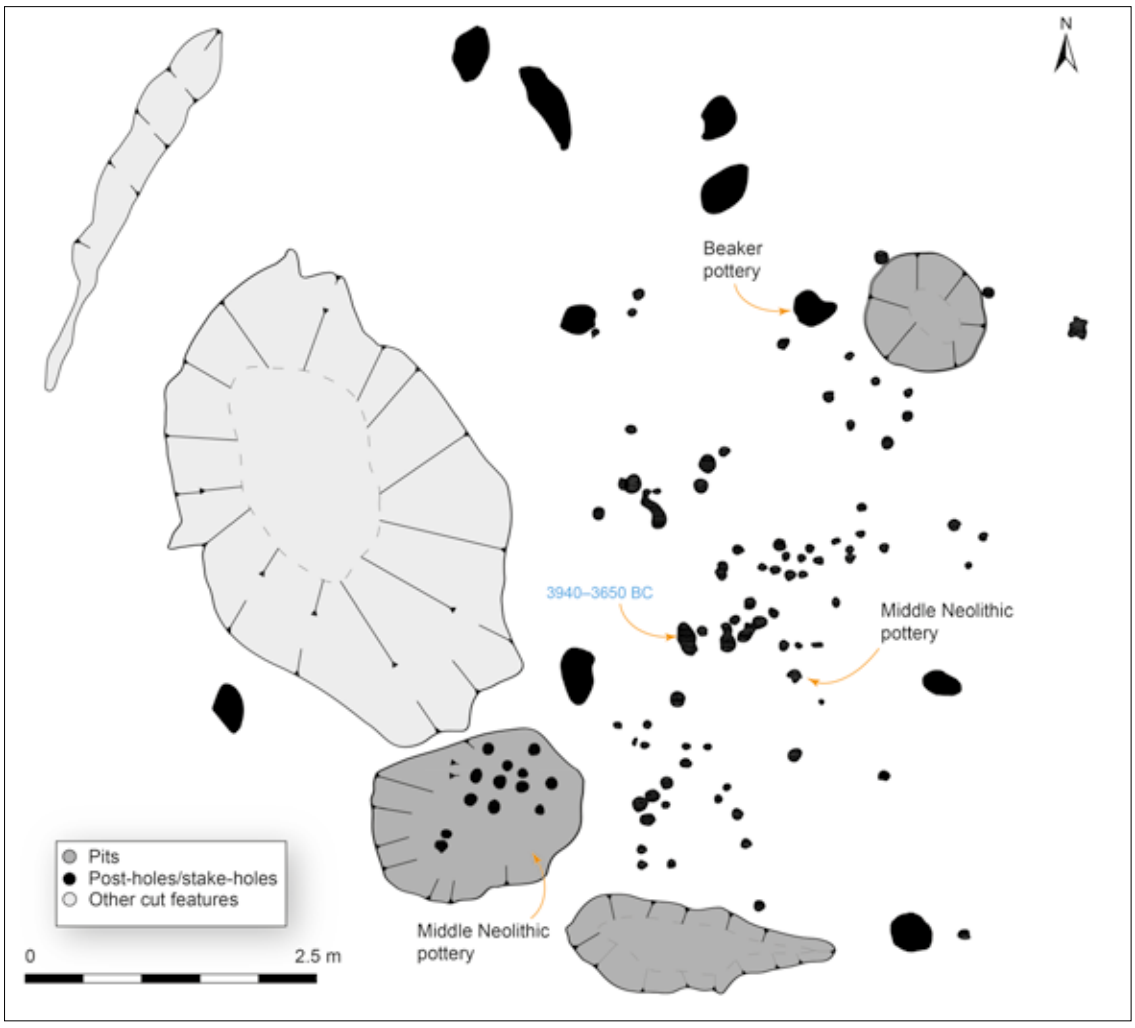
Evidence of Early and Middle Neolithic domestic occupation was also discovered at Donaghmore 1.[8] The site was located on arable soils, on a low, broad ridge, with good views of the surrounding country. There were streams nearby, on lower ground north and south of the ridge. Overall, this setting was ideal for settlement. There was no unequivocal evidence for domestic buildings here. Nonetheless, the finds and features—particularly the quantity of pottery—indicate either permanent or episodic domestic occupation at this site.

Spreads of burnt material were recorded at the eastern edge of the site (not illus.). They produced typical domestic material, including 11 sherds of an Early Neolithic carinated vessel and several pieces of flint including one scraper. There were two possible hearths nearby; one of them contained 41 sherds of at least one Early Neolithic carinated vessel; the other had a piece of flint. Ten sherds of Early Neolithic carinated pottery were also recovered from modern field ditches close to these features (not illus.).

About 20 m south-west of the features described above, there was a cluster of 111

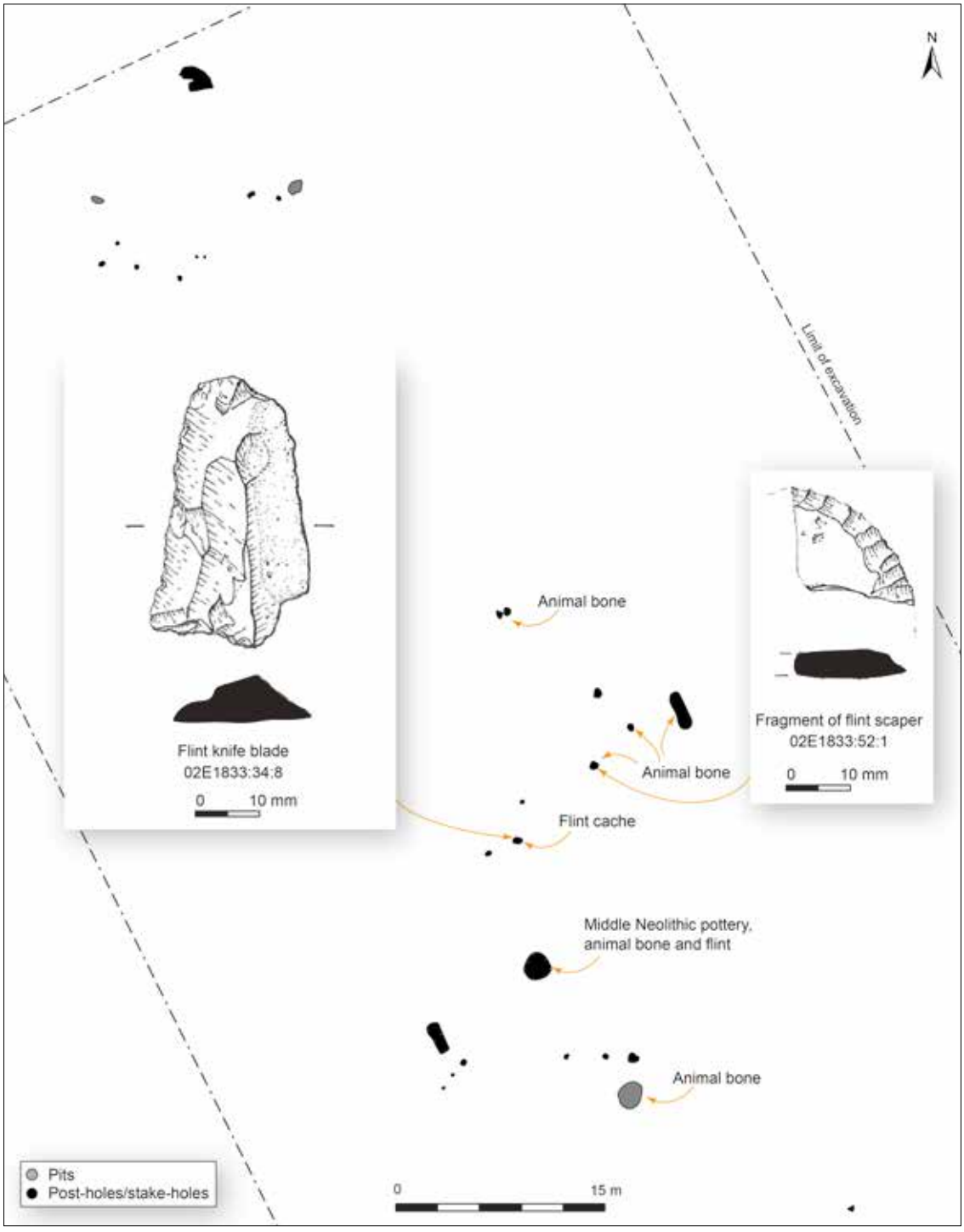
8 Excavation No. 02E1330; Director Brian Ó Donnchadha; ITM 701897 807182; height 38 m OD; parish of Dunbin; barony of Upper Dundalk; County Louth.

stake-holes and several pits and post-holes containing Middle Neolithic pottery. A single worn sherd of Middle Neolithic Impressed Ware came from one of the stake-holes. The stake-holes covered an oblong area roughly 8 m by 4 m but did not form a regular plan (Illus. 2.6). They possibly represent a series of lightweight wooden structures (e.g. huts or drying frames) erected in the same place over a period of time. Charcoal (hazel and oak) from one of the stake-holes was dated to 3940–3650 BC (Wk-18551) in the Early Neolithic period.[9] Within this stake-hole cluster, towards the south-west edge, there was a concentration of 13 stake-holes within the base of a large, shallow, oblong pit (1.9



Illus. 2.6 Donaghmore 1. Plan of stake-holes and pits including one large pit interpreted as the possible base of a Neolithic hut (IAC Ltd).

9 The Excavation Final Report text says the dated sample material was alder and blackthorn from a large pit. Here we have preferred the evidence of the University of Waikato dating lab certificate, which identifies the sample material as hazel from a stake-hole.



Illus. 2.7 Littlemill 4 and 5. Plan of pits, post-holes and stake-holes that may represent the remains of a Middle Neolithic occupation site or an area of ritual deposition (IAC Ltd).

m long by 0.17 m deep). The pit and stake-holes had charcoal-rich fills, which included a few burnt bone fragments (unidentified), a hazelnut shell and 20 sherds of a Middle Neolithic Impressed Ware bipartite bowl. Although the evidence suggests the features are predominantly Neolithic, we note also three Beaker sherds from one of the post-holes in this group.

Littlemill 4 and 5

Excavations at Littlemill 4 and 5[10] recorded a scattered group of shallow pits, stake-holes, and possible post-holes, on a slight rise in undulating farmland (Illus. 2.7). The fills contained charcoals and other burnt sediment, burnt animal bone, struck flint tools and debitage, and Neolithic pottery sherds. There were 113 fragments of burnt bone, mostly unidentifiable to species, apart from some cattle bone. One pit, a possible post-hole on the highest part of the site, contained 48 pieces of flint—mostly debitage but also a modified scraper fragment and two modified knife fragments. Another pit contained 10 sherds of Middle Neolithic Impressed Ware, possibly from a broad-rimmed bowl. These features can most probably be interpreted as the remains of a Middle Neolithic habitation site, though some of the burnt fills may have been ritual deposits relating to the construction and decommissioning of houses, as we shall suggest below. Again, no clear building plans were identified and perhaps the occupation of the site was of short duration. The only date for the site comes from pottery in one pit, but the broad similarity of the features suggests that they were all associated. They are probably contemporary with features recorded at Littlemill 1, 450 m to the south-east, which also yielded sherds of Middle Neolithic pottery (above).

Carn More 5

Finally, sherds of two Middle Neolithic broad-rimmed bowls were found at Carn More 5.[11] While these sherds hint at a Middle Neolithic presence on this site, they came from a disturbed context in a Bronze Age burial cairn (Chapter 3).

Settlement and ritual

Middle and Late Neolithic buildings were not like the classic big, rectangular houses of the Early Neolithic period. Evidently, they were built with lighter timbers. For their inhabitants, this meant they were less substantial and less durable. For the archaeologist, it means that their 'footprint' in the ground is more prone to truncation by later tillage, making them harder to identify. These buildings were more likely to be round than rectilinear on plan but there was no single dominant type. Some ground plans based on gullies and/or post-pits have been proposed (examples in Smyth 2014, figs 5.8, 5.9 and 5.12) but—as we saw in several examples described above—Middle and Late Neolithic habitation sites are most

10 Excavation No. 02E1833; Director Brian Ó Donnchadha; ITM 702546 805573; height 28 m OD; parish of Ballybarrack; barony of Upper Dundalk; County Louth.

11 Excavation No. 03E0873; Director David Bayley; ITM 704841 810870; height 10–11 m OD; parish of Dundalk; barony of Upper Dundalk; County Louth.

often represented by scatters of stake-holes, hearths and occupation debris, rather than clear evidence for domestic buildings.

The scarcity of evidence for Middle and Late Neolithic houses does not necessarily represent a more mobile society. Grogan (2002, 524) suggests that the change in domestic architecture reflects a change in house-centred activities, within settlement sites, with a diminished social role and status for the buildings themselves. The three Neolithic houses recorded in a palisaded enclosure at Tullaheedy, County Tipperary (Cleary & Kelleher 2011, 22–31, 41–4), are especially interesting in this regard. They date to c. 3600 BC. The buildings were oblong structures with wall foundation trenches. They resemble to some degree the classic rectangular houses of the Early Neolithic period but are less regular and less substantial. Smyth (2014, 79) observes that they were 'erected when the conventions surrounding house construction had begun to shift and lapse'. This comment can tentatively be applied to Neolithic houses at Lough Gur too (Ó Riordáin 1954, Sites A and B), though those houses were not radiocarbon dated. Smyth (2014, 80) surmises that 'the evidence from Lough Gur and Tullaheedy seems to be showing a gradual ebbing-away of a rigid, perhaps socially prescribed, building style and associated traditions, towards more individualistic, *ad hoc* methods of construction'.

Though the construction of houses was less formally prescribed in the Middle and Later Neolithic periods, no doubt there were still domestic rituals to be observed in and around habitation sites—perhaps to secure good fortune, remember ancestors or drive away disease. The evidence from some of the Middle Neolithic sites on the bypass hints at formalised or ritualised behaviour that involved burying objects that might otherwise appear to be mere waste. The large quantity of burnt flint debitage (46 of the 48 pieces) recovered from one of the (possible) post-pits at Littlemill 4 and 5 is a striking example. This may have been a dedicatory deposit at the construction of a building. Buried caches of hollow scrapers and blades are often found in Middle Neolithic pits. The amount of worked flint and finished tools within these pits typically exceeds anything recovered from Early Neolithic pits, and is characterised by greater complexity both in the material included and how it was arranged. Some pits at Newtownbalregan 5 included typical Middle Neolithic hollow scrapers, and one pit at Donaghmore 1 contained charcoals, burnt animal bone, a hazelnut shell and 20 sherds of a Middle Neolithic pot.

Another feature of note at Littlemill 4 and 5 was the relatively high level of burning on site. Several of the pits, post-holes and stake-holes contained charcoal-rich fills or burnt remains of timbers. Many of the pits contained burnt animal bone. Burnt pits and/or pit fills are commonly interpreted as the remains of hearths or cooking pits, and it is possible that the features from Littlemill 4 and 5 (and other sites such as Donaghmore 1) simply represent hearths and hearth furniture infilled with occupation debris. However, posts and stakes were also subjected to burning at Littlemill 4 and 5. This suggests that fire was not only used for domestic activities but also to formally 'decommission' buildings by burning them, perhaps to purify the site for some other use, in the next generation. Whatever the reasons, deliberately burning domestic

buildings is a practice well attested in the Neolithic period (Hartwell 1998; Smyth 2006, 246–51, and 2014, 62–9).

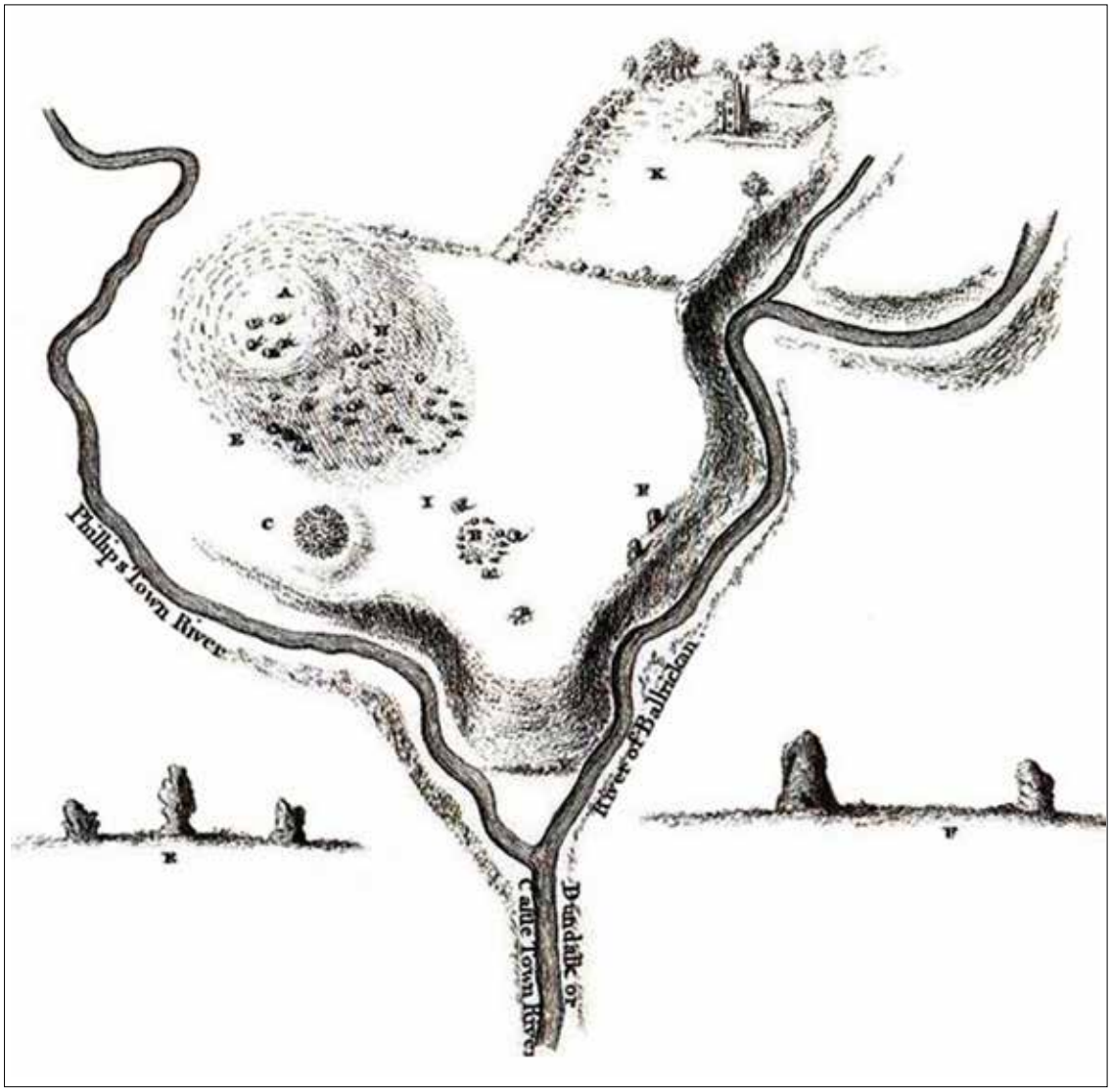
A ceremonial landscape at Balregan

The most significant Neolithic site excavated on the bypass route was an embanked enclosure at Balregan 1.[12] This was situated on a low knoll, with extensive views in all directions, on a triangular tongue of land formed by the confluence of the Castletown River and Kilcurry River (Illus. 2.8). From here the Castletown carries their combined waters on a winding course through undulating, fertile lands, to the head of Dundalk Bay, 2.5 km to the south-east. Several kilometres to the north there is higher ground, including the drumlin terrain of the Armagh Hills and, to the north-east, the uplands of the Cooley peninsula.

A complex of prehistoric monuments is known to have survived at Balregan until at least the 18th century (Recorded Monument LH007:001). It was recorded by the antiquarian Thomas Wright in 1758. The sketch he made shows a stone circle, a cairn or cairns, and a number of standing stones (isolated and in rows) (Illus. 2.9). Wright's sketch also shows a medieval tower house, at

Illus. 2.8 Balregan 1. The Neolithic ceremonial enclosure was located on a prominent site in the landscape, on a promontory formed by the confluence of the Castletown and Kilcurry rivers. View from east (Studio Lab).

12 Excavation No. 03E0157; Director Brian Ó Donnchadha; ITM 702603 809987; height 8–11 m OD; parish of Castletown; barony of Upper Dundalk; County Louth.



Illus. 2.9 A complex of prehistoric monuments was recorded at Balregan, on the promontory formed by the Kilcurry (Phillipstown) and Castletown (Balrickan) rivers, by Thomas Wright in the mid 18th century (1758, 7, plate 1). Only the tower house (K) survives today. A kerbed cairn (B) corresponds most closely with the location of the ceremonial enclosure recorded by our excavation on the site.

a little distance from the prehistoric features. Of all these features, only the tower house survives as a standing monument in the landscape today.

The embanked enclosure discovered on the bypass route at Balregan 1 possibly corresponds with the circular feature labelled B on Wright's sketch. Only a small portion of the enclosure site was excavated, as c. 85% of the monument lies outside the lands acquired for the new road (Illus. 2.10). Two phases of ritual activity were identified—in the Middle and Late Neolithic periods—and the site yielded one of the largest assemblages of Neolithic pottery discovered in Ireland in recent years. A single sherd from a carinated

bowl was also found, hinting at an Early Neolithic presence, but no further evidence of this period was recorded on the site.

Middle Neolithic pits and stake-holes

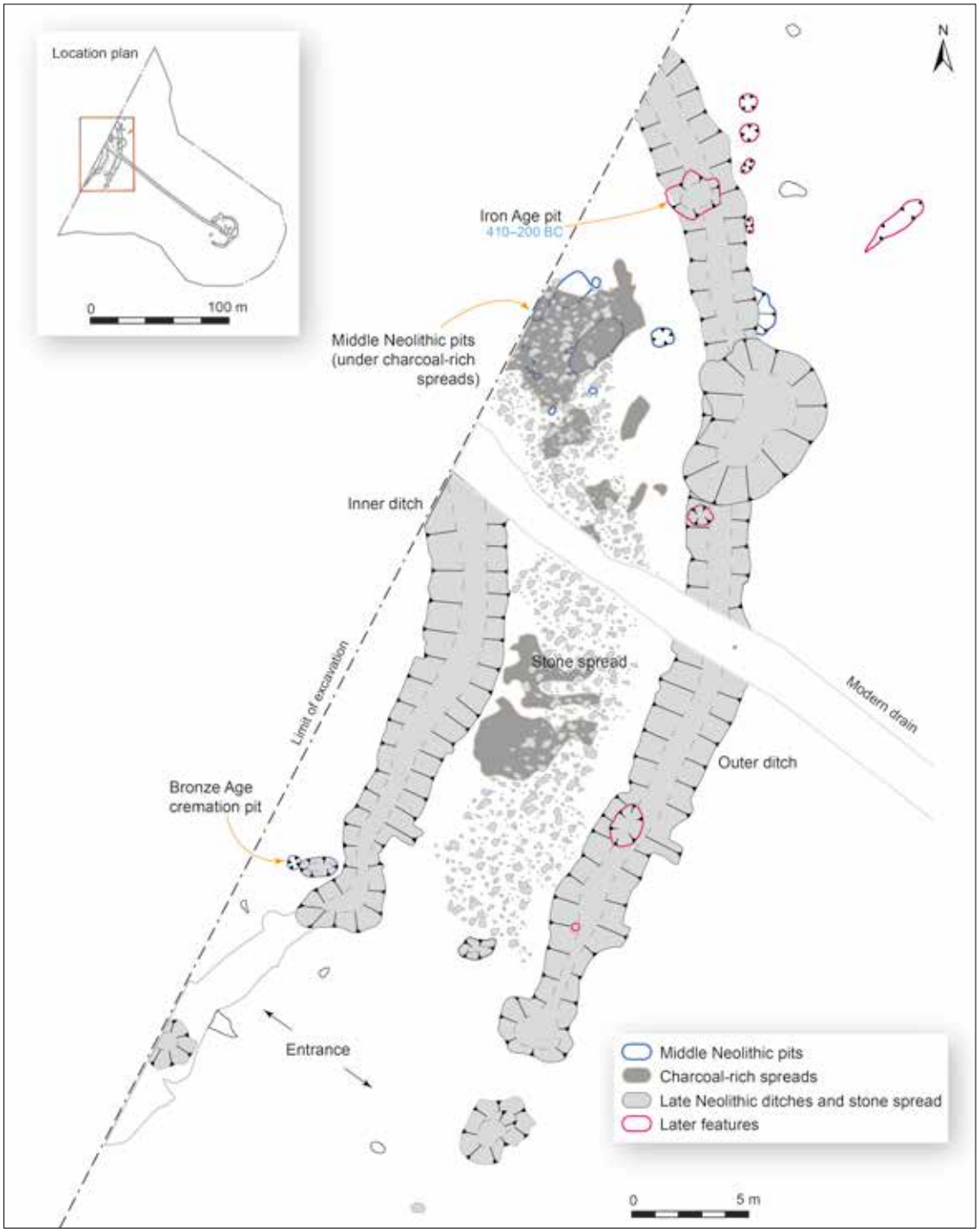
The earliest features at Balregan 1 were pits and stake-holes, filled with charcoal-rich soils, with inclusions of worked flint, burnt bone fragments (unidentified) and an impressive assemblage of Middle Neolithic pottery sherds (below). These features formed a cluster towards the northern end of the excavation site (Illus. 2.10), where they were sealed by spreads of charcoal-rich soil and, in turn, by a stony layer interpreted as the footprint of an enclosure bank. Thus, they clearly pre-dated the construction of the enclosure.

The pits and stake-holes did not have a coherent plan. The stake-holes could represent some sort of light structure, though not necessarily a roofed building. Possibly these features mark the edge of a habitation area that lies outside the excavated site, beyond the lands acquired for the road. Pottery of the type found here has been recovered in small quantities from domestic contexts elsewhere. However, it is more often associated with ritual sites, and especially with funerary contexts, so that these early pits and stake-holes at Balregan 1 are more likely to have had some ritual purpose.

Late Neolithic embanked enclosure

The pits, stake-holes and charcoal-rich soils described above were sealed by a layer of medium to large stones and occasional boulders, forming a broad curvilinear swathe (Illus. 2.11). This lay between concentric inner and outer ditches. The stone layer was interpreted by the excavation team as the footprint of an earth bank that would have been formed by upcast soils from the ditches. But perhaps we should also consider the possibility that a low stone bank was built first—i.e. in a primary phase of the monument, then covered by earth from newly dug ditches some time afterwards. The ditches were shallow, broad features, up to 4 m wide by 1.4 m deep. They were filled with natural silts, silty sand with stony inclusions, and dumps of burnt material. It seems, therefore, that the ditches became infilled by a combination of natural erosion and episodic dumping. A gap in the stony foundations of the bank, and a corresponding break in the ditches, indicate the location of an entrance at the south-east. There was some evidence—in the form of expanded ditch terminals and adjacent large pits/stone sockets—that the entrance was embellished by standing stones, such as those shown in Wright's sketch of 1758. From the excavated sample of c. 15% of the monument, it is possible to estimate that the overall diameter of the enclosure was 55–60 m.

An assemblage of Grooved Ware sherds mostly came from the upper layer of stony, silty fill in the outer ditch and from deposits of dark, silty soil that overlay the upper fill. Thus, at the very least, this pottery type provides a *terminus ante quem* date for the construction of the monument. But the excavation team believed that the ditch became infilled over a relatively short period of time and, consequently, it can be argued that the pottery overlying the ditch fills provides a proxy construction date for the monument in the Late Neolithic period.



Illus. 2.10 Balregan 1. Plan of the excavated archaeological features including the stony rubble layer and flanking ditches of the Late Neolithic embanked enclosure, and a group of pits and stake-holes (blue) with a rich assemblage of Middle Neolithic pottery sherds, which was sealed by a layer of charcoal-rich spreads beneath the bank (IAC Ltd).

Other features

Several pits were recorded on the outer periphery of the enclosure (i.e. cutting the outer ditch fills or adjacent to it) and in the interior. One large, shallow pit contained pieces of worked flint, Middle Neolithic and Late Neolithic pottery (Grooved Ware), and some fragments of burnt bone (unidentified). Charcoal (hazel and alder) from a smaller pit, which was recorded as a 'fire pit' because of *in situ* burning in the fills, was dated to 410–200 BC (Wk-18568). Both pits were cut into the outer ditch fills.

A simple pit in the interior of the enclosure, near the terminal of the inner ditch, contained the cremated remains of a single adult, possibly a young woman (Lofqvist 2010a) (Illus. 2.10). The burial was not radiocarbon dated. The excavation team believed that the bones are likely to represent a Bronze Age burial, as single-pit cremation burials are most typical of that period (e.g. Grogan 2004, table 10.5). The bone was very fragmented, possibly deliberately so, and the amount present (394 g) was less than would be expected from an adult female cremation. These are also typical features of Bronze Age cremation burials.

Illus. 2.11 Balregan 1. The stony rubble layer beneath the Late Neolithic enclosure bank. View from north (Niall Roycroft).

Pottery

Eoin Grogan and Helen Roche

Middle Neolithic pottery

Balregan 1 produced an important Middle Neolithic pottery assemblage representing several strands of a complex tradition. The character and range of the material suggest a date of c. 3500–3400 BC, and point to non-domestic use, probably associated with ritual or ceremonial activity. The site fits into an increasingly well-defined regional context in the north Leinster/south-east Ulster area, as well as indicating wider contacts both in Ireland and across the Irish Sea in south-west Scotland and Wales.

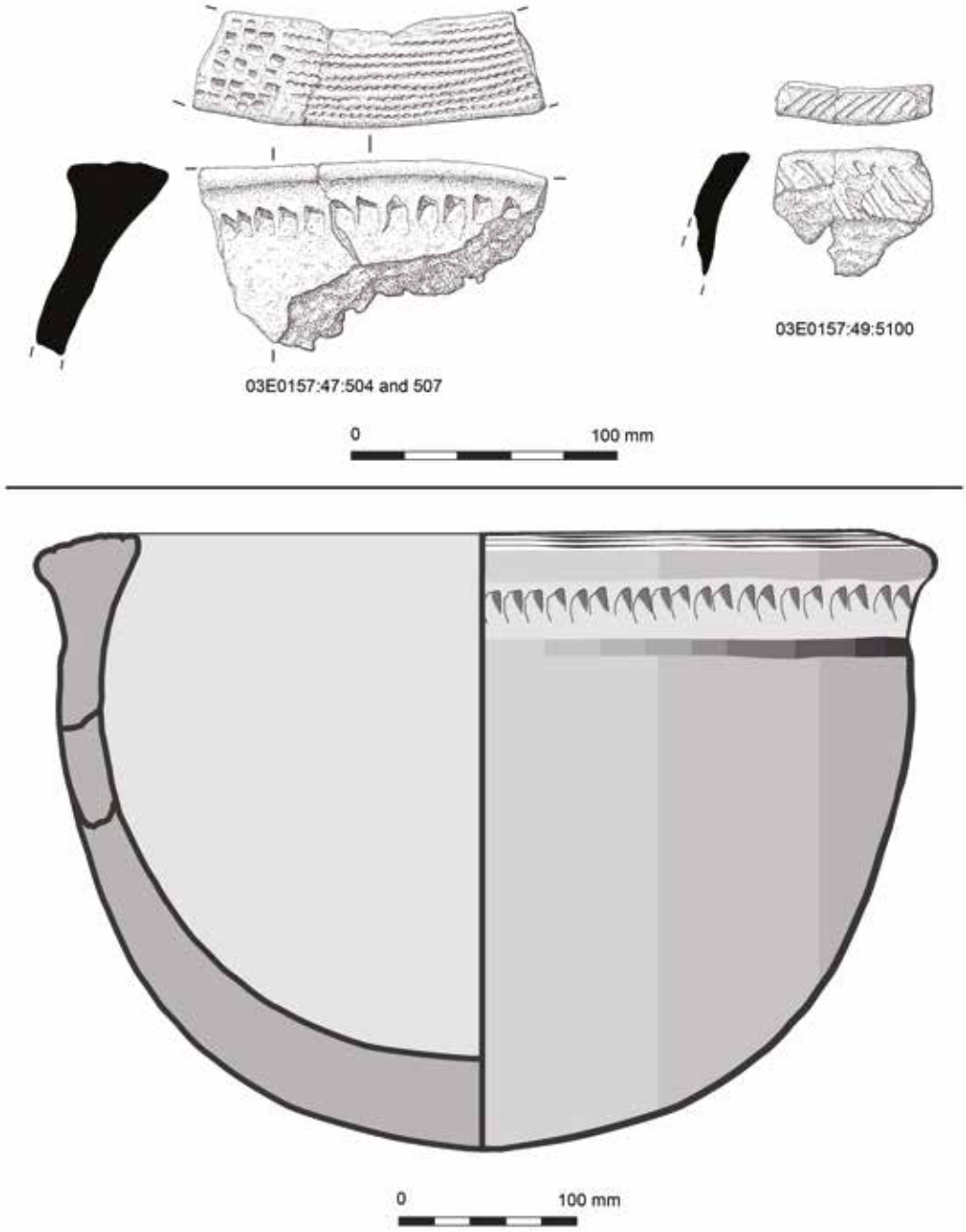
The pottery (265 sherds) represents a minimum of 26 vessels, dominated by 18 broad-rimmed bowls, 11 of which are among the largest vessels recorded for the Irish Neolithic, with external diameters of over 400 mm at the rim (Illus. 2.12). There are also five bipartite bowls, at least two bipartite shouldered bowls, and two or more globular bowls. The pottery is in good condition with relatively little evidence of heavy wear. It is generally of good quality (but coarse), well-fired fabric, and was carefully finished. All of the vessels were coil built and all but one is decorated. The decoration is largely confined to the rim and, less frequently, to the neck or upper body. The most common decoration consists of lines of fine to very fine twisted cord impressions set circumferentially or radially on the rim top, or occasionally in short vertical lines on the shoulder or outer rim edge. The cord consisted of two finely wound strands and, on one of the vessels, impressions of individual fibres are still visible. Small, generally circular or quadrangular stab marks and larger quadrangular or elongated triangular impressions occur in combination with the cord. In some cases fine-pointed implements were used but in several examples a split bird bone appears to have been preferred. There are two examples of fingernail impressions, and scores or rounded channels also occur. Overall, despite variations in form, size and decorative treatment, there is a considerable degree of homogeneity in the assemblage (especially in the group of large, broad-rimmed vessels) and this, combined with their stratigraphic context, suggests that the material represents a single, possibly brief phase of activity.

Pottery of this type has been recovered in small quantities from domestic contexts, but is mostly associated with ritual sites and especially with funerary contexts. Some of the sherds were burnt but, overall, they lack the sooting and burnt food residues that might indicate domestic use. Also, the size and quality of some of the vessels—in particular, the 11 very large, finely made and decorated broad-rimmed vessels—suggest ritual or ceremonial activity. The size and weight (6.4–8 kg) of these vessels indicate that they were not mobile pieces and may have been displayed together as a 'set', possibly associated with high-status feasting or some such communal event.

Some other Middle Neolithic pottery sherds were recovered from features associated with the Late Neolithic enclosure. They were incorporated in them, no doubt, during the construction of the enclosure and consequent disturbance of earlier features.

Late Neolithic Grooved Ware

The excavation at Balregan 1 produced 236 sherds of Grooved Ware representing at least five vessels. These are barrel-shaped pots with generally upright to very gently convex profiles, simple unexpanded rims and flat, unfooted bases. The fabric is compact



Illus. 2.12 Balregan 1. Conjectural reconstruction of a large Middle Neolithic broad-rimmed bowl (Vessel 1) (Eoin Grogan) based on pottery sherds recovered from the site (Alva McGowan). This was one of 11 vessels from Balregan with external rim diameters of over 400 mm, placing them among the largest vessels produced in Ireland in the Neolithic period.

and consistently of good quality. It is thin-walled (7–10 mm) and contains mainly finely crushed inclusions of coarse granite and shale (≤ 0.5 mm) with occasional larger pieces of quartzite and uncrushed shale. The surfaces are smooth and largely free of inclusions. Sooting and burnt accretions occur on all of the vessels especially on the outer surface. Decoration is in the form of a single groove or channel, which occurs on the inner or outer surface immediately beneath the rim. There is a wide circumferential score on the base of one of the vessels (No. 31) (a feature noted at Dundrum Sandhills: Roche 1995).

Grooved Ware has not been closely dated due to a general paucity of associated radiocarbon dates, but at a general level the evidence indicates that it was used c. 2850–2450 BC, following the main phase of passage tomb construction and pre-dating the introduction of Beaker Ware in the Chalcolithic period (Grogan & Roche 2010a, 34). The assemblage from Balregan 1 finds close parallels with other examples in the region (Illus. 2.13), including those from Knowth and Newgrange, County Meath (Eogan & Roche 1997, 101–222, figs 20–48; Cleary 1983; Sweetman 1985), Ballygalley, County Antrim (Moore 1996; Roche 1997), and Ballynahatty and the 'Dundrum Sandhills', County Down (Hartwell 1998; Collins 1952 and 1959) (see also Roche 1995: 'Knowth Style 1'; Brindley 1999: 'sub style Dundrum-Longstone').

Animal bone

An assemblage of 343 fragments (68.4 g) of animal bone was recovered at Balregan 1. Again, the bone fragments occurred throughout the stratigraphy of the site, including topsoil. The bone was very fragmentary and most of it was burnt. Some of the bone fragments from the fills of the enclosure outer ditch could be identified. They included cattle, sheep/goat, horse and dog. Only the horse bone (teeth fragments) was unburnt.

Charcoal

Though charcoals occurred throughout the site at Balregan 1 and especially in the early pit group, in the overlying soils, and in the ditch fills, the only sample from a Neolithic context that was identified to species was some hazel from a soil spread beneath the stone layer forming the footprint of the enclosure bank. This was submitted for radiocarbon dating but was declined as the sample was considered too small.

Chipped stone

Eiméar Nelis

Over 300 pieces of flint were recovered at Balregan 1. There were also a few pieces of chert and quartz but these were mostly unworked. The assemblage comprises unworked pieces, cores, flake debitage, angular shatter and modified pieces that include blades, scrapers and possible arrowheads (Table 2.2). The reduction methods included both bipolar and platform techniques.

Bipolar reduction was previously considered a Bronze Age technique in an Irish context but it is now accepted that it was used throughout the Neolithic period too, where the availability of raw material was limited, or where the available material was diminutive in size. It may also be related to a degeneration in knapping skills, but this was not the case at Balregan 1, where

Illus. 2.13 Distribution map of sites in the region that have produced Grooved Ware pottery and, also, monuments of the same tradition as the Late Neolithic ceremonial embanked enclosure at Balregan 1 (Eoin Grogan).

the knappers were evidently skilful in their production techniques and in conserving their materials. Here, the bipolar core and flake assemblage points to an extremely intensive reduction of raw material, with most of the bipolar cores being diminutive and heavily reduced. The platform core assemblage echoes this intensity of reduction, with complex techniques exhibiting platform edge preparation and facetted platforms.

The assemblage was recovered from throughout the stratigraphy of the site, including the topsoil. The unworked pieces, which were generally abraded, came mostly from the natural subsoils. Over half of the flake debitage and angular shatter came from the stone foundation layer of the enclosure bank, or from the soils beneath the stone layer (debitage 73 of 139 pieces; shatter 19 of 24). There were some burnt pieces, mostly debitage. Again, these came from a variety of contexts, though with a notable concentration of pieces (10 of 20) from the group of pits and stake-holes pre-dating the embanked enclosure.

Most of the modified tools are not strongly diagnostic in terms of date. There were two probable projectile heads. One most resembles a leaf-shaped arrowhead of Neolithic type. The other is a possible unfinished barbed or hollow-based arrowhead of Bronze Age type. Both objects came from topsoil. There were five hollow scrapers of probably Middle Neolithic date and a thumbnail scraper of Late Neolithic/ Early Bronze Age date. Two of the hollow scrapers are from soil spreads underlying the stone foundations of the enclosure bank. Two other hollow scrapers and the thumbnail scraper were recovered from the upper fills of the enclosure outer ditch or from features cut into the outer ditch. Thus, most of these diagnostic objects came from disturbed or residual contexts, apart from the two hollow scrapers beneath the stone foundation layer.

Table 2.2—Chipped stone assemblage from Balregan 1 and Balregan 2

Assemblage	Combined totals	Balregan 1 Neolithic enclosure	Balregan 2 Iron Age platform
Total flint, quartz and chert	360	312	48
Unworked pieces	128	112	16
Primary knapping debitage	159	139	20
Cores	23	19	4
Angular shatter	29	24	5
Modified tools	21	18	3
Material type			
Flint	353	—	—
Quartz	5	—	—
Chert	2	—	—

A further 48 pieces were recovered from the Iron Age terrace at Balregan 2 (Chapter 4), downslope from the embanked enclosure at Balregan 1. Some of those pieces were found in hill-washed soil (colluvium) overlying the platform, and may have originated at Balregan 1. They are included in the summary in Table 2.2 for completeness but are not otherwise considered here.

Balregan 1 in context

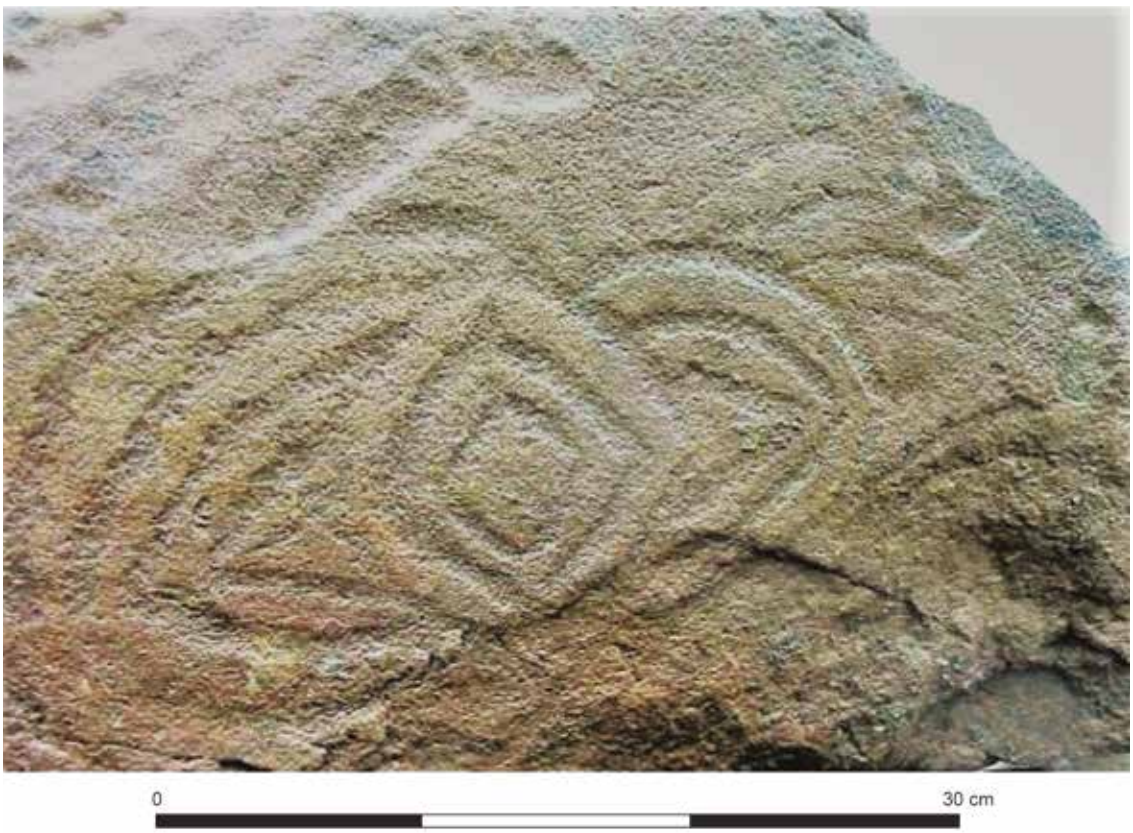
The excavation at Balregan 1 recorded the first significant evidence for Late Neolithic activity in the Dundalk area and makes a significant contribution to our understanding of the period in Ireland generally. Balregan 1 belongs to a broad group of monuments sometimes described as 'henges' but more appropriately designated 'embanked enclosures' (Stout 1991). With its well-defined internal ditch it can readily be paralleled in the wider family of ceremonial enclosures of the period in Ireland and Britain. To date, there are over a dozen such sites known in Ireland, including examples in the Boyne Valley, at Tara, Fourknocks and in the Kilbrew-Irishtown area—all in County Meath. A few embanked enclosures have been identified outside of this region at, for example, Ballynahatty (The Giant's Ring), County Down, Knockadoobrusna, County Roscommon (Condit 1993), Ballynacree, County Limerick (Condit & Simpson 1998, 47) and Tonaforte, County Sligo (Danaher 2007, 43–59). Much closer to our site, there is an example 1.8 km to the east at Carn Beg (alias Ballynahattin), County Louth, which, like Balregan, was also recorded by Wright (1748). Typically, these sites are defined by broad earthen banks and an internal ditch, where the material for the bank is scarped from the ground, leaving a wide, shallow, annular hollow in the interior.

Only a few embanked enclosures have been excavated, and these have produced limited evidence for their construction dates and their relationship with Grooved Ware (e.g. Sweetman 1976, 60–2; Collins 1954 and 1957; Hartwell 1998, 39–44). While some examples were constructed in the Neolithic period, morphologically similar ceremonial monuments continued to be constructed in the Late Bronze Age and the Iron Age (i.e. phase 2 at Emain Macha, alias Navan Fort: Waterman 1997; also see Gibson 2000; Condit & Simpson 1998; Roche 2004). However, there is little ambiguity in the dating of the Balregan 1 enclosure. The Late Neolithic Grooved Ware sherds mostly came from the upper fills of the outer ditch and—as the ditch seems to have infilled quickly—this pottery provides a proxy date for the construction of the monument.

The Grooved Ware assemblage from Balregan 1 represents at least five vessels. Sooting and burnt food residues clearly indicate that all of the vessels were used for cooking. This may have occurred in a purely domestic context—on site or at a nearby settlement—but, given the nature of the site, it is more likely that the vessels were used to prepare food as part of ceremonial or ritual activities, such as feasting. This is consistent with the evidence from other Grooved Ware sites as, elsewhere, this pottery type has mostly been recovered from ritual contexts. The association between the embanked enclosure at Balregan 1 and Grooved Ware confirms the close relationship between ceremonial sites and this ceramic type.

Re-used megalithic art at Tateetra and Newtownbalregan 6

Three decorated stones carved with 'megalithic' or passage-tomb art were discovered at Tateetra[13] and Newtownbalregan 6[14] (two stones), where they had been incorporated in the construction of early medieval souterrains (Chapter 5). The three stones were quarried from locally available sandstone bedrock. The decorated areas are incomplete and derive from larger megalithic panels. The stones from Newtownbalregan are fragments while the Tateetra stone appears to have been reworked for inclusion in the souterrain (analysis by O'Connor 2005, 2007 and 2011). The re-use of older carved stones in the roof lintels and capstones of souterrains is not uncommon. Another example can be found just a few kilometres south-east of Newtownbalregan, at Ballybrack souterrain, where a stone featuring megalithic art was re-used as a door jamb (Buckley & Sweetman 1991, 82).



Illus. 2.14 Tateetra. A stone decorated with Neolithic passage-tomb art was re-used as a capstone in an early medieval souterrain (Aaron Watson and Blaze O'Connor).

13 Excavation No. E3975; Director Avril Hayes; ITM 702516 809834; parish of Castletown; barony of Upper Dundalk; County Louth.

14 Excavation No. 03E0115; Director David Bayley; ITM 702085 808938; parish of Castletown; barony of Upper Dundalk; County Louth.

The Tateetra and Newtownbalregan stones display weathering on their decorated surfaces and it can be inferred that they came from a Neolithic monument nearby. Tateetra is immediately south of the prehistoric complex at Balregan, on the opposite bank of the Castletown River, and Newtownbalregan 6 is less than 1 km further south. So it is possible that the stones came from the Balregan complex. This still included a stone circle, a cairn and several standing stones in the mid 18th century—as recorded on Wright's sketch (above)—and may have been even more complex in antiquity. We note also, however, that a similar decorated stone was found in a passage tomb at Killin, c. 1.5 km west of Tateetra, so that site is an alternative candidate as a source of our stones.

The Tateetra stone is irregular in shape (1.45 m long by 0.45 m wide and 0.4 m thick). The design consists of lozenges and triangles with nested or boxed penannular 'U' forms, some of which are a pointed 'V' form with radial lines (Illus. 2.14). It is likely that the design was pecked using a sharply pointed stone implement and a mallet. The larger of the Newtownbalregan fragments (0.89 m by 0.68 m and 0.17 m thick) features a complex composition covering its main face and also has designs on four side faces (Illus. 2.15 and 2.16). The motifs on the main decorated face include concentric arcs, a 'tendril' or 'comma leaf', a 'trumpet' or 'three-sided void', a roughly pecked oval or ring, dispersed and dense pecking, a linear groove and several irregular grooves. The other stone from Newtownbalregan is a much smaller

Illus. 2.15 Newtownbalregan 6. The larger of two stones with Neolithic passage-tomb art re-used as a capstone in an early medieval souterrain (Blaze O'Connor).

fragment (0.37 m long by 0.21 m wide and 0.07 m thick) and is decorated only on its main face, with an arc, a shallow cup and dispersed pecking (not illus.).

The motifs on the Newtownbalregan stones resemble other megalithic art motifs of the period, including arcs, cup marks, dispersed and dense pecking, pecked ovals or rings, and scallops. The motifs on the main face of the larger stone can also be compared with decorative forms seen on Iron Age La Tène metalwork—in particular the tendril and three-sided void elements. However, the lack of directly comparable Iron Age material, the similarities to Neolithic panels in terms of the overall form of the stone, the technique of carving and the composition all combine to support the proposal that the stones are best identified as megalithic art. Decorated megalithic panels of this type are usually associated with passage tombs and, as most of these are Middle Neolithic in date, we can posit a broad date range of c. 3600–2900 BC for the stones at Tateetra and Newtownbalregan 6.

Illus. 2.16 Newtownbalregan 6. The larger of two stones from this site was decorated on its main face and four side faces (Ursula Mattenberger).

CHAPTER 3

Chalcolithic and Bronze Age settlement and burials

by David Bayley and Shane Delaney
with contributions by E Grogan, B O'Connor, H Roche and S Scully

Chalcolithic and Bronze Age settlement and burials

The Chalcolithic period (c. 2450–2200 BC) spanned the transition between the Late Neolithic period and the Early Bronze Age. It saw the introduction of a new technology to Ireland—metallurgy, and also new funerary monuments (wedge tombs) and pottery types (Beaker Ware). These heralded major changes in society and material culture in the Bronze Age (c. 2200–800 BC), including the earliest use of copper-alloy (bronze) technology, new ceramic traditions and new funerary customs. Archaeological features and finds dating to the Chalcolithic period and the Bronze Age were found at 10 locations on the route of the new road, in the townlands of Donaghmore, Newtownbalregan, Carn More and Faughart Lower (Table 3.1). Clearly, the area around Dundalk Bay was attractive to people throughout these periods and probably sustained a large population, living in organised communities, albeit in small, dispersed rural settlements.

The Chalcolithic sites excavated on the bypass were characterised by clusters of pits, hearths and post-holes. These features yielded remains of at least 32 Beaker vessels, including a near complete polypod bowl. Two possible buildings were identified, on separate sites. Settlement evidence from the Bronze Age included at least four possible huts and three burnt mounds. The most impressive Bronze Age site was a funerary complex at Carn More 5 with a barrow, a flat cemetery (including cist and pit burials) and two ring-ditches. This site yielded an impressive assemblage of pottery vessels, including eight highly decorated and largely intact examples. Isolated cremation pits, of probable Middle to Late Bronze Age date, were found at Carn More 1 and Balregan

Chalcolithic settlement (c. 2450–2200 BC)

A small assemblage of Beaker pottery was recovered from excavated features at Donaghmore 1 (not illus.).[15] One large pit, among a cluster of smaller pits, was possibly used for cooking. It contained fragments of burnt animal bone and five sherds of pottery from two Beaker vessels, in addition to other probable Beaker sherds. Hazel and oak charcoal from the pit fill was dated to 3940–3650 BC (Wk-18551). This Early Neolithic date is clearly at odds with the known date range for Beaker pottery (c. 2450–2200 BC) and probably represents residual charcoals, accidentally incorporated in the pit fills. The Beaker pottery mostly occurred in features

15 Excavation No. 02E1330; Director Brian Ó Donnchadha; ITM 701897 807182; height c. 38 m OD; parish of Dunbin; barony of Upper Dundalk; County Louth.

Table 3.1—Chalcolithic and Bronze Age sites discovered along the route of the M1 Dundalk Western Bypass (EBA, MBA and LBA = Early, Middle and Late Bronze Age)

Site name	Main feature(s)	Period	Artefacts
Donaghmore 1	Settlement	Chalcolithic	Pottery
Carn More 5 and 6	Funerary complex with barrow, flat cemetery, cists and ring-ditches	Chalcolithic	Pottery
		EBA–MBA	Pottery, rock art, shield boss, worked flint, hone stone; also medieval stick-pin
Faughart Lower 6	Pits	Chalcolithic	Pottery, worked flint
Newtownbalregan 2	Settlement / pits	Chalcolithic	Pottery, flint tools
Newtownbalregan 5	Settlement / pits	Chalcolithic	Pottery, flint tools
	Burnt mounds	MBA	None
Newtownbalregan 1.2	Settlement	EBA	Worked flint
Newtownbalregan 1.1	Industrial site – kiln	EBA–MBA	Worked flint
Carn More 1	Settlement and cremation pit	MBA–LBA	Pottery, worked flint, porcellanite adze, lignite bracelet
Faughart Lower 1, 2 and 3	Burnt mound and possible settlement	MBA	Charred timbers
Newtownbalregan 7	Burnt mound	Undated probably BA	None

west of a group of Neolithic pits and stake-holes that was also recorded at Donaghmore 1, but there was some overlap in the distribution, with one Beaker sherd occurring among the Neolithic features (Chapter 2, Illus. 2.6).

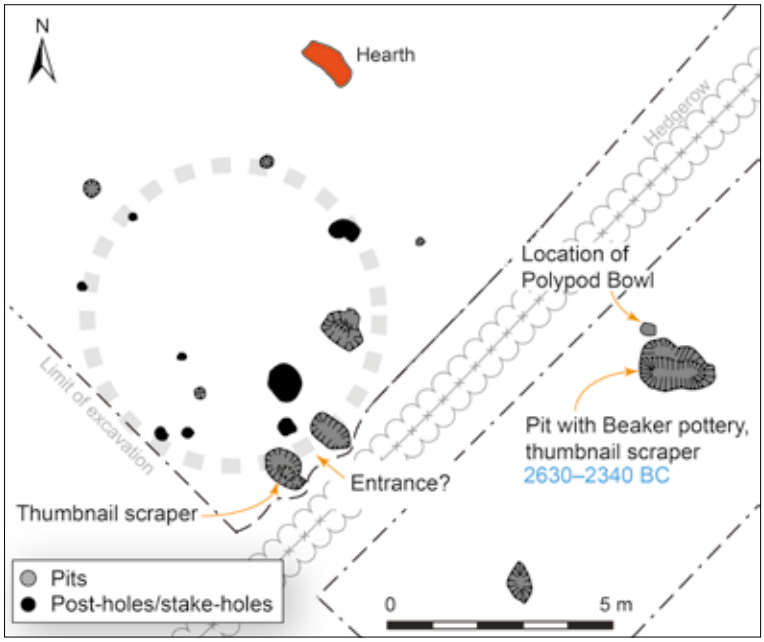
At Carn More 5, 13 fragments of Beaker pottery from two vessels were retrieved from disturbed Bronze Age cairn remnants (below). Again, this is a mismatch in chronological terms, but at least attests some sort of activity on this site in the Chalcolithic period, pre-dating the cairn. Sherds from two Middle Neolithic pots were recovered from the same context as the Beaker sherds. This raises the possibility that sherds of older vessels, from earlier periods, were collected and deliberately inserted into the cairn, though they may also have been mere accidental inclusions of residual material lying about the site.

At Faughart Lower 6[16] a scatter of eight small pits was discovered at the base of a low hill (not illus.). The pits contained small quantities of burnt animal bone (none identifiable), charcoals (oak, hazel,

16 Excavation No. 04E0811; Director Avril Hayes (Aegis Archaeology Ltd); ITM 706134 811047; height 6.7 m OD; parish of Ballymacscanlan; barony of Lower Dundalk; County Louth.

Pomoideae and willow), pottery sherds and an undiagnostic burnt flint flake. Charcoals (hazel and apple) from four of the pits produced date ranges in the Late Neolithic period (Beta 217946–217949 in Appendix 1), but two of the pits contained Beaker sherds, representing six fine vessels and one domestic pot. The weathered condition of the pottery sherds suggest that they were gathered up from some other context—perhaps an occupation surface—before being buried in the pits. The fine Beaker fragments were decorated with twisted cord and comb impressions. One was burnished (Vessel 3) and another had all-over cord impressions (Vessel 1), a form of decoration which is found on the earliest Beakers but which is rare in Ireland (Roche & Grogan 2007b, 44–7). There was no evidence for buildings on this site but the combined animal bone, flint, and pottery from the pits suggests a habitation site here or close by.

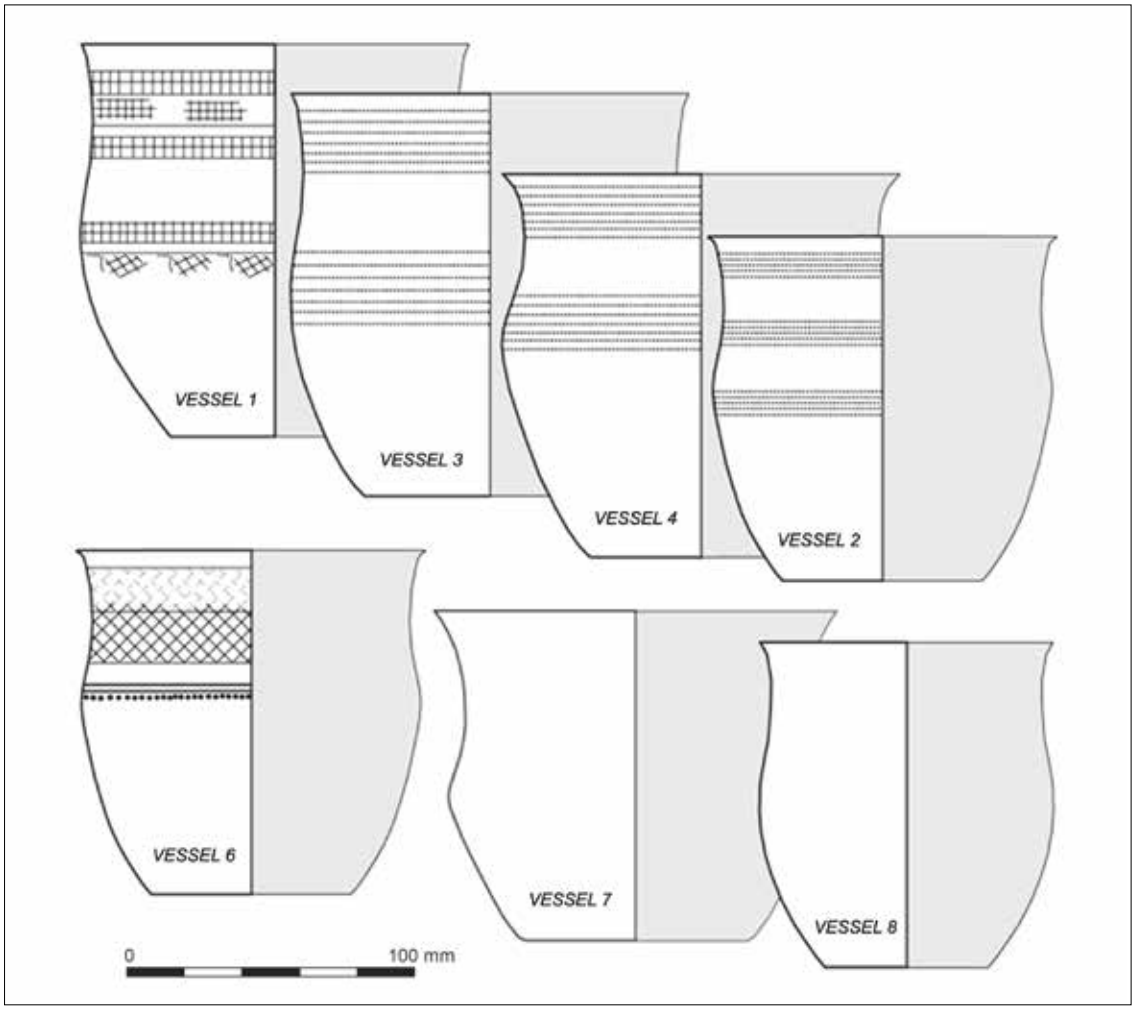
A cluster of pits, possible post-holes and stake-holes, and at least one hearth, were recorded at Newtownbalregan 2[17] (Illus. 3.1). A second hearth (not illus.) located c. 20 m north of the main cluster was not dated and may be unrelated. Several pits contained small quantities of chipped stone debitage. The hearth contained chipped stone and flecks of burnt bone. Other than one sheep/goat fragment, most of the bone could not be identified. Charcoals from the site included hazel, oak, alder and holly. A few metres to the east of the main cluster of features there were two more pits. One large, shallow, oval pit contained sherds of Beaker pottery and a quantity of chipped stone, including a thumbnail scraper. The other, smaller pit contained a rare form of northern and central European pottery—a polypod bowl (below).



Illus. 3.1 Newtownbalregan 2. Post-pits and stake-holes north-west of the modern boundary are interpreted as remains of a round-house. The pits to the east of the boundary contained a quantity of Beaker sherds and a rare polypod bowl (IAC Ltd).

The remains of at least 10 Beaker vessels (Illus. 3.2) were recovered from the large oval pit, also a thumbnail scraper, a retouched blade—possibly a small cutting tool—and other flint debitage. Although there were several different fills in the pit it seems to have been backfilled quickly; pottery sherds from the same vessel

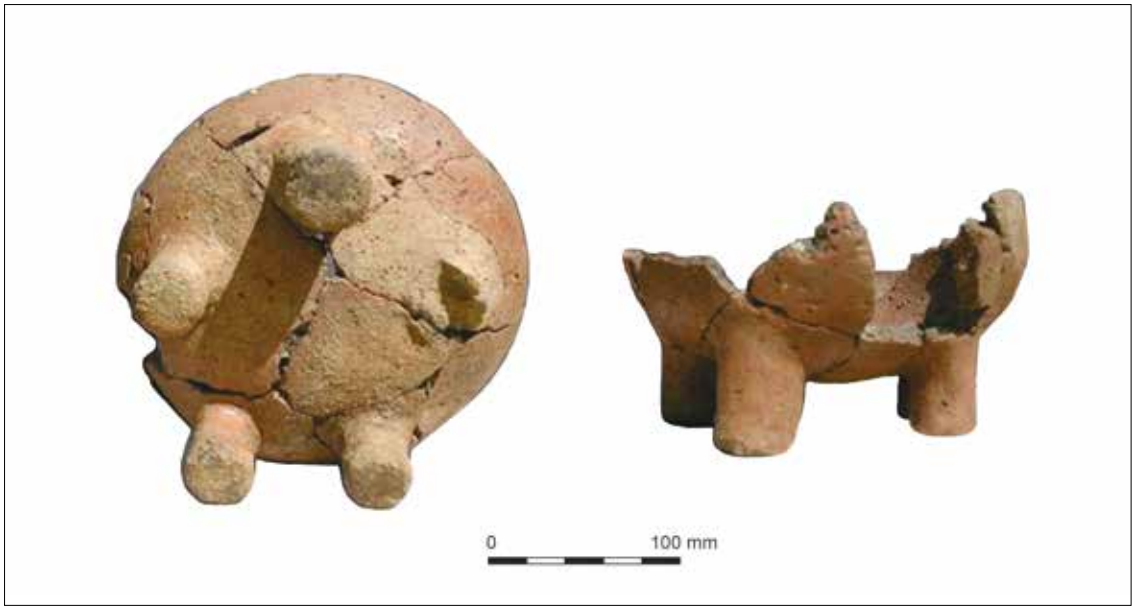
17 Excavation No. 03E0113; Director David Bayley; ITM 701922 808387; height c. 38 m OD; parish of Castletown; barony of Upper Dundalk; County Louth.



Illus. 3.2 Newtownbalregan 2. Conjectural reconstructions of Beaker vessels based on pottery sherds recovered from the site (Eoin Grogan).

were found throughout the pit, for instance, and a flint scraper and bipolar flake from the same core came from different fills. Most of the finds came from the basal fill, however, as well as a large amount of charcoal and a small number of burnt bone fragments (unidentified). Charcoal (alder) from the basal fill was dated to 2630–2340 BC (Wk-19929). The distribution of objects in the pit suggests they came from a midden and it may have been the sort of rubbish disposal pit commonly associated with domestic habitation sites (Garrow 2006, 43; Thomas 1999, 68).

The neighbouring, smaller pit contained remains of a polypod bowl set in an upright position. The bowl has a rounded bottom and originally had five feet, allowing it to stand unsupported (Illus. 3.3). As found, part of the body, one foot and most of the rim were missing, and the body was fractured throughout. The edge-breaks were generally not worn or abraded, however, indicating that the bowl was more or less intact when



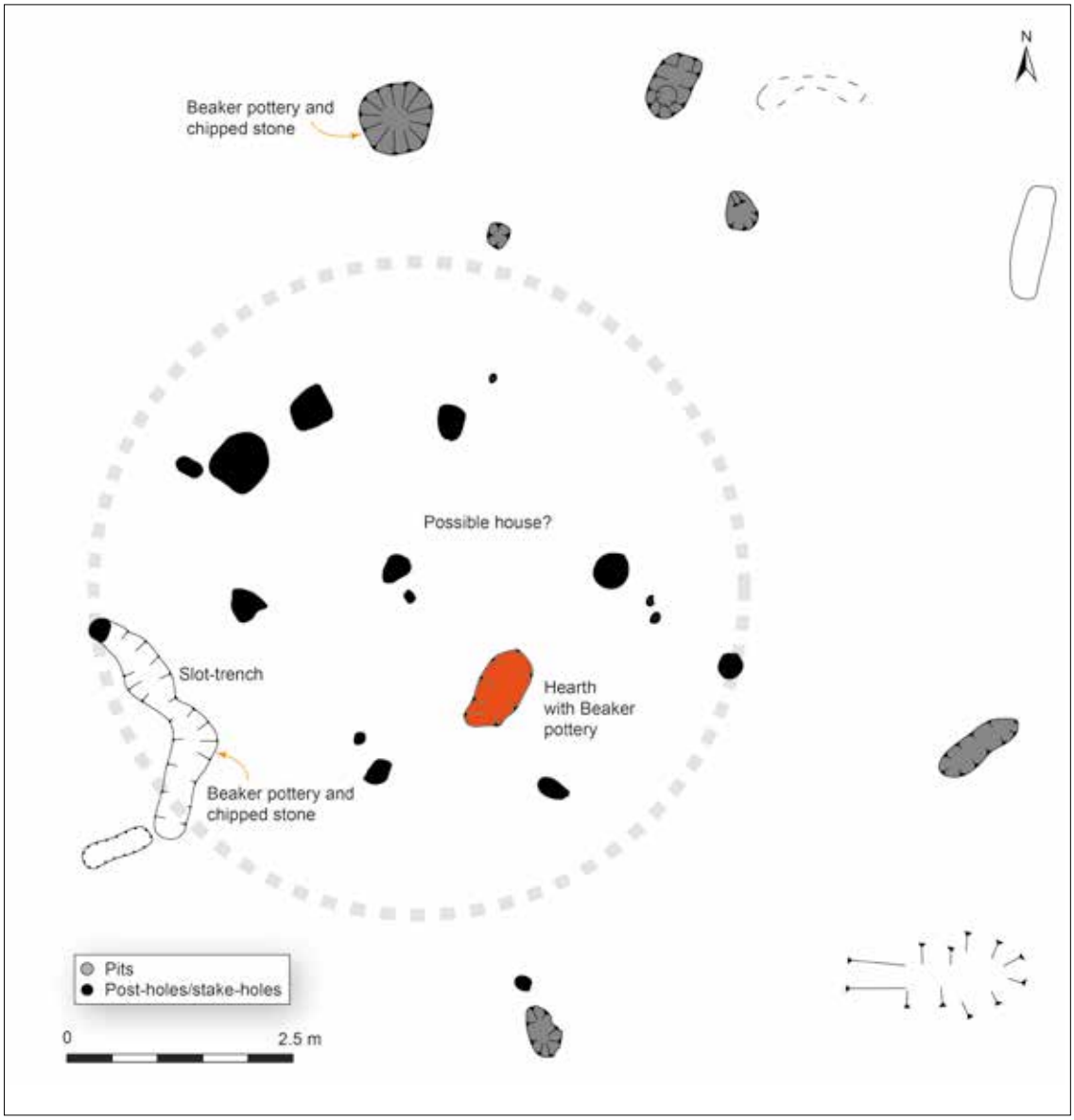
Illus. 3.3 Newtownbalregan 2. Polypod bowl with five cylindrical feet (one of the feet and most of the rim are missing) (Eoin Grogan).

buried. The pit was filled with silt, suggesting it was open to the elements for some time when the bowl was placed within in. Perhaps the bowl was already too damaged to be of further use, but it still seems to have been accorded special respect, and was not buried in a rubbish pit, for instance, with other household debris.

The features at Newtownbalregan 2 were heavily truncated and badly disturbed. The surviving evidence suggests occupation in the Chalcolithic period, probably by a small social unit—perhaps a single family. The clustered pits and post-holes did not form a clear building plan but might possibly represent a circular or sub-circular building with a diameter of c. 7 m. The deliberate burial of the pottery and chipped stone objects suggests a symbolic act, perhaps the terminal disposal of occupation material in a ceremony marking the abandonment of the site. This is one possible explanation for the treatment of the polypod bowl, which was placed in the pit with care, though it was already worn and damaged beyond use.

Less than 500 m north of Newtownbalregan 2 our investigations discovered another Chalcolithic habitation site at Newtownbalregan 5.[18] A roughly oblong group of nine post-holes is interpreted as the footprint of a house, perhaps 7 m in diameter, with a hearth pit off-centre in the floor (Illus. 3.4). There were no packing stones or post-pipes in any of these pits but their vertical sides and regular arrangement suggest they held upright roof-support posts for a building. The hearth contained 40 sherds of Beaker pottery and a quantity of oak charcoals. Beaker pottery and chipped stone tools or debitage were found

18 Excavation No. 03E0114; Director David Bayley; ITM 702044 808839; height c. 26 m OD; parish of Castletown; barony of Upper Dundalk; County Louth.



Illus. 3.4 Newtownbalregan 5. Plan of a possible Chalcolithic-period round-house with internal roof-support posts and a hearth off centre in the floor (IAC Ltd).

in most of the post-holes too, confirming the Chalcolithic date of the building.

There was a miscellany of pits, post-holes and stake-holes scattered about in proximity to the building. Some of these might represent temporary structures such as windbreaks or drying racks. Others were probably rubbish pits. More Beaker sherds and chipped stone pieces came from a curvilinear slot-trench immediately west of the building (two sherds; also angular flint shatter) and from a pit 3 m north of it (two sherds, six bipolar flint flakes and some angular shatter).

Chalcolithic period pottery

Eoin Grogan and Helen Roche

Beaker pottery

An assemblage of Beaker pottery representing at least 32 vessels was recovered from five sites along the route of the new bypass: Donaghmore 1 (five sherds: two pots), Carn More 5 (13 sherds: 2 pots), Faughart Lower 6 (23 sherds: 8 pots), Newtownbalregan 2 (156 sherds: ≥10 pots) and Newtownbalregan 5 (166 sherds: 10–15 pots).

Most of the vessels displayed the typical Beaker S-shaped profile and simple horizontally arranged zonal ornamentation. Vessels of this type have generally been assigned to Clarke's (1970) European Bell Beaker, or his Wessex/Middle Rhine types. Lanting & van der Waals' (1972) review gave greater recognition to the regional development of Beaker pottery. Case's simpler threefold scheme, and its specific application to the Irish material, provides a straightforward medium for insular comparison (Case 1993 and 1995). The pots recovered during excavations on the bypass conform to his Style 2, which is dated to c. 2450–2200 BC.

There are similarities between the assemblages from Newtownbalregan 2 and 5, including the very fine finish of several vessels, the generally soft S-shaped profiles, the overall decorative motifs (although not the techniques) and the presence of plain vessels. Nevertheless, the structure of the fabric differs significantly. At Newtownbalregan 5 most of the vessels contained low-to-medium quantities of crushed quartzite inclusions with the occasional addition of other material such as shale and sandstone, and the fabric was of fine quality and well fired. The thinner-walled pots at Newtownbalregan 2 contained higher quantities of larger inclusions, and the fabric, while appearing very fine, was substantially weakened by this, causing surface failure or degradation.

Polypod bowl from Newtownbalregan 2

The polypod bowl is a plain, hemispherical bowl with five cylindrical feet. One of the feet and most of the rim are missing. The body is a shallow, coil-built bowl (44 mm deep) and the rim was slightly incurved and rounded. The fabric is buff to red-buff with a grey to dark grey core. The outer surface is smooth while the inner surface is slightly pitted. Unlike the other pottery from Newtownbalregan 2, the bowl had finely crushed inclusions, dominated by quartzite with some flint. It exhibited the classic sandwich profile, buff colour and soft texture that are typical of the Boyne Valley Beakers. Most of the edges of the broken sherds are unworn but slight wear is present on some of the edge-breaks and on some of the outer surface. There is a post-depositional calcite accretion on the underside of the bowl and on the feet.

Wooden and ceramic polypod bowls have a wide distribution in northern and central Europe and have been found in the Netherlands, the Saale region in Germany, Bohemia in the Czech Republic and Poland (Harrison 1980). These bowls have eastern Bell Beaker and Corded Ware affinities and are found in burials with these two pot types in northern Europe (Case 2001, 375; Manby 1995, 83). A small number of footed bowls have been found in southern Britain (i.e. Clarke 1970, 89–92; Case 2001, 375; 1993, 248). Case (1995, 2001) considered these to form part of his primordial Group D pottery complex, representing the earliest Beakers in Britain and Ireland, from which all other

insular Beakers were derived. A number have been found in Ireland (14 definite and four possible examples), all within the Leinster region. The sites include Mell (McQuade 2005; Roche & Grogan 2005), Newgrange (Cleary 1983, 74), Rathmullan 6, 9 and 10, all in County Meath (Bolger 2002, 12–13; Grogan & Roche 2011a–c), and Blackglen, County Dublin (unpublished). Their distribution appears to be concentrated around the Boyne Valley complex.

Ritual and domestic life

Towards the end of the Early Neolithic period (c. 3600 BC), domestic buildings appear to have become much less substantial, and it was not until the Middle Bronze Age that they regained a strongly recognisable character with a durable footprint. A typical Chalcolithic (and Early Bronze Age) site in Ireland consists of occupation spreads, pits and post-holes lacking any discernable pattern, which makes it difficult to identify a typical size, shape or construction style for buildings of the period and very few houses have been identified definitively. The building evidence from the Newtownbalregan sites is typical in this regard.

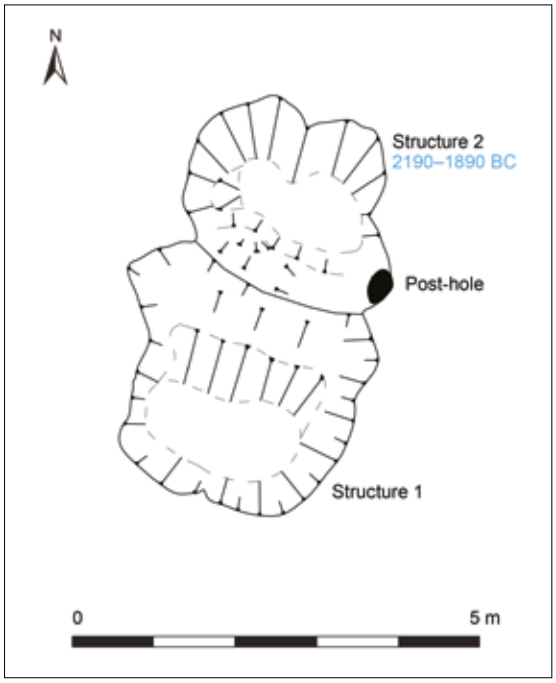
The objects from Newtownbalregan 5 are especially interesting in terms of how they came to be buried. The site yielded broken remains of 10–15 fine Beaker vessels (166 sherds from 10 separate features) and 211 flint artefacts (23 from Beaker contexts). One of the post-holes forming the building contained 63 sherds and another contained 59 sherds. These were derived from the same five vessels and represent 73% of the 166 Beaker sherds found at the site. It is very unlikely that the sherds found their way into the two pits by chance, and much more likely that they were inserted deliberately as the house was being built. An alternative explanation is that the house was dismantled at the end of its use-life, by removing the posts and deliberately filling the voids with occupation debris, as part of an abandonment ritual.

The evidence from the Chalcolithic period settlement sites along the new bypass seems to represent both domestic life and ritual acts within the same scene. These are not exclusive categories. The performance of rituals can help people to deal with problems, hopes and fears as they go about their lives, to weave connections between the everyday and the universal, and to invoke positive outcomes for their affairs. In this way, apparently routine domestic activities can often acquire ritual characteristics that invest them with structure and meaning beyond their merely functional value.

Bronze Age settlement and burial sites (c. 2200–800 BC)

An Early Bronze Age habitation site at Newtownbalregan 1.2[19] was discovered on a gentle, low ridge, c. 50 m south of a stream in an area of good agricultural land. The archaeological remains were a pair of conjoined, irregular, earth-cut hollows (c. 0.4 m deep by maximum 3 m wide) (Illus. 3.5). The hollows may be the surviving footprint of temporary or seasonal huts used by hunters or herders and hence were

19 Excavation No. 02E1836; Director David Bayley; ITM 701878 808028; height c. 35 m OD; parish of Castletown; barony of Upper Dundalk; County Louth.



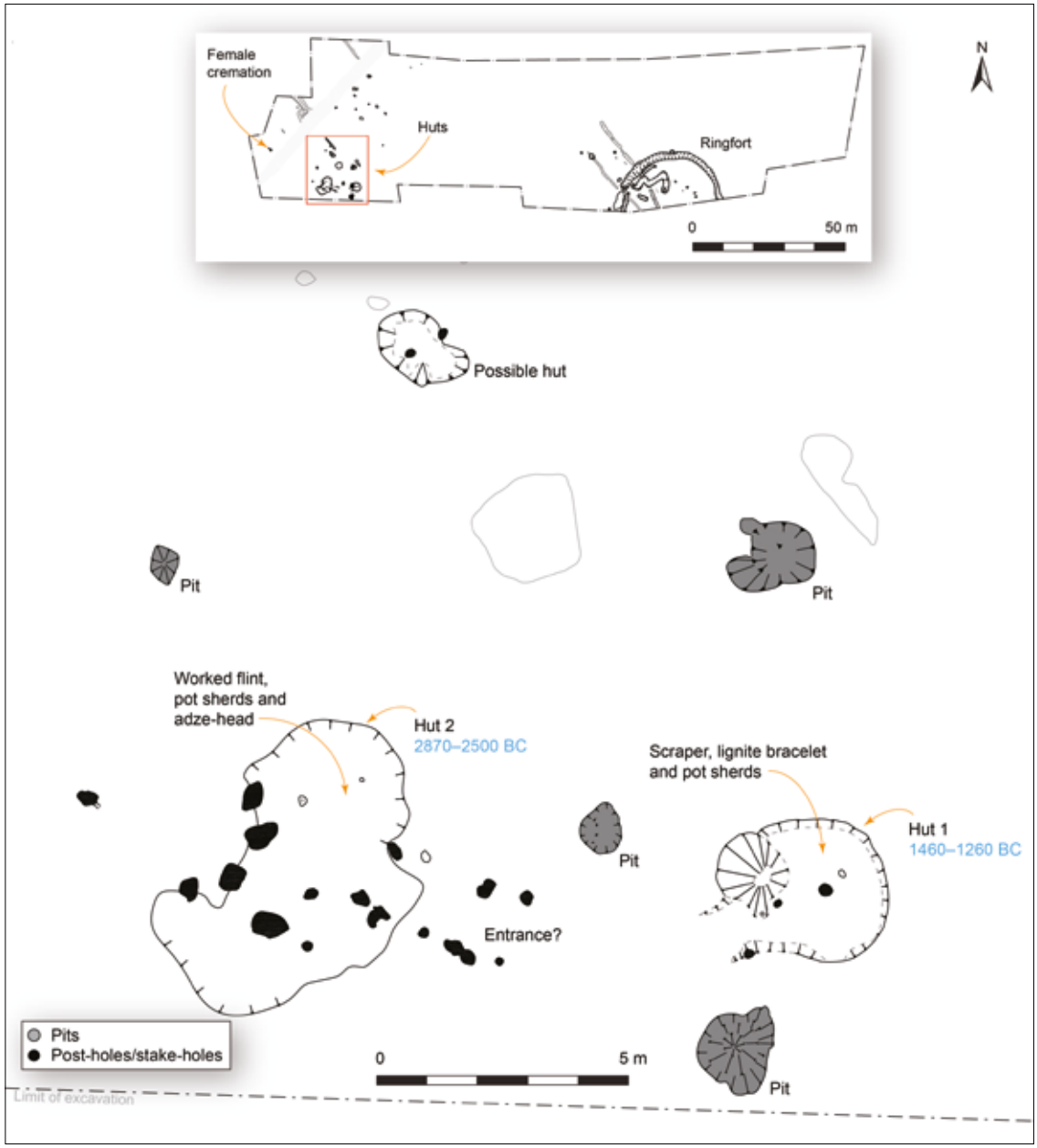
Illus. 3.5 Newtownbalregan 1.2. Plan of conjoined hollows interpreted as the footprint of a pair of temporary huts or seasonal shelters (IAC Ltd).

recorded as 'Structure 1' and 'Structure 2'. Both features were re-cut, suggesting that the site was re-used at least once and possibly intermittently. The fills were redeposited natural soils and silts. A small assemblage of flint debitage and unworked pieces was recovered from these features. Charcoal (alder) from an upper fill of one of the hollows (Structure 2), which was interpreted in the field as a secondary cut feature, was dated to 2190–1890 BC (Wk-18558).

Just south of Newtownbalregan 1.2, an Early–Middle Bronze Age industrial site at Newtownbalregan 1.1[20] was represented by spreads of charcoal-rich fire debris, pits, stake-holes and hearths, and what appeared to be a metalled work surface (not illus.). The main feature was an area of stony paving or metalling (4.8 m by 2.3 m). This sealed a silty clay layer (possibly containing hearth ash), two small pits and four stake-holes. Two large, shallow, hearth pits are interpreted as remains of kilns or ovens. One was at the centre of the stony layer. The other was a little to the south of it. The hearth pits contained loose, dark, charcoal-rich soils and heat-affected stones. Thin spreads of burnt sediment adjacent to the hearths probably resulted from raking them out for re-use. Charcoal (alder, ash and hazel) from the central hearth/kiln was dated to 1730–1500 BC (Wk-18557). Some worked flint was found on the site, but no diagnostic pieces. Nothing was found to indicate the particular use of the hearths/kilns (e.g. charred grain or metallurgical waste) but, collectively, these features seem to have the character of an industrial area rather than a habitation site.

Carn More 1[21] was located on a sheltered saddle of land between two areas of high ground, with a drained pond south-west of the site and a former wetland to the north-east. The site was c. 500 m west of the Bronze Age funerary complex at Carn More 5 (below). Carn More 1 was an occupation site with two or, possibly, three huts and a number of cooking pits. The huts were evidently lightweight structures and, again, may have had only temporary or seasonal use. They were defined by shallow hollows (variously 2 m to 5 m wide by maximum 0.5 m deep) associated with post-holes and stake-holes (Illus. 3.6). The basal fills of the three hollows were mixed, mottled silts, sands and clays with charcoal and burnt bone

20 Excavation No. 02E1835; Director David Bayley; ITM 701882 808086; height c. 34 m OD; parish of Castletown; barony of Upper Dundalk; County Louth.
21 Excavation No. 03E0867; Director Shane Delaney; ITM 704286 810856; height c. 24 m OD; parish of Dundalk; barony of Upper Dundalk; County Louth.



Illus. 3.6 Carn More 1. Plan of possible hut sites (IAC Ltd).

inclusions, and a small assemblage of Bronze Age pottery sherds. These fills are interpreted as floor surfaces or occupation layers within the huts. A deposit of cremated human bone was also found on this site (below), in a large, shallow pit a short distance west of the huts.

Hut 1 at Carn More 1 was built over a hollow with a central post-hole. The building may have consisted of little more than branches arranged around a central post. A flint scraper, part of a lignite bracelet and sherds of a large coarse pot were found

within it. Charcoal (hazel and ash) from the base of the hollow was dated to 1460–1260 BC (Wk-18566), in the Middle Bronze Age. Hut 2 seems to have been a more robust building. Again, it was built over a hollow, but there were several post-holes in and around this, including a group on the south-east side defining a porch or entrance passage. Some of the post-holes were scorched, suggesting that the building was burnt down. The finds from this building included worked flint, coarse pot sherds and a polished stone adze-head, made on porcellanite (68 mm long, 14 mm thick; weight 58 g). Charcoal (ash) from the hollow was dated to 2870–2500 BC (Wk 18567), in the Late Neolithic period. This is an earlier date than expected and may derive from older, residual sample material, unrelated to the occupation of the hut. The third possible hut site was represented by a small hollow to the north, with two post-holes.

The pottery assemblage (19 sherds) from this site represented the fragmentary remains of at least three Late Bronze Age domestic vessels. Only the general profile of one vessel could be estimated: this was a large, bucket-shaped pot with an in-turned upper profile. Vessels like this form a small part of the Late Bronze Age ceramic assemblage from Ireland overall. Examples occur at Lough Eskragh, County Tyrone (Waddell 2000, fig. 124), and Lough Gur Circle P, County Limerick (Grogan & Eogan 1987, pl. 23). A black accretion occurred on the inner surface of most of the sherds from the site, indicating that the pots were used for cooking.

In addition to the three huts (i.e. the hollows) there were other pits and post-holes scattered about the site. A bipolar flint flake from one of the pits is characteristic of the expedient flint reduction techniques used in the later Bronze Age. There was a high charcoal content in some of the pits, but no evidence for *in situ* burning, so they may simply have been rubbish pits.

Two cremations

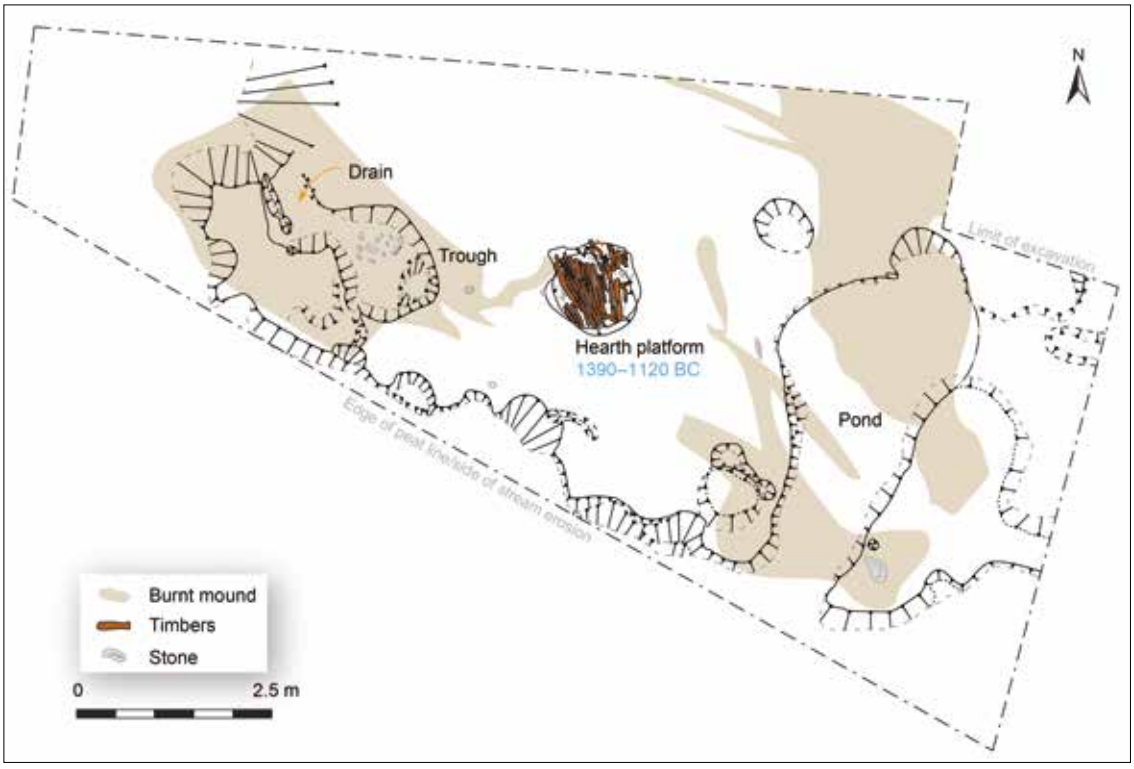
A quantity of cremated human bone was found in the charcoal-rich fills of a large shallow pit (0.8 m wide by 0.3 m deep) (not illus.) on the Carn More 1 settlement site, about 10 m west of the huts. The quantity of burnt bone (1,557 g) might represent an adult female burial but it is not clear that all of the bone was present or that only one individual was represented. There was a high percentage of relatively large fragments (> 10 mm), indicating that the burnt bones did not undergo any post-cremation processing—such as crushing—prior to being buried. The cremation was not radiocarbon dated, but the process of selecting cremated bones for burial is a feature of the Middle to Late Bronze Age, and the close proximity of this burial to the settlement suggests they were broadly contemporary and possibly associated.

A similar cremation pit was discovered within the Neolithic embanked enclosure at Balregan 1 (Chapter 2; Lofqvist 2010a). The quantity of bone (393.5 g) was less than would be expected from a full adult cremation but possibly represented a young woman. The bone was chalky and crumbly, representing a high pyre temperature, and was very fragmented. Again, the burial was not dated, but the small quantity of bone, indicating selection, and its comminuted condition, hints at a Middle to Late Bronze Age date.

Burnt mounds

The remains of a burnt mound (or *fulacht fiadh*) at Faughart Lower 1[22] were discovered on the margins of a wetland area by a canalised stream. A thin spread of heat-shattered sandstone and charcoal-rich peaty soil overlay an earth-cut trough (2.5 m by 1.5 m and 0.5 m deep), a wooden hearth platform, and a large pit or 'pond', which may have been used as a water reservoir for the trough (Illus. 3.7

Illus. 3.7 Faughart Lower 1. Hearth platform at a burnt mound site. The wood became charred but did not combust and was probably wet (IAC Ltd).



Illus. 3.8 Faughart Lower 1. Plan of the burnt mound trough, 'hearth platform', and relict pond (IAC Ltd).

22 Excavation No. 03E1397 [Part of Faughart Lower 1, 2 and 3]; Director Shane Delaney; ITM 705255 810861; height c. 15 m OD; parish of Ballymacscanlan; barony of Lower Dundalk; County Louth.

and 3.8). The hearth was an unusual feature consisting of 45 narrow, wooden sticks (hazel and alder), laid side-by-side in two layers to form a compact platform (1 m by 1 m). In this low-lying, watery location, where the sticks would have become waterlogged, they were charred but did not combust. One of the sticks was dated to 1390–1120 BC (Wk-18554), in the Middle Bronze Age.

Two more burnt mound sites (not illus.) were discovered at Newtownbalregan 5, immediately south of the Chalcolithic settlement site already described (above). One had a large, sub-rectangular trough (2.9 m by 1.52 m and 0.4 m deep) with six stake-holes in the corners—the tell-tales of an original wooden lining. A modified scraper of Late Neolithic/Early Bronze Age type was found in the trough, but charcoal (alder, blackthorn and cherry) from the trough was dated to 1270–930 BC (Wk-18555), in the Middle to Late Bronze Age. There was a second burnt spread, with a smaller earth-cut trough (1.62 m by 1.42 m and 0.42 m deep), about 30 m to the south-east and, immediately adjacent to this, a large deep pit interpreted as a well or natural cistern. Neither of these features was radiocarbon dated.

Another burnt mound (not illus.) was discovered during monitoring at Newtownbalregan 7.[23] A spread of dark, silty sand with burnt stone fragments covered an earth-cut trough (1.7 m by 1.4 m and 0.32 m deep) and a small pit. These features yielded no finds or any datable material but are probably Bronze Age in date, like the great majority of excavated burnt mounds in the Irish archaeological record. Some burnt mounds have been dated to other periods, however, and on the present road scheme a mound at Littlemill 2 was dated to AD 890–1250 (Wk-18553) in the early medieval period (Chapter 5). So the Bronze Age date of the present site at Newtownbalregan 7 is not a certainty.

A funerary complex at Carn More 5 and 6

The prehistoric cemetery at Carn More 5[24] was a major discovery and is a valuable addition to the corpus of excavated Bronze Age funerary sites in Ireland. It was located at the base of a small hillock (c. 10 m OD), on freely draining gravels in the basin of a stream, which passed about 130 m to the north. The lands to the south and east are open but the field of view from the cemetery site is now obstructed by the embankment (13 m high) of the Dublin–Belfast railway line (Illus. 3.9). On the far side of the railway embankment the stream converged with another watercourse, 250 m east of the site. Their combined waters flow into Dundalk Bay, 2.5 km away. Upstream from their confluence, the two streams lay within a wide valley at the foot of a range of hills to the north (Faughart Hill, Slievenabolea and Draikilmore). It is very likely that the excavated features at Carn More 5 were on the periphery of a much larger cemetery. Some of this underlies the railway embankment and would probably have been damaged or truncated by construction work for this sector of the railway in the 1840s. But there are likely to be many more

23 Excavation No. 04E0817; Director Avril Hayes (Aegis Archaeology Ltd); ITM 701959 808505; height c. 25 m OD; parish of Castletown; barony of Upper Dundalk; County Louth.

24 Excavation No. 03E0873; Director David Bayley; ITM 704841 810870; height c. 10 m OD; parish of Dundalk; barony of Upper Dundalk; County Louth.

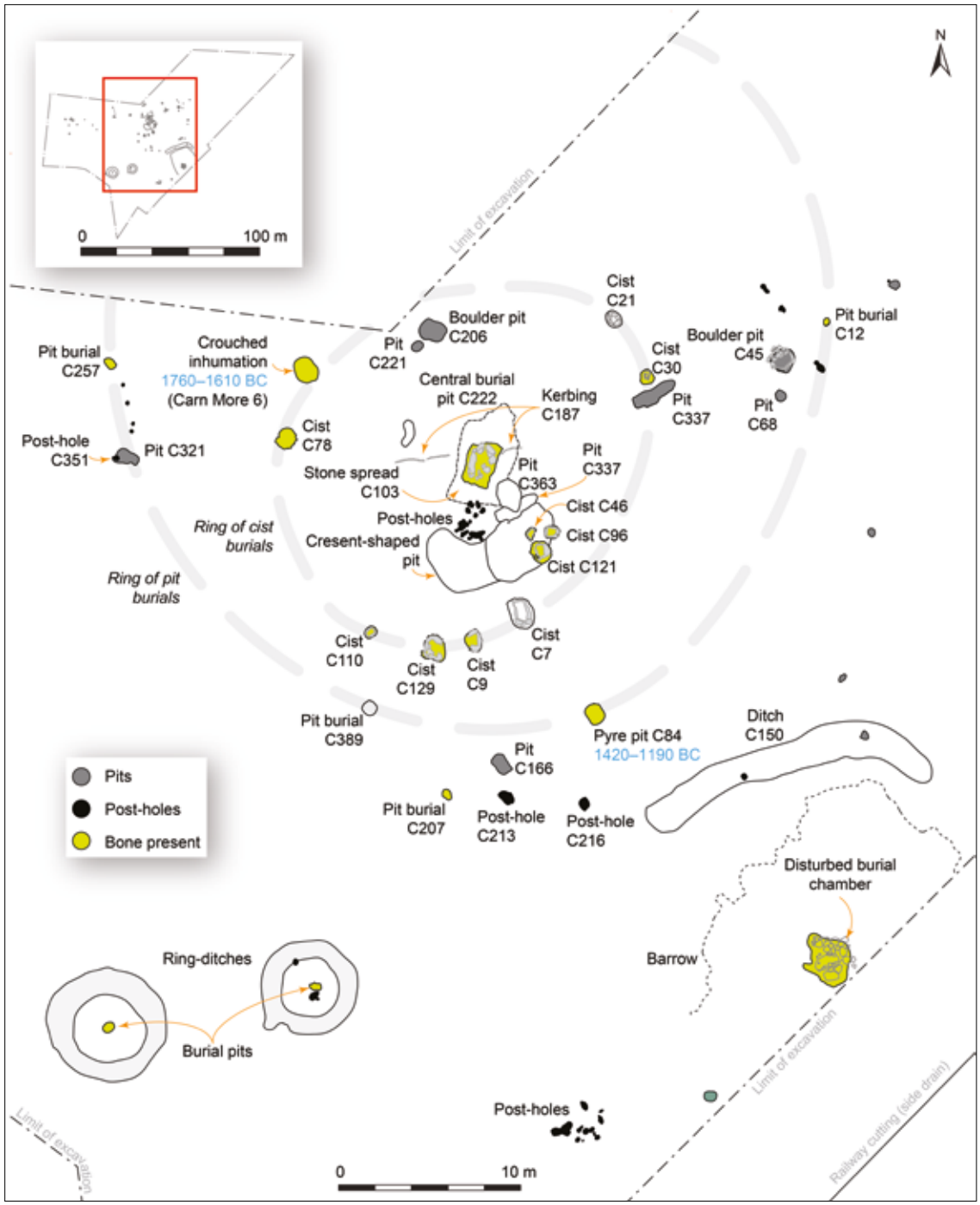
Illus. 3.9 Carn More 5. Aerial view of the excavation site from north-west. Unexcavated elements of the Bronze Age cemetery are likely to extend beneath the railway embankment and into the farmland beyond (Studio Lab).

features of the cemetery surviving beneath the ploughsoil in farmland on the opposite, south-east side of the railway.

Most of the human remains from the site were cremated. A crouched inhumation burial was also discovered on the site, during archaeological monitoring of drainage works at construction stage, by Aegis Archaeology Ltd—and hence it was recorded separately as Carn More 6,[25] though it forms part of the same funerary complex as Carn More 5. (The contents of this grave were fully excavated but the cist itself was backfilled and is now preserved *in situ* within the lands acquired for the road project.)

In the excavated part of the cemetery, north-west of the railway embankment, there were three sorts of burial/funerary monument: remnants of a barrow with a stone-lined burial chamber; a flat cemetery

25 Excavation No. E3976; Director Avril Hayes; ITM 704813 810880; height 9.8 m OD; parish of Dundalk; barony of Upper Dundalk; County Louth.



Illus. 3.10 Carn More 5. Plan of the Bronze Age cemetery showing the truncated barrow and its disturbed burial chamber (bottom right), the flat cemetery of cist and pit burials arranged around a central burial pit (C222), and two ring-ditches (IAC Ltd).

of cist graves and pit burials, surrounding a central stone spread overlying larger central pits; and two ring-ditches (Illus. 3.10). These features yielded a large assemblage of pottery representing at least 20 vessels, three of which were intact. Other finds include a bronze shield boss (from a leather shield), two pieces of prehistoric rock art and a medieval copper-alloy stick-pin. The flint assemblage was surprisingly small (23 pieces of flint). It included a scraper and two pieces with edge-retouch but was otherwise dominated by unworked pieces and debitage (Nelis 2010a).

The cremated human bone from the site represents at least 16 individuals. There were also remains of one inhumation burial, as described above. Several other features expected to contain burials—cists or pits—were found to contain no human remains, or at any rate no surviving remains. Different types of burial can occur on the same site in the Early Bronze Age, as confirmed by recent radiocarbon dating of samples from the Hill of Tara, County Meath, in the collections of the National Museum of Ireland—including both cremated and uncremated remains (Grogan 2004, tables 1, 3, 5; O'Sullivan 2005, tables 14–15). (For details of all the burials at Carn More 5, see Appendix 2.)

Commencing in the Early Bronze Age, the sequence of burials at Carn More 5 spanned at least 600 years. The pottery indicates that the cemetery came into use around 2000 BC and was in use until at least 1600 BC and probably later. A bone sample from a crouched inhumation burial (Carn More 6) was dated to 1760–1610 BC (Beta-217961). A charcoal sample (oak) from a pit with cremated bone was dated to 1420–1190 BC (Wk-18559). Although similarly long duration has been suggested for cemeteries, for example, at Edmondstown, County Dublin (Mount & Hartnett 1993, 60–1) and Carrig, County Wicklow (Grogan 1990), Carn More 5 provides the best archaeological evidence to date for episodic funerary activity in the Bronze Age over a very long period of time.

In terms of its size, complexity, duration and the quality of the pottery associations, Carn More 5 ranks alongside major prehistoric sites in the region such as Edmondstown, County Dublin, Keenoge and Tara, County Meath, and Knockast, County Westmeath (Mount & Hartnett 1993; Mount 1997; O'Sullivan 2005; Hencken & Movius 1934). Its importance is underscored by the evidence for preceding episodes of Neolithic and Chalcolithic activity on the site (above), which may already have established its sacred character.

The following description of the excavated features includes information from analysis of the cremated human bones by Lofqvist (2010b), with a supplementary analysis of cremated bones from pottery vessels by Coughlan (2010); and analysis of the pottery by Grogan & Roche (2010b). For the inhumation burial recorded as Carn More 6, the bone analysis was by Lynch (2007, 46–52) and the pottery analysis by Roche & Grogan (2007a).

Barrow and associated features

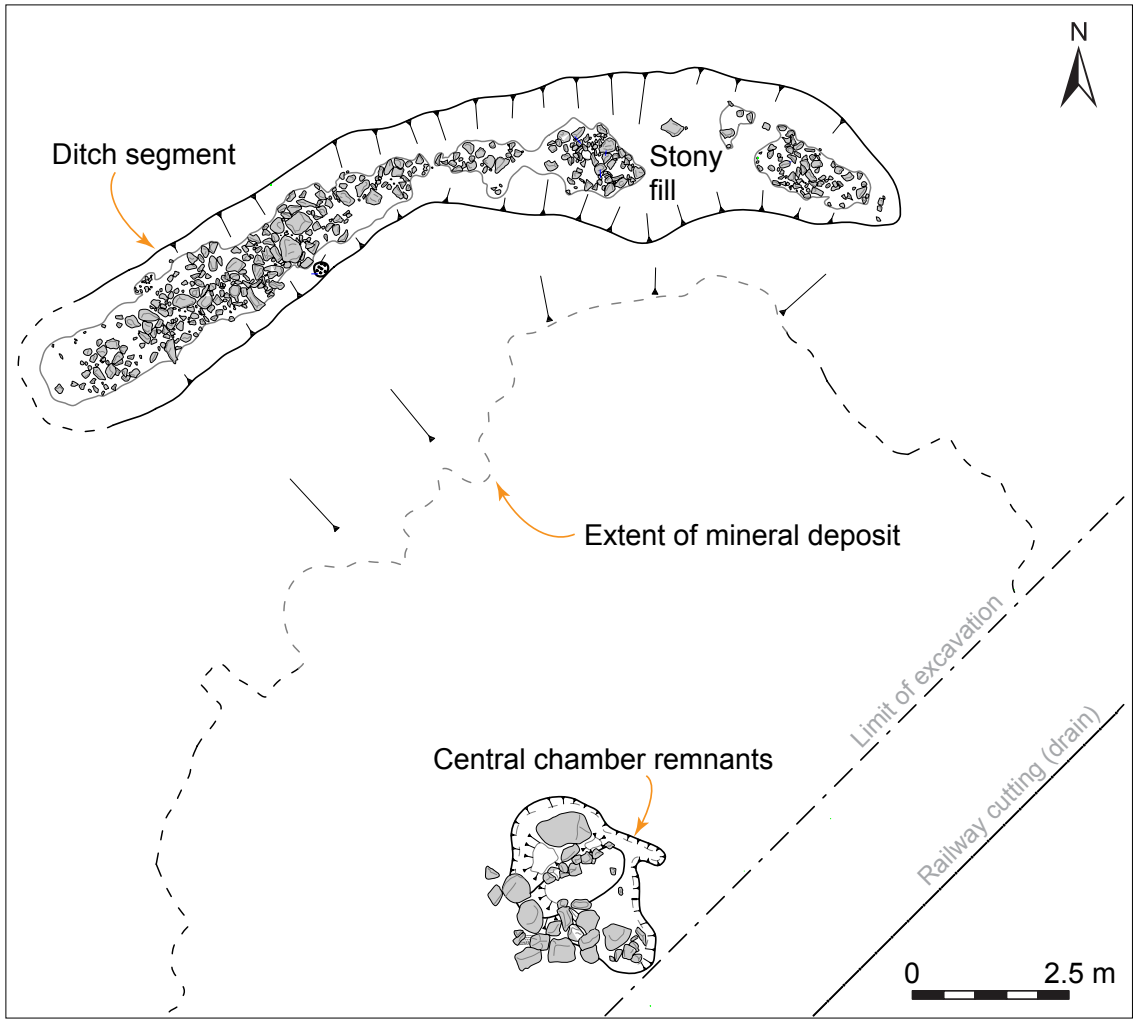
The footprint of a barrow mound was identified as an area of ferrous mineral staining (resembling an 'iron pan'), with an enclosing ditch segment and remnants of a disturbed central cairn (Illus. 3.11 and 3.12). The staining would have resulted from minerals leaching down through mounded soil, as a result of natural precipitation, and is good evidence, therefore, for the former existence of an earthen barrow.

Illus. 3.11 Carn More 5. Elements of the Bronze Age cemetery included stone-lined cists (e.g. C129, foreground), a central pit beneath a large stone spread (middle) and remnants of a disturbed, levelled barrow with a stone chamber (rear) (Niall Roycroft).

Otherwise, the barrow mound was represented only by disturbed spreads of mottled, dark soil with charcoals and bone fragments. There were remnants of a central burial chamber. Surrounding the north side of the barrow, there was a shallow, curvilinear ditch segment (2 m wide and 0.4 m deep). The ditch had a definite terminus at both ends and in its upper fill contained a large number of medium and large stones. These were possibly displaced kerbstones from the foot of the putative mound. The projected line of the ditch segment suggests that the overall diameter of the monument—assuming ditch segments on all sides—would have been about 20 m. The south-east part of the barrow was beyond the limit of excavation on the site and may have been disturbed by construction of the railway embankment.

The central burial chamber of the barrow was very disturbed, as found, and consisted of a spread (2.3 m long by 1.5 m) of large stones within a large shallow pit (up to 3.5 m wide). No doubt the chamber was originally an upstanding structure built with stone slabs and the mound would have been raised around this and over it. A row of stones along the floor of the former chamber indicates that it was probably partitioned. Disturbed cremated human bone and pottery sherds were scattered around the area of the chamber. The pottery sherds are from a cordoned urn (or urns), which would have accompanied the dead. The quantity of bone was small but the size of the chamber and its division into two cells suggest that it was used, or intended, for multiple burials. A few copper-alloy artefacts were also recovered: the shank of a stick-pin, a cylindrical object—possibly a rove (a small metal plate or ring for a rivet to pass through), and two amorphous fragments that were fused to burnt human bone. These last items could not be identified but were evidently from objects still worn by the deceased at the time of cremation. There were some small pits, post-holes, stake-holes and burnt spreads scattered about the area surrounding the barrow. They formed no discernable pattern but some of them, at least, are likely to represent funerary practices associated with it.

There were no archaeological features pre-dating the barrow and its burial chamber. The excavation team believed they were the first or primary features in the cemetery at Carn More 5. But the cordoned urn pottery dates to the later part of the Early Bronze Age (below). The pottery may simply be



Illus. 3.12 Carn More 5. Plan of the barrow remnants showing the stony fill of the ditch, the disturbed central chamber and the mineral-stained subsoil that indicated a former earth mound (IAC Ltd).

intrusive material, arising from disturbance to the site during the construction of the railway embankment; alternatively, it could possibly represent secondary burials, which were inserted into an already ancient barrow mound. Or it may be that the barrow and chamber were not the earliest features on the site after all, and are of a similar date to the associated pottery. Unfortunately, the monument was so badly disturbed, as found, that it is not possible to be definitive on these points.

Flat cemetery: pits and cists

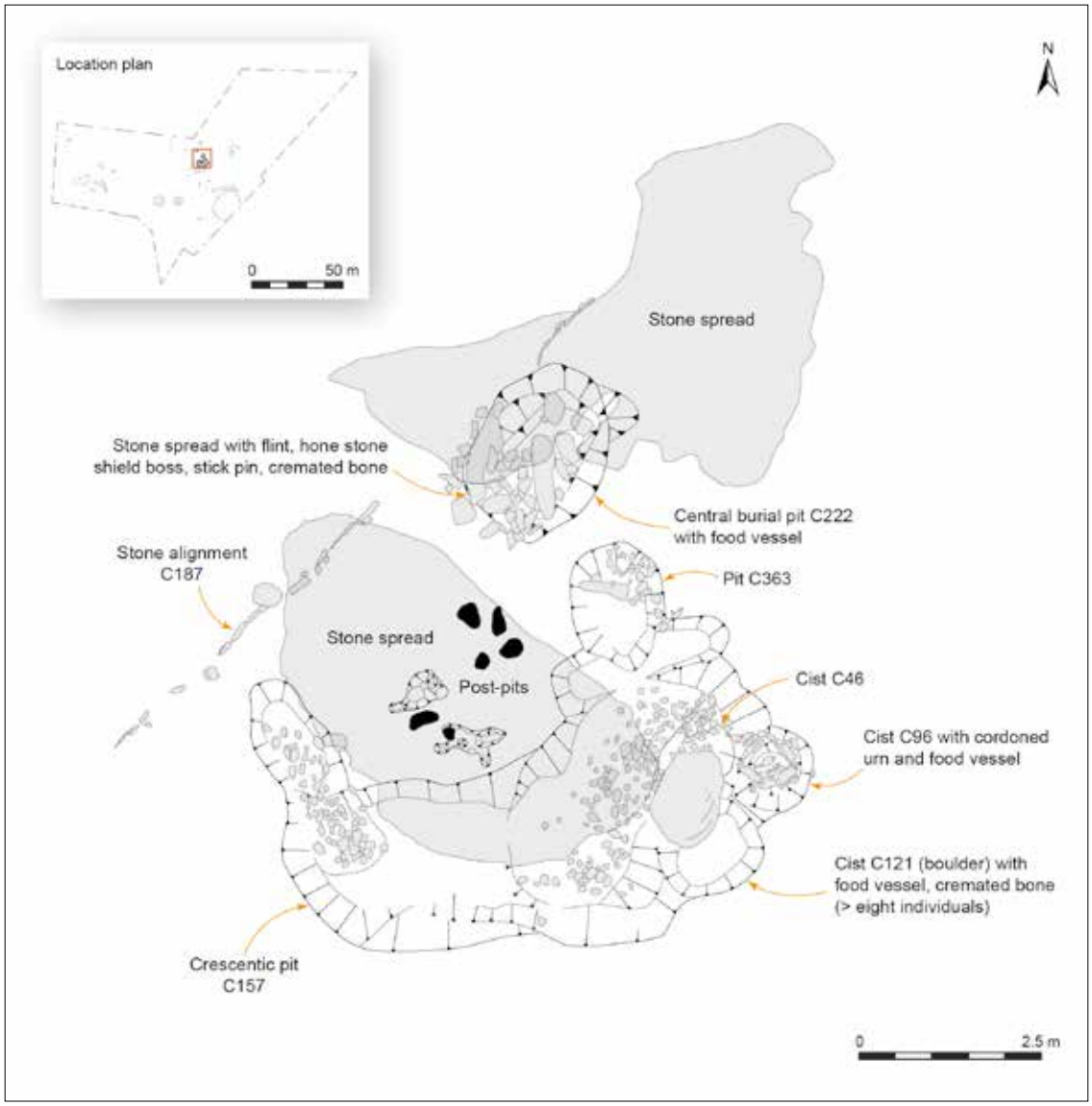
About 20 m north-west of the barrow was an area used intensively for burials from the Early to Middle Bronze Age. The burials were mostly cremations, in pits and cists (Illus. 3.13), but included one inhumation (Carn More 6). (For details of all the burials at Carn More 5 and 6 see Appendix 2.) They were arranged in two concentric circles around a group of features that included a central burial pit, a large crescentic pit and

Illus. 3.13 Carn More 5. A sample of the cists in the Bronze Age flat cemetery. From top left: C9 (A), C21 (B), C96 (C), C30 (D), C129 (E) and C121 (F). Some contained cremated bones but others contained no surviving remains. For details of individual cists see Appendix 2 (IAC Ltd).

a cluster of post-holes (Illus. 3.10). This regular arrangement implies that the pits and cists were marked in some way, perhaps with cairns or mounds, or just marker posts. Alternatively, they may have been inserted around the fringes of a barrow mound, or successive mounds, raised over the central burial, but long since truncated and dispersed.

Central pits, post-holes and cists

The earliest or primary features of the flat cemetery were a large, crescent-shaped pit (C157), intercut with several smaller pits and cists, and a cluster of post-holes immediately adjacent to the crescentic pit (Illus. 3.14). The large pit was filled with silty sand and gravel, with occasional charcoal flecks, and was sealed by a spread of small and medium



Illus. 3.14 Carn More 5. Plan of the large crescent-shaped pit (C157) and central burial pit (C222) at the heart of the excavated part of the Bronze Age flat cemetery (IAC Ltd).

Illus. 3.15 Carn More 5. An intact food vessel was placed in the south-west corner of the central pit in the Bronze Age cemetery (IAC Ltd).

stones. There was frequent burnt material (clay, charcoals) in the fills of the post-holes. They may represent a cremation platform, which would, of course, have burnt down. The post-holes were sealed by thin layers of redeposited soil and burnt sediments. These layers were cut, in turn, by a large, central burial pit, on the north side of the large crescentic pit.

This central or primary burial pit (C222; 2.4 m long by 0.9 m deep) was mostly filled with silty sand and stones, but also contained an intact, highly decorated, Early Bronze Age bowl food vessel (Vessel 5) in the south-west corner (Illus. 3.15). This pot had been placed carefully in a niche of stones. Other than a few flecks of bone in the pit fills, there was no deposit of burnt bone in the pit. But bowls are frequent accompaniments for crouched inhumation burials and it may be that the remains of a body placed in this pit had completely disintegrated by the time of excavation. Alternatively, the pit and bowl may have been a foundation deposit marking the initiation of the cemetery, in the form of a cenotaph commemorating an important ancestor.

A stone alignment or kerb (C187) of small, edge-set, flat stones extended NE–SW across the north-west edge of the central pit, extending over a total span of 9.3 m (Illus. 3.16). The line of this feature was interrupted or broken where it crossed the pit fills and this gap may represent re-cutting of the central pit at some point, though there was no direct evidence for secondary burials in the pit.

The pit and low kerb were sealed by a spread of stones and charcoal-rich material with occasional burnt bone fragments (3.1 m long by 1.7 m wide) and one concentrated burnt bone deposit. The stones formed a roughly rectangular group, aligned NW–SE, which was probably the remains of a small cairn or mound. Some of the stones seemed to be structured—there was an edge-set group on one side of the spread—but this is not convincing evidence for a disturbed cist. The finds from this stone spread included flint flakes or waste material, a hone stone (a roughly shaped stone with smoothed, striated surfaces), a copper-alloy shield boss (Illus. 3.17 and text box) and a medieval stick-pin. On top of the stone spread were two larger stones. One was a granite boulder; the other was a sandstone slab with several 'cup marks' on one face. The cup marks are

Illus. 3.16 Carn More 5. A line of edge-set stones formed a kerb across the edge of the central burial pit. A gap or break where the kerb was disturbed suggests the pit was re-dug, though there were no secondary burials in the pit (IAC Ltd).

both natural (water solution) and artificial (Illus. 3.18 and text box). Sandstone is locally abundant in north County Louth. Granite is found on the Cooley peninsula. There can be little doubt that these distinctive stones were chosen to mark the stone spread and underlying burial pit.

Bronze shield boss

Siobhán Scully

Illus. 3.17 Carn More 5. A bronze shield boss, probably for a leather shield, was found among the remnants of the central cairn in the Bronze Age cemetery (Niall Roycroft).

The bronze, oval shield boss (Illus. 3.17) from cairn remnants at Carn More 5 had a maximum surviving diameter of 65 mm, with a height of 30 mm and was 2 mm thick. The circular perforations all around the basal edge would have been used to attach the boss to the main body of the shield. The shield itself would have been made from leather, evidenced by a hardened, dark brown substance in the hollow of the boss, which did not have the structure of wood and was not susceptible to magnetism (i.e. not iron). Shields made from wood or leather with metal bosses and ribs were functional objects during the Late Bronze Age, while those made from sheet metal were for display (Raftery 1997, 23–4). A leather shield with a central oval boss was found in a bog at Clonbrin, County Longford. That shield was manufactured by beating the wet leather over a mould and then attaching the separate central boss (ibid., pl. 7). The shield boss from Carn More 5 was probably from a similar leather shield.

Three cist burials were cut into the fills of the large crescentic pit (Illus. 3.14). One of these (C121) contained a food vessel and cremated human bone. The bone was deposited in separate, successive layers, representing at least eight individuals—three children/juveniles and five adults. Another cist (C96) contained a cordoned urn and a food vessel but only a very small quantity of bone. The third cist (C46) contained a few fragments of burnt bone and no pottery. A small pit or post-hole cut into the fill of this cist may represent a grave marker, in the form of an upright timber post.

Inner ring of cist burials

Eight cist burials formed a rough circle (c. 20 m in diameter) around the central group of features at Carn More 5 (Illus. 3.10). Six of the cists contained deposits of cremated

Illus. 3.18 Carn More 5. A cup-marked stone (sandstone) was recovered from the central cairn remnants in the Bronze Age cemetery (Blaze O'Connor for IAC Ltd).

Cup-marked stone

Blaze O'Connor

A piece of local sandstone featuring rock art was recovered from cairn material at Carn More 5. The stone contains several markings, all of which occur across one lozenge-shaped surface (Illus. 3.18). These include seven cups—three arranged singly and four in a conjoined cluster—two areas of dense pecking, and occasional dispersed peck marks. Four of the cup marks are entirely artificially formed through pecking, and these are exhibited as shallow circular hollows with an even, semi-circular cross-section. Three of the cup marks are different in form, and are probably artificially enhanced natural solution hollows. These cups are almond shaped with sharp corners, are much deeper, and exhibit soft V-shaped cross-sections. Such natural hollows are common in the sandstone outcrops of the Louth/Monaghan area and are frequently the subject of artificial enhancement or embellishment in the *in situ* rock art of this region (Van Hoek 1997). The geological and weathering evidence indicates that the decorated surface was once part of the exposed surface of outcropping bedrock. The stone has no obvious quarrying tool marks, but it was probably cleaved away from a larger outcrop. Thus the stone represents the re-use of Late Neolithic to Early Bronze Age outcrop rock art within a secondary Bronze Age burial context.

The identification of a former piece of outcrop rock art at this location is significant as it extends the distribution of these panels eastward and northward from their previously known extent (Clarke 1982; Van Hoek 1997)—albeit the current example was portable and no longer *in situ.* There are currently 64 known rock art panels in the Louth/Monaghan group. The nearest is situated at Tankards Rock (LH 007-102), just over 4 km south-west of Carn More. The extension of the known distribution means that the rock art of Louth now overlaps with the distribution of megalithic art in the county. In the past, the apparent absence of such a spatial association (with the exception of Loughcrew) was used to argue that rock art and megalithic art represented separate traditions in cultural and chronological terms (i.e. Shee Twohig 1981).

human bone (three of these contained only small indeterminate fragments). One contained the disturbed skeleton of a crouched inhumation burial (Carn More 6), which was dated to 1760–1610 BC (Beta-217961). Two cists contained no bone at all (C7, C21). Five of the cists contained bowl food vessels (C7, C30, C78, C110 and the inhumation burial Carn More 6). It is possible that this was not the only inhumation burial. Some of the other cists with no burnt bone deposits may once have held unburnt human remains that dissolved in the acid soil conditions of the site. If this was the case, then the central position of a pot found in one cist (C7) suggests that it would have accompanied disarticulated skeletal remains rather than a whole body.

Outer ring of pit burials and pyre pit

The line of a second, outer ring of burials (c. 42 m in diameter) is suggested by three pits with cremations. All three were accompanied by cordoned urns, which are later in date than the vessels from the cists in the inner ring. The quantities of cremated bone were small or at least incomplete. Two of the pits (C12 and C389) probably contained bones of single individuals. One (C257) contained bones of two individuals—probably an adolescent/adult and an infant/young child. Clusters of pits or post-holes and stake-holes adjacent to two of the pits (C12 and C257) may represent associated funerary structures.

This outer ring of features also included one large pit (C84) (1.26 m by 1.2 m and 0.56 m deep) with a thick deposit of burnt bone overlying a layer of charcoal in its base. A charcoal sample (oak) from the basal fill was dated to 1420–1190 BC (Wk-18559) in the Middle Bronze Age. This feature is considered more likely to have been a cremation pyre pit rather than a simple burial pit.

Boulder burials

Two pits beg attention because they contained large granite boulders, among smaller stones, but no other evidence that they were burial pits (Illus. 3.19). One of these (C206, Illus. 3.10) was located within the inner circle, north of the central pit, and the other within the outer circle, on the east side (C45, Illus. 3.10). A smaller stone (> 0.5 m diameter) in one of the pits was carved with a sunken triangular motif interpreted as an axehead (Illus. 3.20 and text box). There was no bone in either of the pits but they may have been cenotaphs of a sort—i.e. commemorative monuments for the absent dead. In this they resemble so-called 'boulder burials', a very simple kind of Late Neolithic/Early Bronze Age monument consisting of a large boulder settled on three or four padstones. These were once thought to be a kind of megalithic tomb but excavated

Illus. 3.19 Carn More 5. This large granite boulder (C206) lay in a pit with smaller packing stones, but was not associated with any human remains or pottery (IAC Ltd).

Carved axe motif

Blaze O'Connor

A granite stone, associated with a large boulder buried in a pit in the flat cemetery at Carn More 5, was carved with a possible axe motif (Illus. 3.20). The triangular motif measures 170 mm by 100 mm and 23 mm deep. It is almost certainly carved, not naturally occurring, but there is some doubt as to whether it represents an axe. The form of the motif is more akin to stone axeheads of the Neolithic period than to metal examples of the Bronze Age, but it may represent a stylised, minimalist depiction. Carved axe motifs are known from France, the Iberian peninsula and Britain, although these are generally more clearly identifiable as axes (Simpson & Thawley 1972; Bradley 1997; Shee Twohig 1981, 59, 85, 175–6; Tilly 2004, 40). In Britain, axe motifs are generally found in Bronze Age burial contexts, notably on cist slabs associated with cairns or barrows, and around 27 adorn the megaliths at Stonehenge (Goskar et al. 2003; Chippindale 2004, 202–3). Carved depictions of axes are more or less unknown in Ireland. One possible example appears on the recumbent stone in a stone circle at Drombeg, County Cork (Waddell 2000, 169), but its identification as an axe is tentative at best.

Illus. 3.20 Carn More 5. Granite stone with carved axe motif. The stone was found in a pit alongside a larger granite 'boulder burial' (C45) (IAC Ltd).

examples have seldom yielded any human remains. Perhaps the granite boulders buried at Carn More 5 were a kind of inverted boulder burial, similarly lacking in human remains.

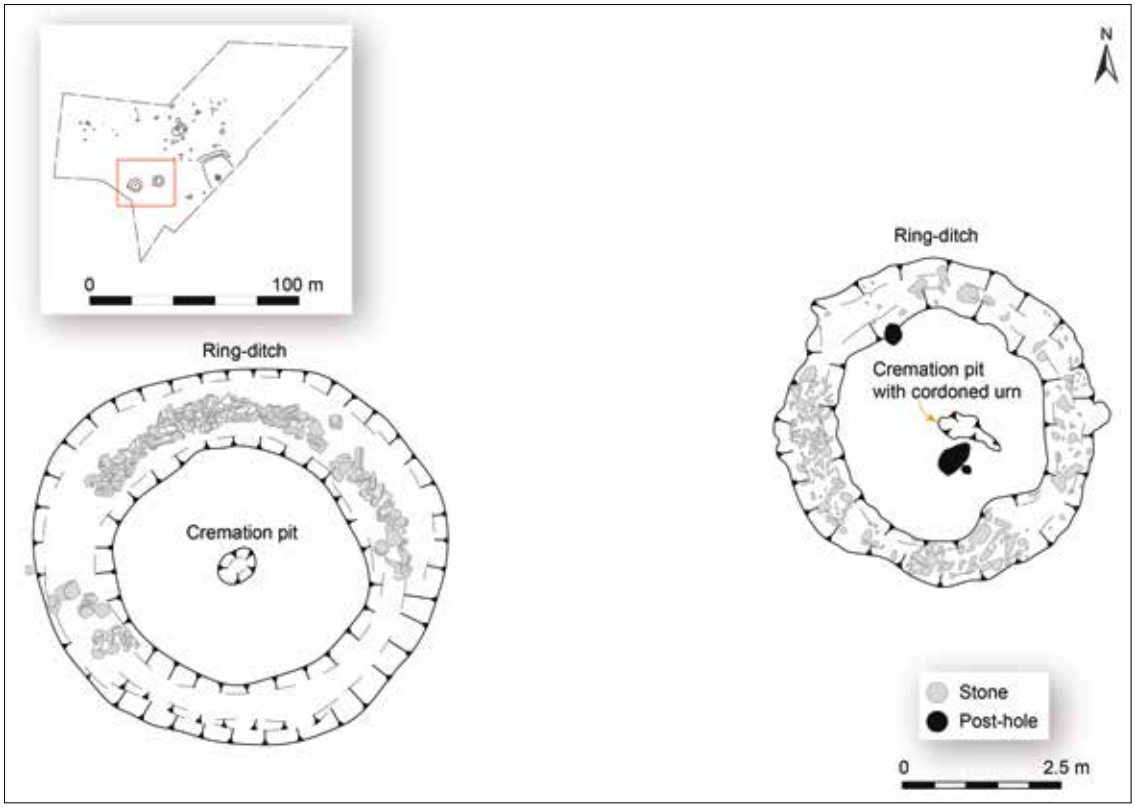
Other features in the flat cemetery

An outlying pit (C207, Illus. 3.10) on the southern margin of the flat cemetery contained some burnt bone and charcoal in its fills. Several smaller pits and possible post-holes were also recorded around the periphery of the flat cemetery, and especially in the area nearest the truncated barrow. These features formed no obvious pattern.

For completeness, we mention a small cluster of half a dozen pits and post-holes recorded c. 50 m west of the flat cemetery (not illus.). They contained no artefacts or burnt bone. Charcoals were the only notable inclusions. Two of the post-holes contained enough charcoal for the excavation team to interpret this as evidence of *in situ* burning of the posts. These features were not dated and may be unrelated to the flat cemetery.

Ring-ditches

Two small 'ring-ditches' were excavated west of the barrow and south of the flat cemetery (Illus. 3.10 and 3.21). Both of them had a cremation burial at the centre, in a small pit, but these contained only very small amounts of bone. One of the pits also had five pot



Illus. 3.21 Carn More 5. Plan of the two adjacent ring-ditches with centrally placed cremation pits, in the Bronze Age cemetery (IAC Ltd).

sherds from a cordoned urn. The ditches were c. 6 m in diameter, up to 1.25 m wide and relatively deep (0.5 m to 1.25 m) with steep sides. The ditches were both re-cut at some point. The recorded fills mostly consisted of mineral soils, representing slippage from the sides and natural silting, but in both ditches there were concentrations of stones in the upper fills.

Their general similarity and proximity to one another (5.5. m apart) indicate that the ring-ditches were contemporary. The pottery tentatively dates them to the early years of the Middle Bronze Age. The volume of material from each ditch would have been sufficient to raise a low mound in the interior and the ring-ditches probably represent truncated ring-barrows (i.e. a mound enclosed by a ditch). The sandy soils allowed the mounds and ditches to subside and hence the need to re-cut the ditches—though this does not seem to have been associated with any secondary or additional burials. The stones in the upper ditch fills could originally have been used to consolidate the mounds, by kerbing the edges or as mantling layers spread over them.

Burial practices and population

The human remains from the cemetery at Carn More represent at least 16 individuals. In most cases age and sex could not be determined but it is possible to say at least that the cremated bone represents adults, juveniles and children or infants (Appendix

2). Burials beneath the central cairn in the flat cemetery (assuming the stone spreads represent a remnant cairn), and at the centre of the barrow, were probably attributed a higher status. The single greatest concentration of cremated bone was in one of the cists cut into the large crescentic pit at the centre of the flat cemetery (C121, Illus. 3.10). There were multiple deposits of bone and charcoal within the cist fills including remains of at least eight individuals (five adults and three juveniles/children). The contents of this cist alone accounts for more than half of all the cremated bone recovered from the site.

Many of the burials were accompanied by pots, including food vessels and cordoned urns. The food vessels were associated with the central burial pit in the flat cemetery and the inner ring of cists surrounding it, representing the primary phase in the development of this monument. The cordoned urns came from the barrow, the ring-ditches and some other cist and pit burials in the flat cemetery. These vessels are relatively late in the sequence and attest the development and episodic use of the cemetery over time (see Eogan & Roche, below).

Cremation was the dominant burial rite. A total of 6,718 g of cremated bone fragments was recovered from the cemetery but this is only a subsample from soil samples and intact funerary vessels (analysis by Lofqvist 2010b and Coughlan 2010): 5,478 g came from nine bulk samples (representing four cists and the stony layer overlying the central pit); the remaining 1,232 g was recovered in the lab from six pottery vessels. Most of the bone was in a very fragmentary condition. About 31% of the combined assemblages could be identified as human. Given the context and associated funerary monuments and urns, it can reasonably be assumed that most of the remainder is also human. Adults, juveniles and children were all represented in the identifiable part of the sample assemblage. None of the cremated bone could be identified as male or female. Only one bone fragment was positively identified as non-human—probably from a bird.

Charcoals were sampled from features in the flat cemetery and surrounding area but not the barrow or the ring-ditches. Oak was almost the only species represented in 14 samples (602 fragments weighing 70 g), with negligible amounts of Pomoideae also present (e.g. hawthorn, mountain ash or apple). From this limited sample it seems that oak was the preferred pyre fuel. The chalky white colour and highly fragmented condition of most of the bone are effects of pyre temperatures of at least 600°C, indicating competent management of the cremation process.

At least one grave contained unburnt bone. The cist recorded as Carn More 6 contained remains of a crouched inhumation burial: fragments of the skull, left humerus and left tibia of an adult male were identified (Lynch 2007, 50). However, several other graves contained neither burnt nor unburnt bone and it is likely that these also represent inhumation burials, in which the local acid soil conditions caused the bone to dissolve without trace. Given this general absence of surviving unburnt bone on the site, the cist containing the crouched inhumation must have afforded unusually good conditions of preservation for these bones.

Ceramic traditions and chronology

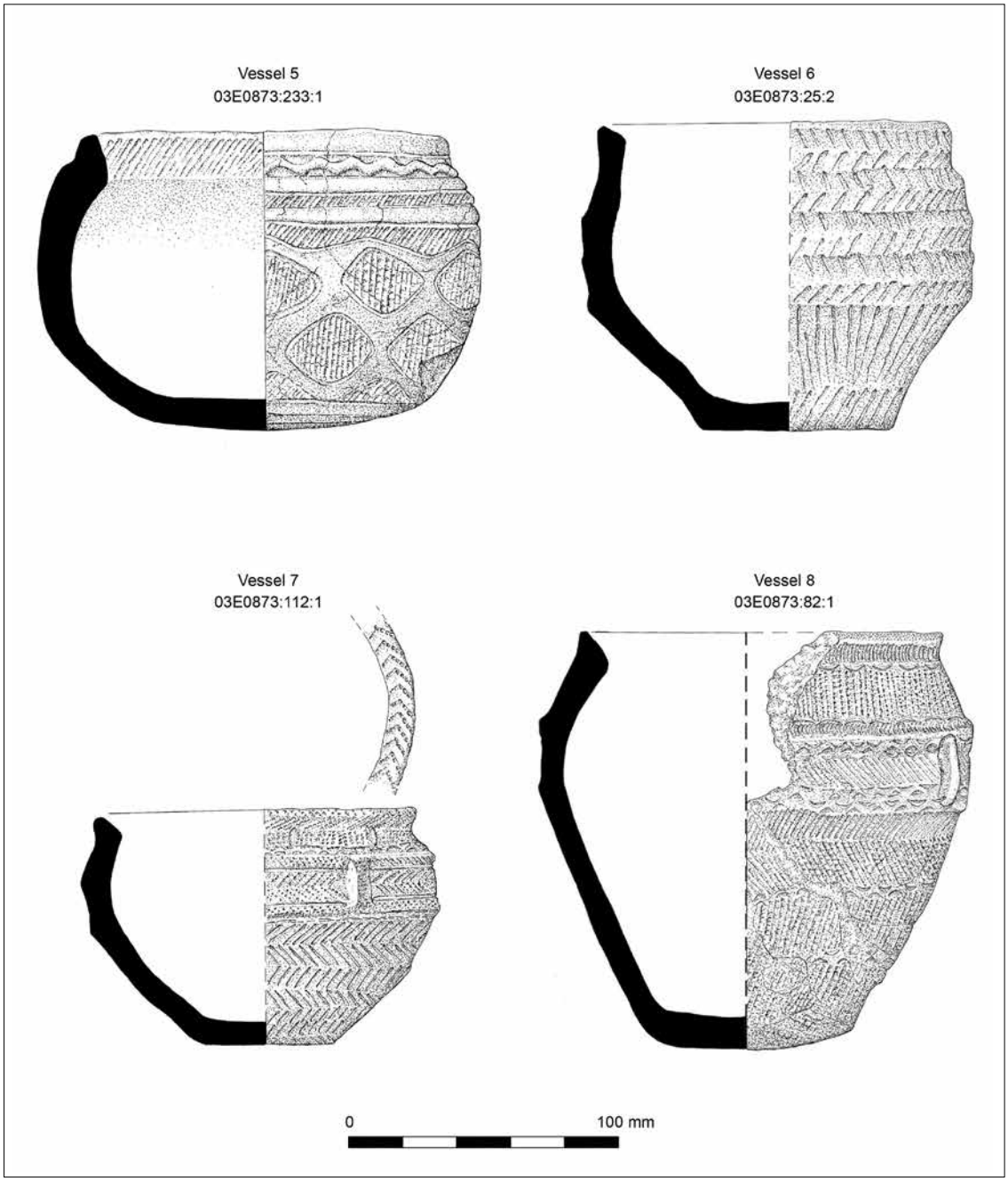
Eoin Grogan and Helen Roche

The pottery from Carn More provides evidence of episodic activity in the cemetery beginning in the Middle Neolithic period

and continuing into the Middle Bronze Age. At least 20 vessels are represented, three of which were found intact. The earliest phases are represented by residual pot sherds dating to the Middle Neolithic and the Chalcolithic periods (i.e. these were probably incorporated accidentally into the Bronze Age contexts from which they were recovered). There appear to be two phases of Early Bronze Age activity and a third phase that spans the Early and Middle Bronze Age. The first phase is indicated by bowls of the Food Vessel Tradition (Illus. 3.22 and 3.23), recovered from the central burial pit (C222) and five cists that made up the inner ring of the flat cemetery (C7, C30, C78, C110 and the crouched inhumation Carn More 6). The second phase is indicated by a fragmented encrusted urn that was found in one of the 'pot placement' burial pits in the outer ring. Some of the finer cordoned urns may also belong to this phase. The final phase of funerary activity is evidenced by remains of cordoned urns that came from the barrow, the ring-ditches, and further pit and cist burials associated with the flat cemetery.

The dating of bowl food vessels is generally well established. They were current between c. 2200 BC and 1800 BC (Brindley 2007, 250). However, on the present site, a tripartite (variant) bowl was associated with an inhumation burial (Carn More 6) dated to 1760–1610 BC (Beta-217961). Despite the elaborate typological classification of bowls there is no indication that the various forms are anything but contemporary. This is reflected in the Carn More assemblage, which contains simple, ribbed, bipartite and tripartite vessels. However, if the identification of the central pit (C222) as the primary burial context is correct—including Vessel 5 (Illus. 3.22) with its wide central bar chevron band—then the probability is that the cemetery came into use after c. 2100 BC (ibid., 245). All of the vessels are well made and of good quality, with some fine examples in terms of manufacture and decoration. Shared features, such as the same range of inclusions (dolerite, shale and quartzite) and the firing quality, suggest that the bowls are from the same local pottery tradition. Two of the pots (Vessels 7 and 8; Illus. 3.22 and Illus. 3.23) share very similar ornamental motifs and decorative composition, as well as elongated vertical lugs. It is possible, therefore, that the same denticulated implement (i.e. with tooth-like projections) was used on both. The quality and proportions of other pots also indicate the cohesiveness of local manufacturing and decorative traditions.

An encrusted urn (Vessel 13) in the outer ring suggests the commencement of a second phase of burial. Examples of this urn type—from Ballintubbrid, County Wexford; Ballyveelish, County Tipperary; Tara, County Meath; Strawhill, County Carlow; and Ballyconnell, County Wicklow—confirm a use range within the period 2000–1800 BC (Brindley 2007, 274; O'Sullivan 2005, table 15). The finer funerary cordoned urns from Carn More may belong to this early phase, although the dates from Altanagh, County Tyrone, Kilcroagh, County Antrim, and Carrig, County Wicklow, suggest these vessels were in use into the Middle Bronze Age, with a probability that most date to the period between c. 1950 and 1600 BC (Williams 1986; Williams et al. 1992; Brindley 2007). This suggests that, if the encrusted urn is part of a continuous phase of activity at Carn More, it must belong to an early stage in the sequence in association with the bowls, or towards the end of the use range for this ceramic type in the period after c. 1750 BC.



Illus. 3.22 Carn More 5. Early Bronze Age pottery (Food Vessel Tradition) from the flat cemetery, Vessels 5, 6, 7 and 8 (Alva McGowan).

A different style is indicated by the final group of burials, accompanied by cordoned urns. While some of these are finely made and finished vessels, there is no evidence for the classic ornament—in particular cord-impressed lines in a lattice or chevron

Illus. 3.23 Carn More 5. Early Bronze Age pottery from the flat cemetery: Vessel 7 (Niall Roycroft).

pattern on the neck—that distinguishes the fine funerary pots described by Kavanagh (1976). Where the cordons are identifiable they are generally poorly defined, and on two of the pots (Vessels 15 and 18) they are effectively 'false' cordons created by closely spaced channels rather than being applied or pinched out. Vessels 10 and 18, at least, are domestic variants of the general cordoned urn type: while there is no direct evidence, in the form of sooting or burnt accretions, that the other vessels were used for cooking, they were probably domestic pots. A perforation immediately beneath the rim of one of the vessels (Vessel 18)—allowing it to be hung or carried—also suggests a domestic function. Domestic vessels are, of course, occasionally used for burial, and conversely, there are examples of finer 'funerary' vessels with evidence of domestic use. It appears that the use of domestic vessels for burials dates towards the end of the use-period for cordoned urns, although the dating evidence is not yet sufficiently advanced to demonstrate this (Grogan 2004; Grogan & Roche 2009). A general date range of c. 1600–1300 BC is indicated for these vessels, as is suggested by a date of 1700–1430 BC from Ballinaspig More, County Cork (Danaher 2013; Grogan & Roche 2013).

CHAPTER 4

Glimpses of the Iron Age

by Shane Delaney and David Bayley

Glimpses of the Iron Age

The Iron Age in Ireland is an enigmatic period in the archaeological record. From the period after c. 350 BC, in the Middle Iron Age, there is a small but impressive corpus of La Tène artefacts, in Irish museum collections, displaying local traits of a wider European style. But the corresponding evidence for settlement, economy and social organisation is patchy at best. In the Late Iron Age (AD 0–400) there is clear evidence in the pollen record for abandonment of farmland and regeneration of natural woodlands, which suggests a population decline, at least, if not an outright population collapse. In recent years results of archaeological work on large-scale public infrastructure projects have improved the situation but our understanding of life in the Iron Age—and the reasons for the decline in settlement and agriculture in the Late Iron Age—is still very incomplete, such that one scholar has characterised researches in this period as 'finding an invisible people' (Becker 2009). Four sites along the route of the M1 Dundalk Western Bypass yielded evidence relating to the Iron Age (Table 4.1). The information provided by these sites is limited. It is significant, nonetheless, because it records evidence for a settlement horizon that, prior to the excavations, was almost entirely absent from the archaeological record for the region. As the excavated sites include a funerary monument, a possible house site and a cereal-drying kiln, they may be said to represent all facets of life.

Table 4.1—Iron Age sites discovered along the route of the M1 Dundalk Western Bypass (EIA = Early Iron Age, MIA = Middle Iron Age, LIA = Late Iron Age)

Site name	Main feature(s)	Period	Artefacts
Balregan 1 and 2	Terrace	EIA/MIA?	Pottery, worked flint
Donaghmore 7	Ring-ditch	MIA	None
Balriggan 1	Cereal-drying kiln	LIA	None
Fort Hill	Residual radiocarbon date only, from medieval building trench	LIA	None

Hill terrace and charcoal pit at Balregan 1 and 2

The excavation site at Balregan 2[26] was located c. 80 m east of the Neolithic ceremonial complex at Balregan 1 (Chapter 2), on the same elevated tongue of land, or inland promontory, defined by the confluence of the Castletown and Kilcurry rivers (Illus. 4.1). This distinctive location dominates the surrounding area and affords views over the lower Castletown River valley towards Dundalk Bay. As we already saw (Chapter 2), a number of prehistoric monuments in the area were recorded by the antiquarian Thomas Wright in 1758. However, Wright's sketch does not show any monument in the part of the site, at Balregan 2, where our excavations identified an artificial terrace and associated earth-cut features. Charcoal samples from deposits overlying the terrace were dated to the Iron Age.

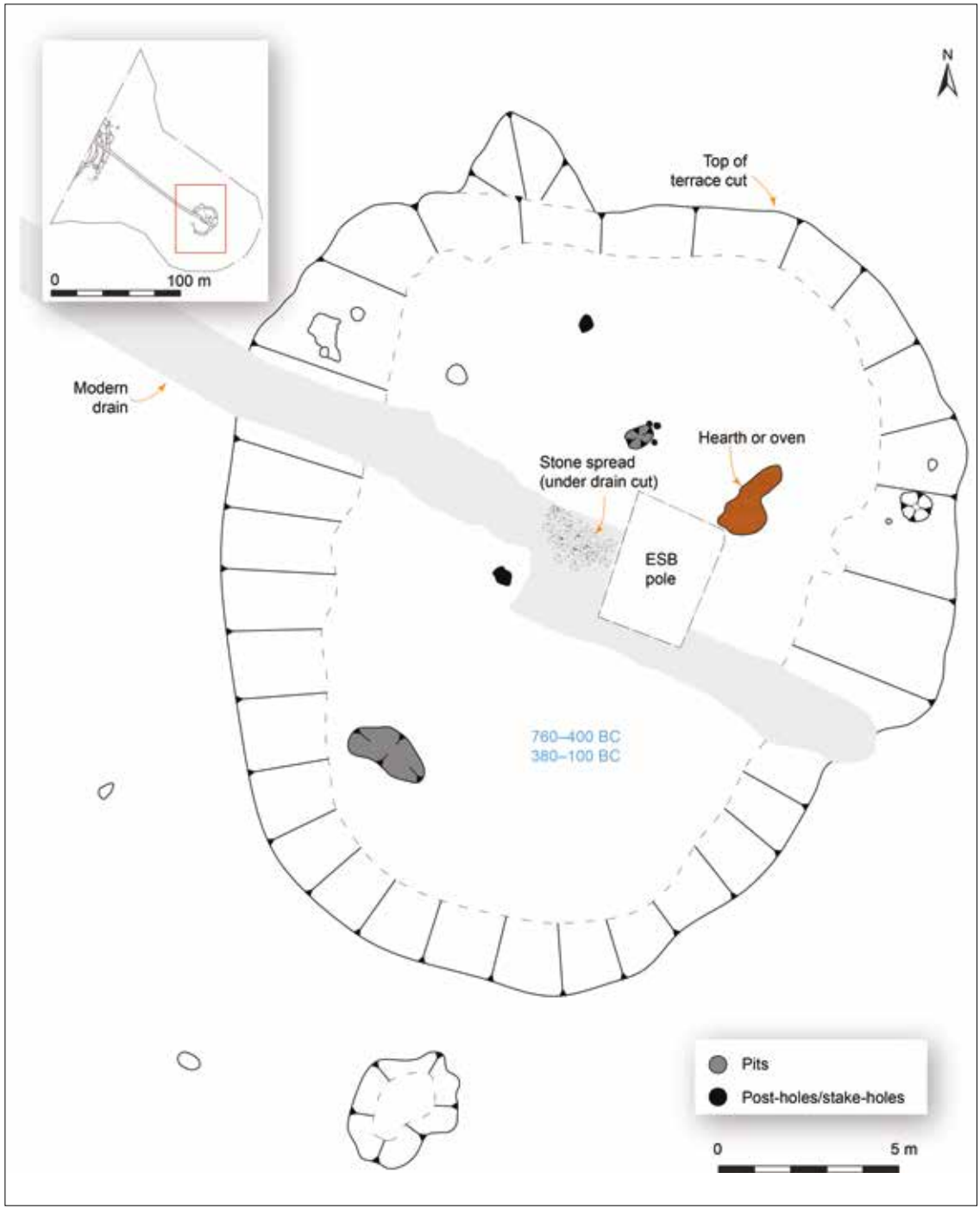
The terrace was a level area of scarped or hollowed ground, sub-circular in plan and over 20 m in diameter, cut into the natural slope of the promontory (Illus. 4.2). There were a few post-holes and pits in the northern half of the terrace but they formed no obvious plan. One of the pits contained burnt bone fragments (unidentified) and had three stake-holes around it. A keyhole-shaped pit nearby contained a charcoal-rich fill overlying a deposit of stones at its base. This feature may have been a hearth or oven. There were large spreads of charcoal-rich soil near the centre of the terrace. They included struck and burnt flint debitage. A spread of stones in the middle of the terrace had the appearance of a prepared surface or 'hard standing'. These deposits were all sealed by a layer of silty sand within the hollow. This material yielded small amounts of pottery fragments (undiagnostic) and struck flint. Charcoal (hazel) from this layer returned an Early Iron Age date of 760–400 BC (Wk-18563). Three sherds of pottery representing two possible Early Bronze Age cinerary urns were recovered from the periphery of the hollow, in a deposit interpreted in the field as upcast spoil (not illus.) from the excavation of the terrace.

An extensive layer of compact, sterile soil covered the terrace and the surrounding area. This was probably 'colluvium'—i.e. a deposit resulting from soil migrating downslope due to tillage and/or natural erosion. It contained some flint flakes and debitage of Neolithic or Bronze Age type, in addition to post-medieval and modern pottery sherds. Charcoals from this layer included alder, hazel and oak. A charcoal sample (hazel, alder and oak) was dated to 380–100 BC (Wk-18565), in the Middle Iron Age, but probably represents some event upslope of the terrace, as it derives from the redeposited soil.

The dating evidence from Balregan 2 is ambiguous. The only diagnostic finds are sherds of Bronze Age and modern pottery. The Iron Age radiocarbon dates are both from charcoals in secondary or intrusive deposits (silt, hill-wash). The character of the site is also uncertain. The terrace may have been excavated as the stance for a house or shelter but the evidence for occupation is meagre at best and there was no good evidence for a building. On the other hand, the platform itself is very reminiscent of the late prehistoric 'platform houses' commonly

26 Excavation No. 03E0157; Director Brian Ó Donnchadha; ITM 702603 809987; height 8–11 m OD; parish of Castletown; barony of Upper Dundalk; County Louth.

Illus. 4.1 Balregan 1 and 2 were located on a promontory formed by the confluence of the Castletown and Kilcurry rivers. The terrace with Iron Age deposits (Balregan 2) is located on the outer or east end of the promontory. The partly excavated Neolithic embanked enclosure (Balregan 1) is upslope, on the broad neck of the promontory (Studio Lab).



Illus. 4.2 Plan of the terrace at Balregan 2, showing various earth-cut features and a possible stone surface. The terrace was slighted by a modern drain and by the erection of an ESB pole (IAC Ltd).

found cut into hillslopes in upland Britain. Subsequent tillage partly truncated the site and it was also slighted by a modern drain and the footing trench for an ESB pole, so that the absence of evidence is exacerbated by disturbance of the site.

A possible Iron Age date of the terrace at Balregan 2 is tentatively supported by an Iron Age feature recorded elsewhere on this inland promontory, on the nearby site of the Neolithic embanked enclosure at Balregan 1 (Chapter 2). Here, there was a large, charcoal-filled pit, with traces of *in situ* burning, cut into the outer enclosure ditch (Illus. 2.10). The charcoals were mostly alder and hazel (O Carroll 2010a). A charcoal sample (hazel) from the pit was dated to 410–200 BC (Wk-18568), in the Middle Iron Age.

Ring-ditch cremation burial at Donaghmore 7

A small ring-ditch at Donaghmore 7[27] enclosed a single cremation pit. The site was on a gentle, well-drained slope, facing north-east, in an area of generally good farmland. An outcrop of bedrock north-west of the site afforded some protection from the elements on that side, but on the north and east it was exposed to winds from the Cooley Mountains and the Irish Sea.

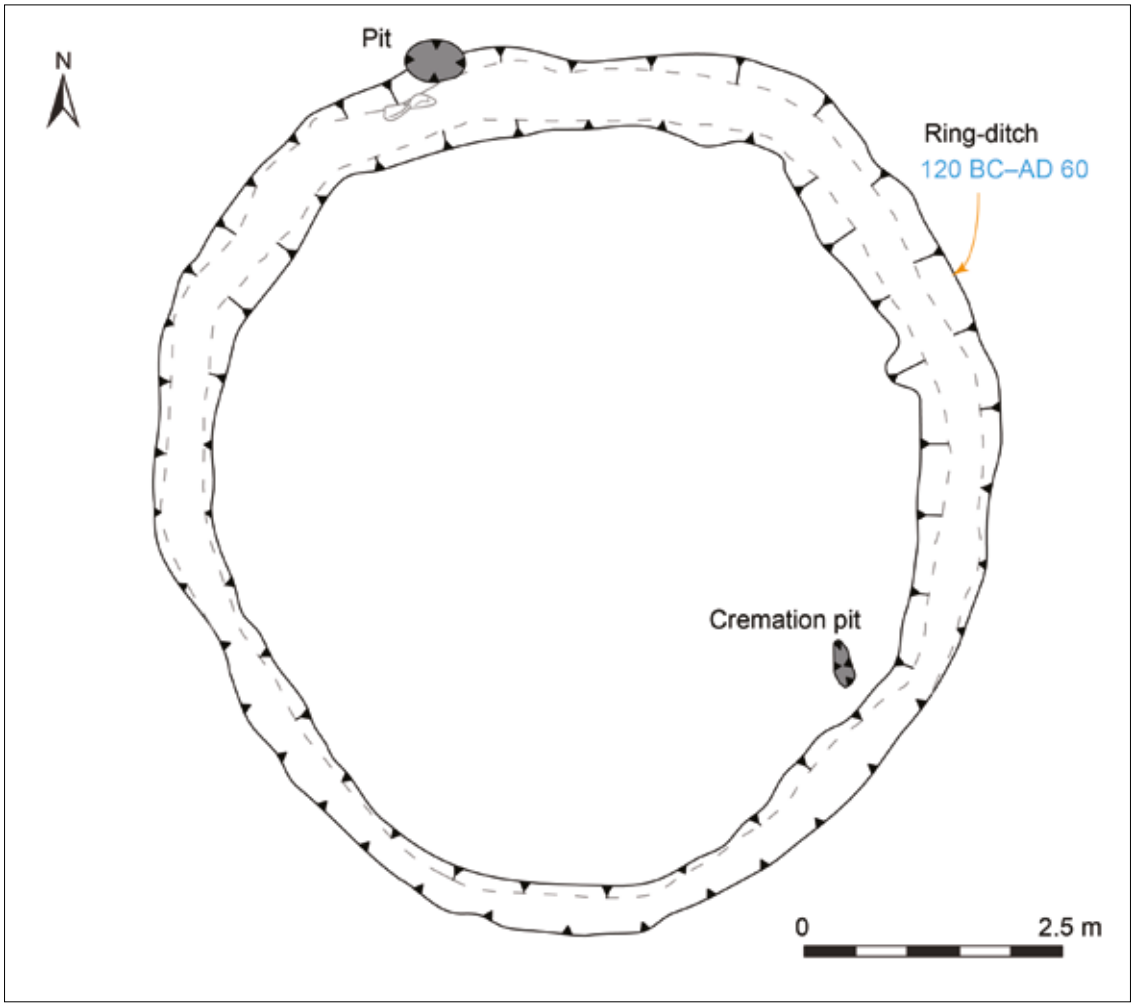
The ring-ditch was 6 m wide internally, and was defined by a shallow ditch, (up to 0.6 m wide and 0.5 m deep) (Illus. 4.3). The base of the ditch contained natural silt but this was sealed with a deposit containing charcoals and larger fragments of burnt oak timbers. Oak was commonly used a pyre fuel in prehistory. It burns well and can achieve high temperatures. One burnt timber was dated to 120 BC–AD 60 (Wk-18564), in the Middle Iron Age. There was no surviving evidence of a bank but the upcast from the ditch may originally have been mounded around the edges of the ditch, forming a barrow. A small pit was cut into the upper fill of the ditch, but it contained no finds or any other datable material, and may not be a related feature.

The cremation burial was located close to the inner edge of the ring-ditch in the south-east quadrant. A small oval pit (0.45 m wide by 0.14 m deep) contained a considerable quantity of charcoal but only a very small amount of burnt bone (0.05 g). The bone was in poor condition and none of the fragments could be identified, but they are likely to be human (Lofqvist 2007a). Their white colour and fragmentary condition indicate high temperatures during cremation. Fragmentation could also have resulted from disturbance while still hot or exposure to weathering and trampling before being collected for burial in the pit.

The small quantity of bone suggests a token funerary deposit. Alternatively, as the burnt material was concentrated in the upper part of the pit and the site was heavily truncated by tillage, there may once have been more bone and charcoal than survived. Indeed, the heavily truncated condition of the site begs the question whether there were once other burials within the ring-ditch, for which no evidence survives.

There were no other archaeological features associated with the ring-ditch at Donaghmore 7, but given the effort to make

27 Excavation No. 02E1483; Director Brian Ó Donnchadha; ITM 701949 807136; height c. 25 m OD; parish of Dunbin; barony of Upper Dundalk; County Louth.



Illus. 4.3 Plan of the ring-ditch at Donaghmore 7, showing the cremation pit near the eastern edge of the ditch, and a pit of unknown function that cut the ditch to north (IAC Ltd).

a permanent visible funerary monument here, it can reasonably be assumed that there was an Iron Age settlement nearby.

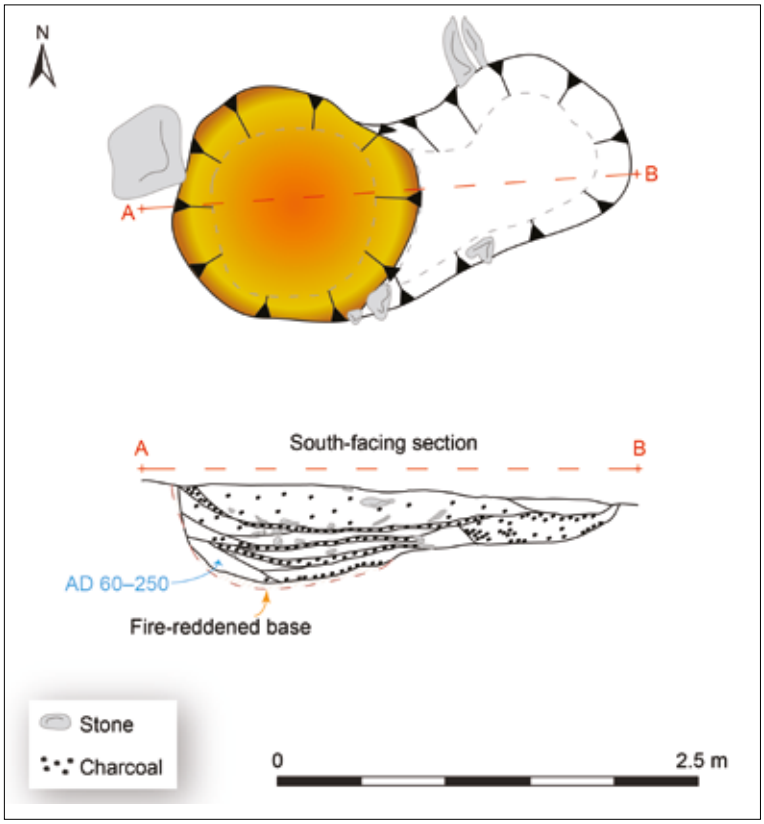
Cereal kiln at Balriggan 1

An Iron Age cereal-drying kiln was discovered at Balriggan 1[28] on the periphery of an early medieval settlement enclosure on the same site (Illus. 5.3, Chapter 5). The form of the kiln was a roughly figure-of-eight or dumb-bell-shaped pit (2.6 m long by 1.5 m wide and 0.6 m deep) (Illus. 4.4). Layered deposits in the kiln suggest at least two episodes of use. Charcoals in the kiln represented several species including oak, hazel, ash, birch, alder and fruiting hedgerow trees (Pomoideae) (O

28 Excavation No. 02E1325; Director Shane Delaney; ITM 703581 810718; height 13 m OD; parish of Faughart; barony of Upper Dundalk; County Louth.

Carroll 2011). A charcoal sample (ash) from the earlier firing was dated to AD 60–250 (Wk-18562).

Cereal kilns were used to dry threshed grain to prepare it for storage, and could also be used prior to milling the grain to ensure it was hard enough to be ground into flour (Monk & Kelleher 2006, 77–8). The kiln at Balriggan contained deposits of grain that was burned during firings of the kiln. Oats dominated the assemblage (c. 90%), with smaller amounts of barley, wheat and rye (Johnston 2006). Crop contaminant seeds (e.g. weed grasses, goosefoot, radish and knotgrass) were also identified among the charred cereal grains. These are weeds of bare and disturbed ground and hedgerows—habitats associated with the cycle of cultivation in arable fields. In early medieval times oats were considered to have the lowest economic and social value (Kelly 1998, 226–7) and, if this was also true in the Iron Age, the remains from Balriggan 1 represent a low-status diet. However, many of the charred oats here were found in the 'fire-bowl' of the kiln rather than the drying chamber, and they may have been used as a fuel. The use of grain as fuel might indicate a surplus of this crop or perhaps simply 'spoiled' grain being put to good use.



Illus. 4.4 Balriggan 1. Plan and section drawing of the Iron Age cereal-drying kiln (IAC Ltd).

An Iron Age date from medieval Fort Hill

Elsewhere in Balriggan townland, a shallow, curvilinear trench on Fort Hill[29] is interpreted as a foundation trench—or possibly a drip gully—for a building within a later medieval earthwork on the same site (Chapter 6). The fills of the trench contained domestic waste with an abundance of animal bone—including fallow deer—and a number of worked animal horns (Lofqvist 2010c). The deer bones corroborate the later medieval

29 Excavation No. 02E1326; Director David Bayley; ITM 703352 810591; height c. 35 m OD; parish of Faughart; barony of Upper Dundalk; County Louth.

date attributed to this feature, as fallow deer were not introduced to Ireland until Norman times. However, a charcoal sample from the trench (blackthorn and ash) was dated to AD 250–430 (Wk-18560) in the Late Iron Age. Clearly this is merely residual charcoal, accidentally incorporated in the fill of a much later feature, but it does at least signal a human presence on Fort Hill in the Iron Age.

The solitary radiocarbon date from Fort Hill, the kiln at Balriggan 1 and the ring-ditch at Donaghmore 7 are typical of a growing body of field evidence for the Iron Age in Ireland. This evidence is often encountered as stray pieces in the wrong jigsaw box—i.e. as an isolated kiln, or pit or burial on the excavated site of a much later medieval settlement or cemetery. Taken in isolation, these are minor discoveries. But as more and more of these stray pieces of evidence are found, documented and published, a more coherent picture of settlement and economy in the Iron Age is beginning to emerge. On the present project, the kiln and ring-ditch evoke important aspects of Iron Age life. The kiln represents organised food production in an agricultural cycle of tilling, planting, harvesting and storing grain. The ring-ditch was a distinctive funerary monument erected by a family or community to commemorate the passing generations. Both features, in different ways, suggest permanent settlement by people who were 'at home' in this landscape, from season to season, and in the longer cycle of life and death.

CHAPTER 5

Early medieval settlements and souterrains

by Shane Delaney and David Bayley
with contributions by S Zajac and A Hayes

Early medieval settlements and souterrains

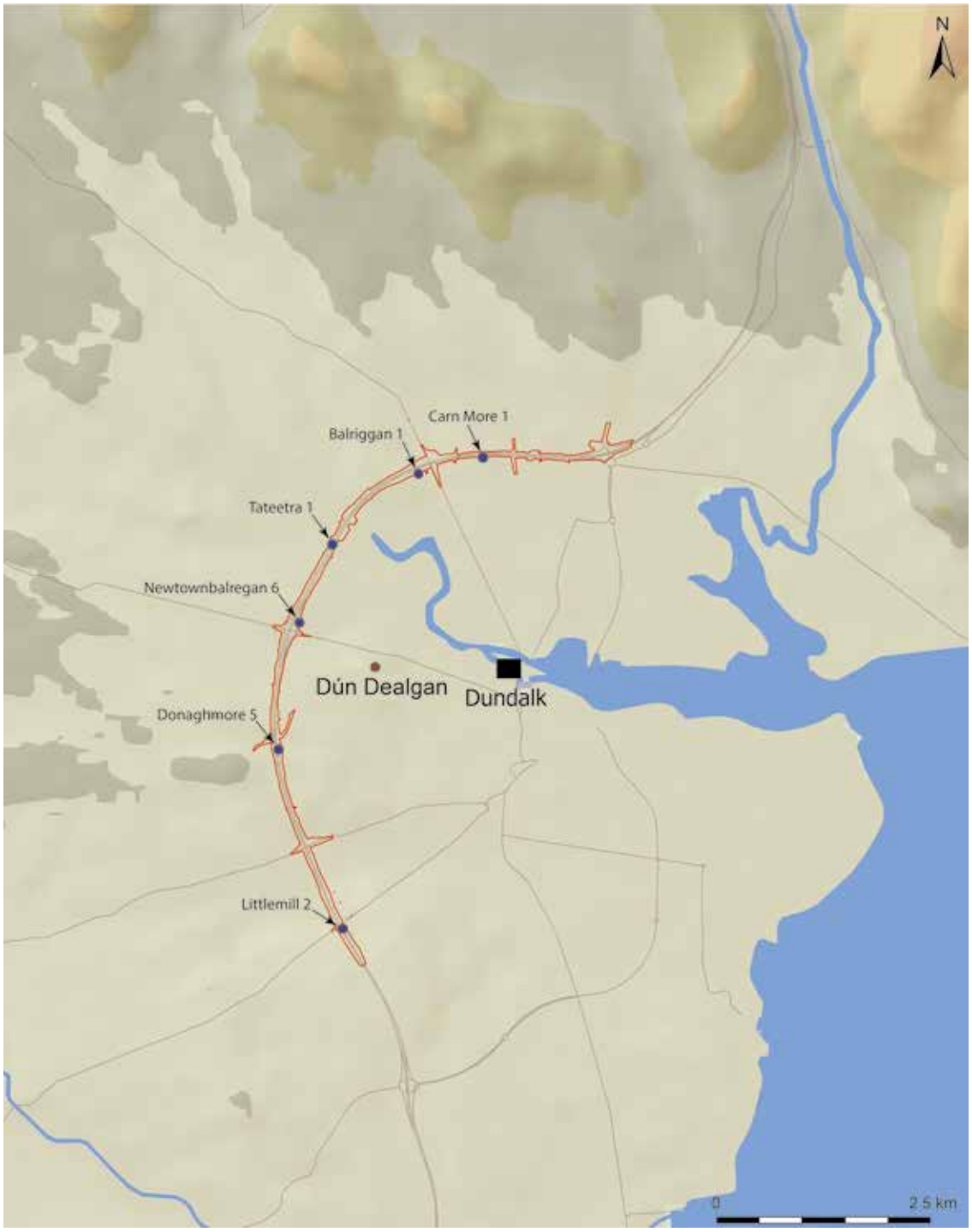
The early medieval period is represented in the landscape traversed by the new M1 Dundalk Western Bypass by numerous early church sites, ringforts and souterrains. The area is also well represented in the documentary record. The first monument in Dundalk specifically mentioned in early historical sources is Dún Delca, in the *Annals of Ulster* in AD 1002 (Mac Airt & Mac Niocaill 1983, 431). Dún Delca (alias Dún Dealgan) is linked to the legendary Cú Chulainn in Ulster Cycle stories about the royal court and the heroic deeds of the Ulaid. North Louth was part of early historic Ulster and Dún Dealgan was one of the chief assembly places in the province, equal in status to Dún Dá Bend (Mount Sandel) and second only to Emain Macha (Navan Fort) (Gosling 1993, 243).

The dún was turned into a motte castle by the Anglo-Normans in the late 12th century, and it is in this form—though incorporating an earlier souterrain—that it survives today (Illus. 1.4). The medieval settlement of Castletown grew up around the motte but the focus of settlement soon moved towards the sea, ultimately becoming the walled port town Dundalk. Today the motte mound of Castletown is in the western outskirts of Dundalk (Illus. 5.1), about 2 km from the old town centre. Taken together, it can be argued that Dundalk's status as a central place began in the early medieval period, with Dún Dealgan (Castletown) at the heart of settlement and society in north Louth.

Four early medieval settlement sites were excavated along the route of the new bypass,

Table 5.1—Early medieval sites discovered along the route of the Dundalk Western Bypass

Site name	Main feature(s)	Artefacts
Balriggan 1	Enclosed settlement, cemetery, mill and industrial activity	Pottery, glass and bone beads, lignite bracelets, spindle whorls, loom weights, ringed pins, quern-stones, coarse stone tools, iron awl/punch, worked flint, iron slag
Carn More 1	Ringfort and souterrain	Pottery, glass bead
Tateetra	Souterrain	Pottery, stick-pin, glass and ?paste beads, cross-inscribed pillar, megalithic art
Newtownbalregan 6	Ringfort and souterrain	Pottery, penannular brooch, stick-pin, ring-pin, glass beads, pottery, megalithic art, worked flint
Littlemill 2	Burnt mound	None
Donaghmore 5	Pit and hearth	Glass bead, possible brooch (frag.)



Illus. 5.1 Locations of early medieval sites excavated on the M1 Dundalk Western Bypass and the early royal site of Dún Dealgan, which was afterwards a Norman earthwork fort or motte mound with an associated medieval settlement of Castletown (IAC Ltd based on the Ordnance Survey of Ireland map).

all within a few kilometres of Dún Dealgan (Table 5.1). Balriggan 1 was a double-ditched settlement enclosure with a cemetery and a mill. There were ringforts with souterrains at Carn More 1 and Newtownbalregan 6, and a spectacular souterrain at Tateetra. In addition to these four permanent settlement sites, two temporary or transient sites were excavated at Donaghmore 5 and Littlemill 2. We should also mention a substantial settlement site discovered just north of the bypass at Faughart Lower, on another road project—the adjoining A1/N1 Newry to Dundalk road (Bowen 2008, 9–11; Buckley & McConway 2010, 49–59). This is not described here but is another example of the high potential in the region for discoveries in this period.

Cemetery-settlement at Balriggan 1

Excavations at Balriggan 1[30] recorded a large, double-ditched, cemetery-settlement enclosure; another neighbouring enclosure (interpreted as a livestock corral); associated field boundaries and possible garden plots (Illus. 5.3 and 5.4). The site was located 2 km west of Dundalk Bay, on the margins of a wide, natural basin overlooked by Fort Hill, to the west, and close to an ancient north–south routeway perpetuated today by the R177 Armagh Road, to the north-east. In the early medieval period, this area of County Louth—extending to the Armagh/Louth border—was in the territory of the Uí Connaille Mhuirthemne.

The two enclosures at Balriggan 1 occupied the eastern slope of a well-drained knoll, where they were sheltered by higher ground from the prevailing south-westerly winds. The drift geology of the site consisted of well-drained sandy gravels, favourable to tillage and good grass pasture, but there were adjacent areas of low-lying, boggy land to the north-west and south-east, which were fed, respectively, by a stream and by a spring.

The double-ditched main enclosure presented a complex scene representing several facets of early medieval life and death. In the interior there was a burial ground, a large metalworking area and remains of at least two buildings. These all lay east of a long, narrow gully that seemed to partition off the western quadrant of the enclosure. (The gully was not dated and could, therefore, be later medieval or modern.) A mill lade was cut through the eastern quadrant of the enclosure, driving a mill that stood in the inner ditch. The site produced an unusually large assemblage of the coarse pottery known as Souterrain Ware (see text box) and many other artefacts, plant remains and animal bones consistent with daily life on an early medieval farmstead—representing cattle husbandry, crop processing and small-scale craft and manufacturing work in metal and textiles.

Most of the dating indicators from Balriggan 1 point to the occupation and abandonment of the site in the early medieval period. However, one feature—a cereal-drying kiln—was dated to AD 60–250 (Wk-18562) in the Late Iron Age (Chapter 4). This was located on the margins of the site, outside the western enclosure interpreted as a livestock corral. There is no other evidence for continuity of settlement at Balriggan from Late Iron Age to early medieval times, but this possibility cannot be dismissed.

30 Excavation No. 02E1325; Director Shane Delaney; ITM 703581 810718; height 13–15 m OD; parish of Faughart; barony of Upper Dundalk; County Louth.

Main enclosure

The main enclosure, containing the cemetery-settlement, was lower down the slope and was overlooked from higher ground by the western enclosure or livestock corral. It was defined by an inner ditch surrounding a sub-circular area and an outer ditch on the south-west side (i.e. this did not fully enclose the settlement). No doubt the interior was originally surrounded by an earthen bank, formed of upcast soil from the ditch, but no trace of this survived.

Souterrain Ware

Sue Zajac

Souterrain Ware is an indigenous Irish coarseware (Illus. 5.2) dating to the early medieval period, principally between the eighth and 12th centuries. It is found predominantly in north-east Ireland and has been recovered in greater quantities from County Louth than any other county in Ireland outside of Ulster (Ivens 1992, 160; McCorry 2001, 101).

A large quantity of Souterrain Ware (480 sherds and 422 smaller fragments) was recovered from Balriggan 1, representing a minimum of 87 vessels. It was also found in smaller quantities at three other sites excavated along the route of the bypass: at Tateetra (63 sherds from one pot), Carn More 1 (41 sherds from ≥6 pots) and Newtownbalregan 6 (12 sherds from ≥8 pots).

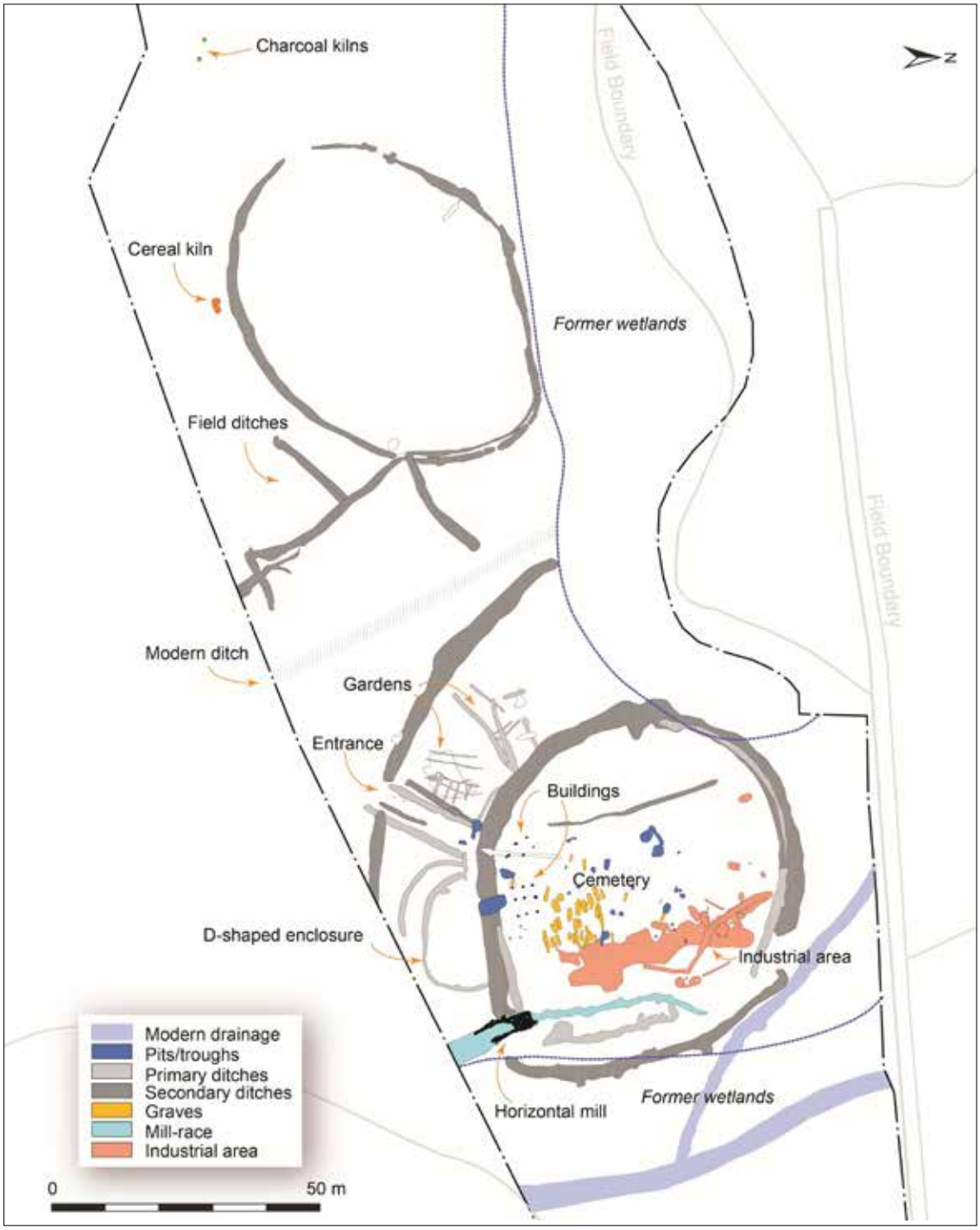
Illus. 5.2 Souterrain Ware was an indigenous Irish coarse domestic ware of the period c. AD 700–1200, predominantly found in the north-east. The sherds from Balriggan 1 were mostly from plain, undecorated pots, like this replica (School of Archaeology University College Dublin).

Souterrain Ware was probably an all-purpose domestic ware. Despite the name, it is not exclusively associated with souterrains, but with settlement sites generally. The sherds from Balriggan 1, for instance, were recovered from 60 different contexts including ditch fills, pits and post-holes, occupation spreads, industrial deposits and a grave fill.

The vessels were generally bucket-shaped pots with flat bases. They were coil-built (i.e. not wheel-thrown), using both fine and coarse fabrics. The pottery is mostly undecorated, though some rim decoration occurs on the Balriggan assemblage in the form of fluting, and there is slight evidence of a plain cordon on one or two vessels. None of the rim sherds has the perforations that often feature on Souterrain Ware. Grass markings and finger impressions associated with the wet phase of pottery manufacture were identified on the body and base sherds. Although many of the pots were soot covered, this only applied to body sherds. As the flat base sherds were clear of soot, the affected vessels must have stood upright in fires that were built around them.

One pit at Balriggan 1 contained 38 sherds and 53 smaller fragments of Souterrain Ware, from a single vessel. Charcoal (mixed ash and oak) from this pit was dated to AD 430–650 (Wk-18561). This is unusually early for Souterrain Ware and it may be that the oak charcoals came from heartwood that was already ancient when the tree was felled or, more likely, the charcoal was a residual inclusion in the pit, from an earlier phase of activity on the site.

Illus. 5.3 Balriggan 1. Aerial view of the main cemetery-settlement enclosure (bottom) and ancillary enclosure (middle), with Fort Hill (top) located on higher ground to the west (Studio Lab).



Illus. 5.4 Balriggan 1. Plan of the main cemetery-settlement enclosure, ancillary enclosure and other features (IAC Ltd).

There was good evidence that the inner ditch had been re-cut and widened. In its first phase, it was a relatively small ditch (2.3 m wide by 0.75 m deep) with a V-shaped profile. The ditch was not continuous. The main segment enclosed a roughly C-shaped area, which was open to the east, with an internal diameter of 48 m north–south. The gap in the east was partly spanned by a narrow, irregular ditch segment, more or less on the projected line of the main ditch. In its second phase the main ditch was widened and deepened (up to 4 m wide by 1.4 m deep). It now had a U-shaped profile. Again, the gap in the east was partly closed by a ditch segment, this time further out than the original one. The enclosed area was now approximately 44 m east–west by 49 m north–south.

The only significant artefact from the primary ditch fills was a spindle whorl. In contrast, the later ditch fills contained numerous sherds of Souterrain Ware, copper-alloy ringed pins, iron slag and iron fragments, flint pieces (worked and unworked), blue glass beads, a lignite bracelet fragment, a spindle whorl, hammer stones, a quern fragment, and a possible stone net weight. These are all typical finds of an early medieval settlement site. Small quantities of animal bones (cattle, pig, sheep/goat) were recovered from the ditch fills in both phases. There was one possible worked piece of red deer antler in the later ditch fills.

There was a span of about 19 m between the inner and outer ditches. The outer ditch was U-shaped in profile (up to 4 m wide and 1.3 m deep). It did not form a complete circuit of the enclosure but was found only on the south-west side. This is probably because the enclosure was flanked by wetlands elsewhere, which provided a natural barrier. The outer ditch fills were natural silts. They contained very few finds. These included a sherd of Souterrain Ware, flint pieces and disarticulated remains of a small animal—possibly a dog. There was some metalworking waste in a small pit, near the entrance.

The entrance faced south-west and was defined by shallow, flanking ditches that led towards the interior via a break or causeway in the outer ditch. There was no corresponding causeway in the re-cut inner ditch, so a bridge would have been required to cross it. Again, the flanking ditches were cut and re-cut in two phases. In the primary phase, one of the flanking ditches was cut or slighted by the outer enclosure ditch and clearly pre-dated it. There were several small pits in and around the entranceway. Four of these were interpreted as post-pits. Two of the post-pits were cut into the outer terminals of flanking ditches (one on the east side in the first phase, and one the west side in the second phase). They may have supported gate posts for wooden gates.

Garden plots and animal pens

There was a concentration of features on either side of the entranceway in the wide space between the inner and outer ditches. A pair of shallow, narrow trenches formed a small D-shaped enclosure on the east side of the entranceway. This might have been an animal pen, with wattlework fencing footed in the trenches. There are no dated samples or diagnostic artefacts from this feature but one of the trenches was truncated by the re-cut inner enclosure ditch, so the ‘animal pen’ must have been relatively early in the site sequence.

There was a miscellany of intercutting features on the opposite, west side of the entranceway. One criss-crossing group of narrow, linear features is interpreted as furrows from a cultivation plot or garden.

They were sealed by a layer of stony metalling, possibly hardstanding for livestock in a later re-use of the area. The furrows were not dated but there were two sherds of Souterrain Ware in the fills and a third sherd in the overlying stony layer.

North-west of the 'garden', a group of narrow, intercutting ditches may have formed the boundaries of another small cultivation plot or livestock paddock. The ditch fills contained a fragment of lignite bracelet and sherds of Souterrain Ware. None of these features extended as far as the outer ditch, which suggests that there was originally a bank here, perhaps 1.5 m wide at the base, along the inner edge of the ditch.

Watermill

A shallow ditch ran north–south across the eastern, 'open' side of the enclosure, where it cut across one terminal of the inner ditch. This was a mill-race, delivering water to a mill that stood on the circuit of the main enclosure inner ditch. The lower fills of the mill-race were natural water-sorted sediments and included one sherd of Souterrain Ware. The upper fills were mixed stony soils with medieval and modern inclusions, evidently a deliberate and relatively recent backfill. The first edition Ordnance Survey map (1836; not illus.) indicates a stream flowing towards the site from the east. This was not extant at the time of excavation, but a defunct culvert under the nearby Armagh Road is a surviving tell-tale of the former stream course. Today there are modern drainage ditches in the environs and the lands are less prone to inundation but, formerly, the enclosures at Balriggan 1 would have been surrounded by permanent wetlands and water would have been readily available to power a simple mill.

The head-race had a fall of about 1-in-20. It terminated at a very large, open-ended pit (11 m long by 2 m wide and 1 m deep), lying north–south across the terminus of the inner enclosure ditch (Illus. 5.5 and 5.6). The inner end of this long pit was lined on three sides with drystone walling—forming the mill undercroft or wheel-pit (1.5 m wide internally by 4 m long and 1 m deep). The base was lined with a floor of roughly hewn planks. (The wood species was not identified.) The drop from the race to the base of the wheel-pit was about 0.5 m. A break in the rear wall indicates where a flume or penstock would have jetted water from the race onto a mill-wheel in the pit. Beyond the undercroft chamber, there was more irregular stone lining set against the sides of the pit, presumably to prevent scouring and collapse where water was discharged into the tail-race. (The tail-race continued outside the lands acquired for the road project and was not investigated beyond this.)

A mill-race leading directly to a little sunken wheel-pit or undercroft is the classic signature in the archaeological record of a horizontal-wheeled mill. There was no gearing in mills of this sort. Instead, a mill-wheel set horizontally in the undercroft communicated directly with a grinding wheel in the mill-house overhead, via a single vertical shaft or axle. The design was imported to Ireland from Mediterranean Europe by AD 600. Dozens of Irish examples have been dated, based on mill timbers retrieved from bogs, but there are only a handful of excavated examples. The floruit for these mills in Ireland was between the seventh and 10th centuries but there are outliers on either end of this date range. The best-preserved example found to date was at Kilbegly, on the route of the M6 between Ballinasloe and Athlone, in south County

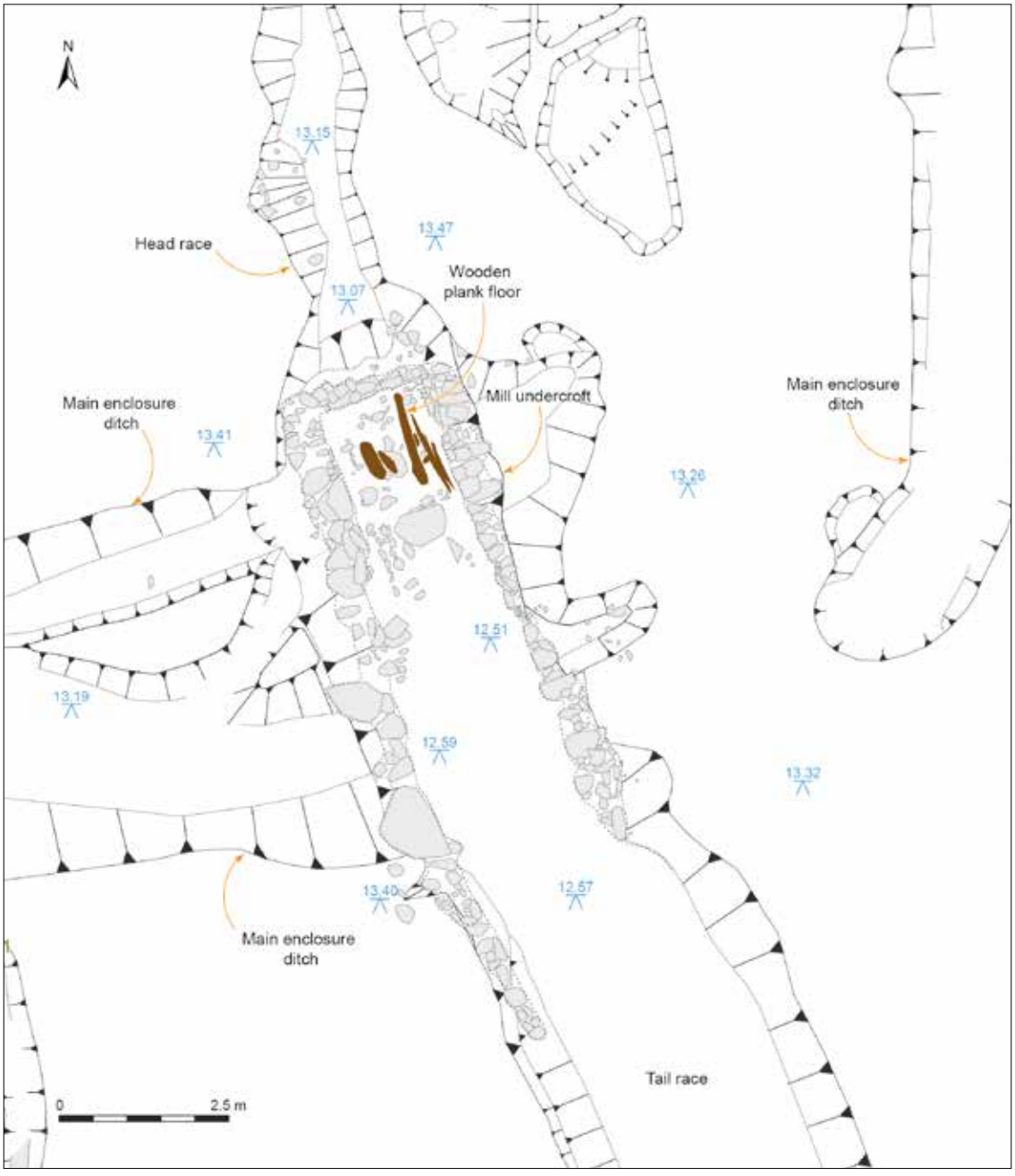
Illus. 5.5 Balriggan 1. The undercroft and mill-race of a horizontal mill were found on the eastern or 'open' side of the main enclosure. View from west (IAC Ltd).

Roscommon. The excavation of that site is described, with a full account of mills and milling in early medieval Ireland, in another road scheme monograph by Jackman et al. (2013). Other examples were recorded on the route of the N25 at Killoteran, County Waterford (Eogan & Twohig 2011, 37–48); on the M4 at Johnstown, County Meath (Carlin et al. 2008, 75–8); and on the N2 at Raystown, County Meath (Seaver 2016). Like Balriggan 1, Johnstown and Raystown were both early medieval cemetery-settlement sites with large earthwork enclosures. Among these, Raystown is unusual, in having had several mills on the same site.

Buildings

There was no clear evidence for a principal domestic building in the main enclosure at Balriggan, but there must have been a house or houses of some sort, as an amount of occupation debris was found in the surrounding ditch (above). There were almost no archaeological features in the central and highest point of the enclosure—the most likely position for a house—but this may be due to truncation by tillage in later periods.

There were two substantial, post-built structures in the southern quadrant of the enclosure (Illus. 5.7 and 5.8). The first was solidly built, with nine post-holes, in three parallel rows, indicating the side walls and central roof supports of a rectangular building (5 m by 4 m), aligned east–west. This building was immediately south of the cemetery (below). The graves lay parallel to it and most of them seemed to respect



Illus. 5.6 Balriggan 1. Plan of the mill undercroft and part of the mill-race (Sara Nylund based on drawings by IAC Ltd).

its location. (One post-pit was cut by a grave.) This begs speculation about its function—perhaps as a chapel or mortuary house associated with the cemetery. In its relationship to the cemetery it resembles a small, post-built structure that stood south of the burials in a cemetery-settlement at Owenbristy, County Galway

Illus. 5.7 Balriggan 1. Aerial view of the main cemetery-settlement with a cluster of graves and post-holes of timber buildings in the southern quadrant of the enclosure (Studio Lab).

(Delaney & Tierney 2011, 80, illus. 5.10). In reviewing the archaeological evidence for early Irish churches built with wood and/or turf Ó Carragáin (2010, 17 and fig. 15) lists several excavated examples or, at least, several possible candidates based on 'simple rectangular arrangements of post-holes'. They include Church Island and Caherlehillan, in County Kerry, and Carnsore, County Wexford (Sheehan 2009; O'Kelly 1958 and 1975).

The other building at Balriggan 1 was not as close to the cemetery and stood a little further west (Illus. 5.8). It was represented by four post-holes forming a square (2.7 m by 2.6 m). In both buildings the post-holes were about 0.4 m wide and up to 0.5 m deep. The fills consisted of silt with few inclusions other than occasional charcoals. Neither building was dated but as post-pits from both buildings are cut by later features (pits, a gully, a grave), and the nine-post structure was mostly respected by the graves nearby, we can at least say that they are early in the overall sequence for the site.

Burial ground

There was a small burial ground in the southern quadrant of the main enclosure. This consisted of approximately 47 west–east graves, concentrated within an area roughly 15 m by 15 m (Illus. 5.7 and 5.8). Most of the graves were cut directly into the subsoil

Illus. 5.8 Balriggan 1. A cemetery of oriented dug graves occupied the south quadrant of the interior of the main enclosure. There were two post-built buildings nearby (Sara Nylund based on drawings by IAC Ltd).

(i.e. they did not cut earlier features) but at least a dozen graves were intercut with earlier burials. This suggests that the older graves had become unrecognisable and, by implication, that the cemetery was in use over several generations.

Many of the graves were lined with field stones to form rough long-cists, or had flat slabs forming 'head boxes' (Illus. 5.9). Orientation was variably east–west or NE–SW. Where the skeletal remains survived *in situ*, it was evident that the bodies had been laid on their backs, in an extended position, with the heads to the west.

The skeletal remains were in poor condition and some skeletons did not survive at all. This hampered standard osteological techniques for gathering demographic and pathological data. Nonetheless, some information could still be gleaned from the surviving bones (Kidner 2011). A minimum of 25 individuals was represented in the surviving bone assemblage (including four articulated burials). There were remains of young children, juveniles and adults of both sexes. No infants or older adults were identified, but this probably relates to the poor survival of bones for those age groups. There were bands of linear enamel hypoplasia on the teeth of one individual, arising from periods of stress up to the age six (e.g. disease, malnutrition). An inflamed periosteum in a young adult female indicates strenuous physical activity. The adult dental pathologies suggest poor oral hygiene associated with a build-up of calculus.

None of the skeletons was radiocarbon dated—because the bones were very degraded and did not contain enough surviving collagen for this. One grave (a young female adult) was an 'outlier', south of the main cluster of burials, where it cut one of the post-holes of the nine-post building.

Illus. 5.9 Balriggan 1. Some of the later graves in the cemetery were lined with rough stone slabs (IAC Ltd).

It was evidently late in the sequence for the cemetery, as the other graves seemed to respect this building.

The graves at Balriggan 1 probably represent an extended family. Although none of the bones could be radiocarbon dated, the *prima facie* evidence suggests that the burials were contemporary with the enclosure. Enclosed burial grounds with accompanying occupation evidence, in non-ecclesiastical contexts, have been dubbed 'cemetery-settlements' (Ó Carragáin 2009, 339) and 'secular-cemeteries' (Stout & Stout 2008, 75). These enclosures were primarily farmsteads, albeit with part of the enclosed space reserved for burials. There are now dozens of excavated examples in the Irish archaeological record. One of these is not far from Balriggan 1, in the townland of Faughart Lower (Buckley & McConway 2010,

49–59), where it was discovered on the route of the A1/N1 Newry to Dundalk road.

Two ironworking areas

Inside the main enclosure

Some industrial work was evidently done in the north-eastern part of the main cemetery-settlement enclosure. This area was overspread by an extensive layer of burnt, ashy sediment that contained Souterrain Ware and metalworking waste (Illus. 5.3). When the ash layer was trowelled away it revealed an irregular scatter of post-holes and stake-holes; six large, trough-like pits—some with corner post-holes indicating a timber lining; and a number of shallow gullies and ditches. Charcoals from the area represented a wide range of trees including alder, ash, birch, blackthorn, hazel, holly, oak and willow (O Carroll 2011). There were burnt bones of horse and cattle. Finds included some iron slag, a hone stone (siltstone), an iron punch, a red glass bead, and a flint core. The iron punch (not illus.) was recovered from the ash layer. It was square in section and had an expanded point, but was missing its head. It may have been used in metalworking (Scully 2011). A charcoal sample (oak, ash) from one of the pits underlying the ash layer was dated to AD 430–650 (Wk-18561). This pit also contained numerous sherds of Souterrain Ware, from a single vessel. No smelting furnaces were found in the immediate vicinity and only small quantities of iron slag were recovered. It is likely that whatever metalworking took place here was on a small scale and may have involved forging (e.g. tool-making and repairs) rather than primary iron production from ore.

North of the main enclosure

A second metalworking area was recorded over 100 m north of the main cemetery-settlement enclosure (not illus.). The evidence included metallurgical waste (113.5 kg) and the remains of a smelting furnace. The waste material included iron ore and slag, in addition to metallurgical ceramics (Photos-Jones 2011). The ceramics included a probable crucible (15–20 cm in diameter) and fragments of a furnace, 1–2 cm thick. The pronounced curve of the larger fragments indicates probable remnants of a furnace shaft. The raw material appears to have been bog ore, and was probably sourced nearby. Most of the waste material recovered from this area derived from the smelting and bloom-smithing process. There is no associated dating evidence (i.e. a radiocarbon date or artefact type) but if this was contemporary with metalworking in the main enclosure (above) then both iron-smithing and forging were carried out at Balriggan 1.

A coal/anthracite-like material was identified in association with the ore and slag. Coal was not normally used by medieval metalworkers because, at a high temperature, it makes the metal brittle and unworkable. Despite this, the majority of slag appeared to contain coal/anthracite rather than charcoal. If the metalworking activity in this area was early medieval in date, we can only guess that the use of anthracite reflects an episode of experimental work on the site.

Western enclosure and other outlying features

A second large enclosure (Illus. 5.2 and 5.3) was situated on the east-facing slope of a knoll, about 50 m west of the main cemetery-settlement enclosure (Enclosures A and B). It was oval in plan and defined by a shallow ditch (c. 1 m wide by 0.6 m deep) surrounding

an area c. 45 m wide by 58 m long. Inside the main ditch there was a second, smaller ditch around part of the circumference, on the east side. There was an entrance on the west side, just below the highest point on the knoll. A sherd of Souterrain Ware was found in a fill of the main ditch. No archaeological features were identified in the interior. It may be that this second enclosure was used as a livestock corral, by the inhabitants of the nearby cemetery-settlement. It would have been intervisible with the cemetery-settlement enclosure, so that cattle corralled in this second enclosure could easily be watched from the main settlement. On the other hand, if the two enclosures were related in this way, it seems odd that the entrance to the western enclosure faced away from the cemetery-settlement enclosure. And we acknowledge that the only evidence of an early medieval date is a single sherd of Souterrain Ware from the ditch fill.

Field ditches

The ditch of the western enclosure was intercut on the south-east side (i.e. nearest the main enclosure) with the terminals of two ditches that seemed to be remnants of a group of small fields or paddocks (Illus. 5.2 and 5.3). A spindle whorl was recovered from an upper fill from one of these ditches.

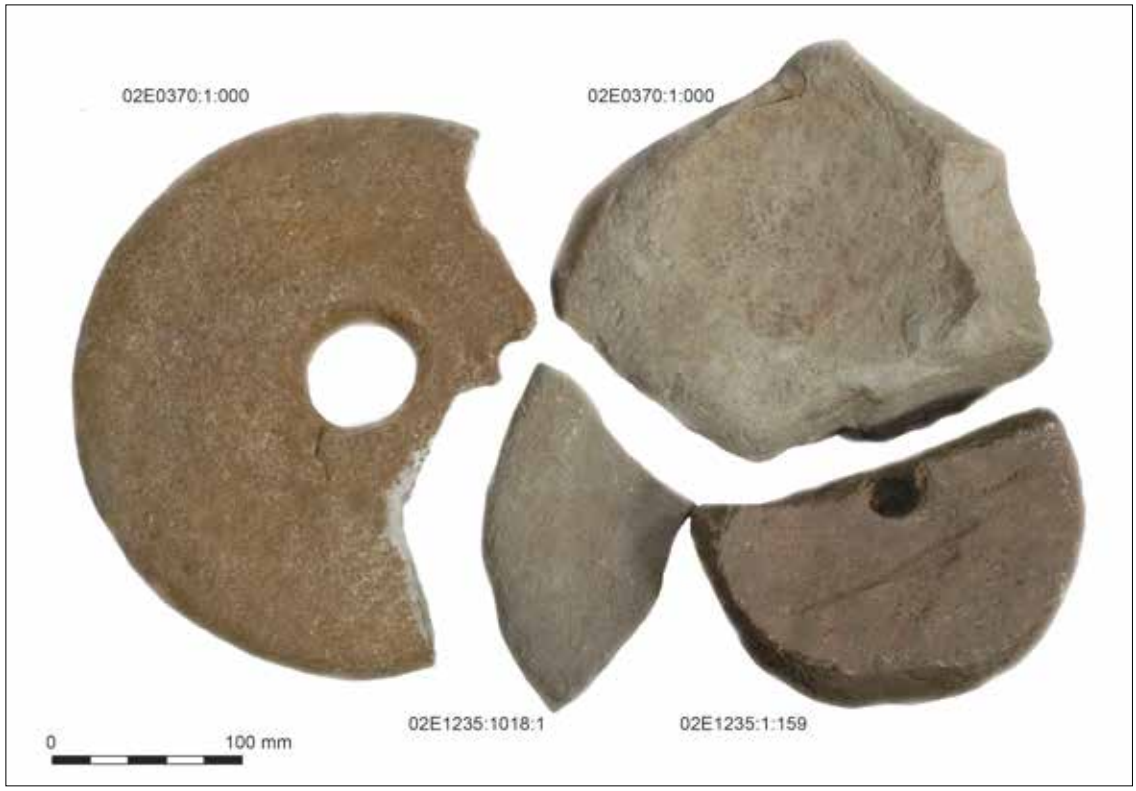
Charcoal kilns

On the high ground to the west of the western enclosure there were two shallow, bowl-shaped pits (c. 0.5 m in diameter). The pits were filled with charcoal and there was evidence of *in situ* burning. These are likely to have been simple clamps or kilns for charcoal making but this cannot be stated with any confidence here as, again, the features were not radiocarbon dated and the charcoal was not identified to species.

Artefacts

A large assemblage of worked and unworked flint was recovered from across the site (not illus.). The unworked pieces (50% of total) may simply have been natural inclusions in the subsoil (glacial till). The remainder comprises flake debitage, a small number of cores and angular shatter, and modified tools (Nelis 2011). A third of the assemblage consists of shattered flake and blade fragments, mainly based on platform technology. A small number of expediently split bipolar beach pebble cores was also identified. There are 19 modified tools, mainly cutting tools, forming c. 10% of the chipped stone artefact assemblage. One of these is an Early Neolithic plano-convex knife. The other cutting tools are of highly variable form, representing expedient use of sharp edges. Two items were tentatively identified as 'strike-a-lights'. There are several scrapers, including a fragment of a Neolithic hollow scraper. Most of the worked stone is undiagnostic in terms of date but the tools made on expediently split beach pebble cores may have been manufactured and used by the early medieval community.

Coarse stone artefacts include hammers, pounders, pot-boilers, quern-stones, hone stones and polishing stones. These were fashioned, variously, from flint, quartzite, siltstone and sandstone (alias greywacke)—all of which would have been found as inclusions in coastal or riverine deposits locally. The quern-stone fragments (Illus. 5.10) were all of sandstone and are typical of such finds on an early medieval site. One large example was recovered from topsoil close to the mill undercroft. It had bifacial



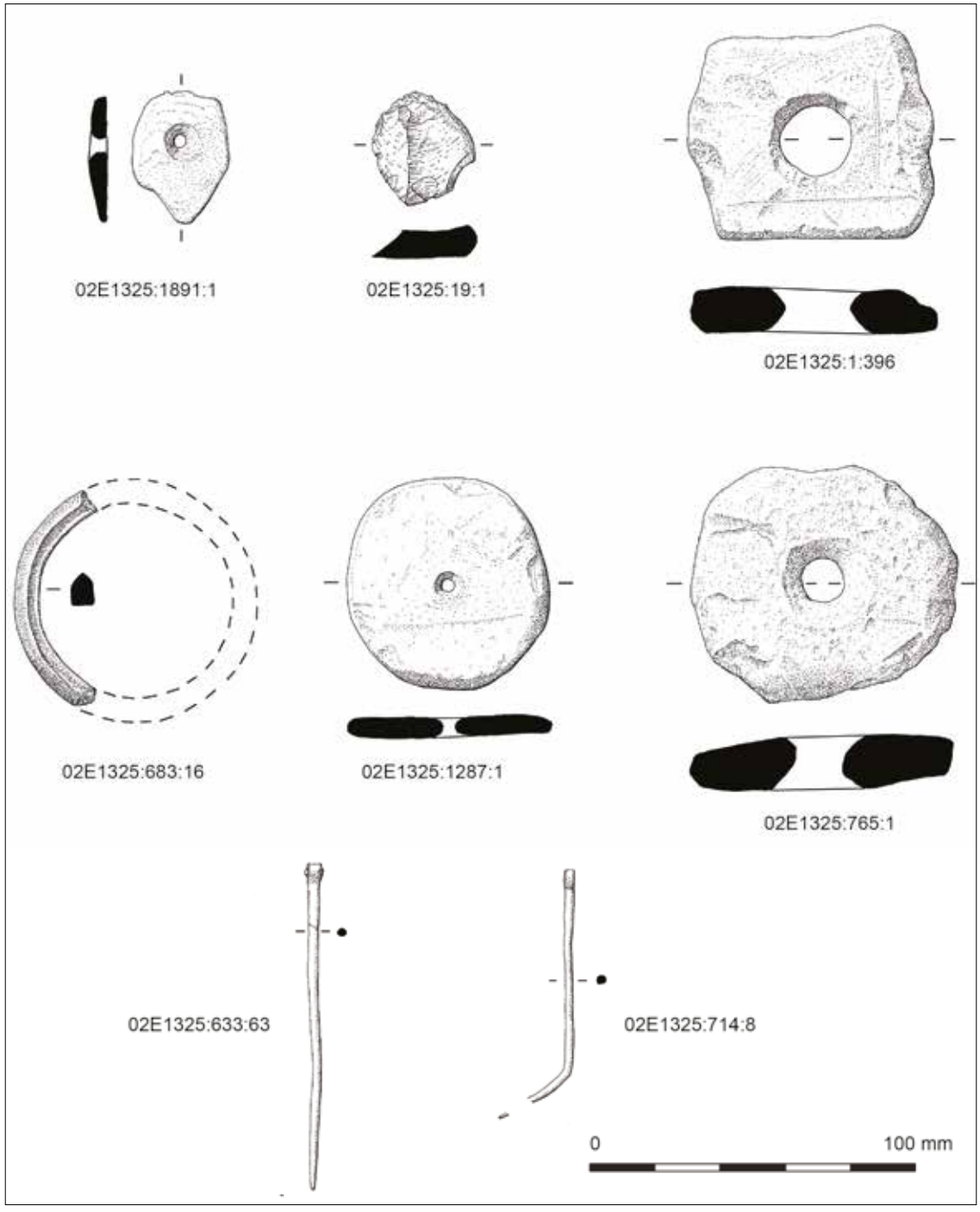
Illus. 5.10 Balriggan 1. Selected quern-stone fragments from test excavations (02E0370) and the full excavation that followed (03E1235) (IAC Ltd).

holes that may have held it in place when in use. Narrow grooves scored across one face suggest that this quern-stone was re-used as a pin- or nail-sharpener.

A minimum of 87 bucket-shaped Souterrain Ware vessels was represented in the ceramic assemblage by 480 sherds and 422 smaller fragments. These were recovered from numerous features across the site (60 separate contexts), and were generally found in poor condition. The assemblage has already been described above (text box) with reference to analysis by Zajac (2011).

Two shafts from bronze ringed pins (Illus. 5.11) were recovered from the main enclosure inner ditch. They are both undecorated. The shafts are circular in section, tapering to a point at one end and, at the other, flattened where the pins would have been formed into a loop. (Both loops are missing.) These shaft fragments are probably from plain-ringed or knob-ringed, loop-headed pins, but because the loops were missing, they can only be assigned a broad date range between the fifth and 10th centuries AD (Scully 2011).

Several beads were recovered (not illus.) There are four blue glass beads: three are globular and one is barrel shaped. One opaque, barrel-shaped, red glass bead was also found. Blue glass beads are commonly found on early medieval sites but red glass beads are rare. In addition to the glass beads, a sub-rectangular flat bead was identified, fashioned from either ivory or bone. The bead was highly polished and its central, circular perforation was wider at the back, suggesting



Illus. 5.11 Balriggan 1. Selected artefacts. Top, from left: shale spindle whorl, bipolar flint scraper, schist loom weight. Middle: lignite bracelet, quartzite spindle whorl, schist loom/fishing weight. Bottom: bronze ringed pins (shafts) (Alva McGowan for IAC Ltd).

it was bored from one face only (pers. comm. Richard O'Brien).

There were fragments of two lignite bracelets, ovoid in section. The outer diameter of the larger one can be estimated at 75 mm (Illus. 5.11). The second, smaller fragment (not illus.) showed evidence for lathe-turning (Nelis 2011).

Objects from Balriggan 1 relating to textile production include spindle whorls and loom weights (Illus. 5.11). Spindle whorls were used in the process of spooling yarn from the raw material. Two of them were large, heavy whorls made on quartzite, which suggests that they were used to spin coarse, yarn-like thread, while a smaller, lighter, shale whorl would have been used to spin fine yarn. Two stone weights (quartzo-feldspathic schist) were recovered, from topsoil and from the fill of the re-cut main enclosure ditch. They may have been loom weights. One of them (from topsoil) has striations on one face, possibly from sharpening pins. But they could have been weights associated with some other activity, such as fishing.

A single punch or awl fragment was found in topsoil. It was made from mudstone and was polished and tapered to a point.

Animal bone

The animal bones recovered from Balriggan 1 were generally fragmented and poorly preserved (Table 5.2). The few complete bones retrieved were mostly teeth and long bones. Analysis of the assemblage (Lofqvist 2011) identified bones from six mammals—cattle, dog, horse, pig, sheep/goat and red deer—also one bird and one fish (a single burnt fragment) (Table 5.3). Three fragments included in the animal bone assemblage presented for analysis were identified as human.

Cattle dominated the assemblage, with a minimum of 17 animals identified, including four adults, six semi-adults and seven juveniles. The relatively high number of juveniles is interesting. These young animals were probably slaughtered for meat and hides. But dairying may have been important too. Calving would have been spread across the year to ensure a continuous supply of milk. This would have resulted in a high percentage of juvenile bones as calves were slaughtered throughout the year. Butchery marks were mostly noted on leg bones (metapodia and tibia fragments, followed by the humerus). These were generally chop marks that would have resulted from a carcass being divided into smaller cuts. There was a relatively high frequency of skull, lower jaw and lower leg bones from the extremities, which suggests butchery on site, with the meat-rich cuts being taken off site for trade or tribute elsewhere.

The pig bones were from older animals—two adults and three semi-adults. This may reflect a bias in survival due to the more robust character of adult bones. Early medieval assemblages often reveal a pattern of younger pigs being fattened and slaughtered in their first or second year, whereas bones of very young animals were not found at the present site.

The sheep/goat bones were from two semi-adults and one adult. Older animals would have been kept for their wool and also for breeding, while younger animals were bred for meat. The spindle whorls and loom weights found on the site (above) attest that woollen yarn and possibly textiles were being made from fleeces.

There were at least five horses (four adults) represented in the assemblage. There was no evidence for butchery on the horse bones. Red deer antler fragments were

Table 5.2—Balriggan 1 animal bones: total number of identified specimens or fragments (NISP), minimum number of elements or anatomical units (MNE) and total weights

Group	NISP	Fragments %	MNE	Weight (g)	Weight %
Fragments identified to animal species	1,218	*31.93*	1,049	6,269	*72.31*
Human bone	3	*0.08*	3	1	*0.01*
Unidentified fragments	2,593	*67.99*	2,593	2,400	*27.68*
Total	3,814	*100*	3,645	8,670	*100*

Table 5.3—Balriggan 1 animal bones: NISP, MNE, minimum number of individuals (MNI) and total weights by species present

Species	NISP	%	MNE	%	MNI	%	Weight (g)	%
Cattle	916	*75.2*	813	*77.5*	17	*43.6*	4,192.5	*66.9*
Dog	106	*8.7*	72	*6.9*	3	*7.7*	422.5	*6.7*
Horse	68	*5.6*	63	*6.0*	5	*12.8*	1,230.0	*19.6*
Pig	64	*5.3*	49	*4.7*	5	*12.8*	160.5	*2.6*
Sheep/goat	58	*4.8*	48	*4.6*	6	*15.4*	171.5	*2.7*
Deer	4	*0.3*	2	*0.2*	1	*2.6*	89.0	*1.4*
Bird	1	*0.1*	1	*0.1*	1	*2.6*	2.0	*0.0*
Fish	1	*0.1*	1	*0.1*	1	*2.6*	1.0	*0.0*
Total	1,218	*100*	1,049	*100*	39	*100*	6,269	*100*

recovered from fills of the re-cut main enclosure ditch. One of these appeared to have been cut up prior to disposal and antler working may have taken place on site. There were remains of at least three dogs. Their bones were slightly better preserved than the other animal bones. They were medium-sized dogs, about 55 cm high.

Life at Balriggan 1

Balriggan 1 was evidently a permanent settlement within a large earthwork enclosure, with surrounding gardens and small fields, and possibly an adjacent, large enclosure serving as a livestock corral. The site produced a variety of artefacts, including pottery, tools and personal objects. In spite of the scale of the earthworks—and the labour that would have been required to dig and maintain them—the artefacts and animal bones attest prosperity and self-reliance rather than wealth and high status. The occupants were farmers with a mixed regime that included livestock husbandry and tillage. They owned a grain mill and processed their food on site. (The only cereal grains examined from the site were from the Iron Age kiln described in Chapter 4.) They made their own textiles and produced iron from local bog ores for their tools and implements. At the end of their lives, the men, women and children of this settlement were buried where they had lived and worked—in a family burial

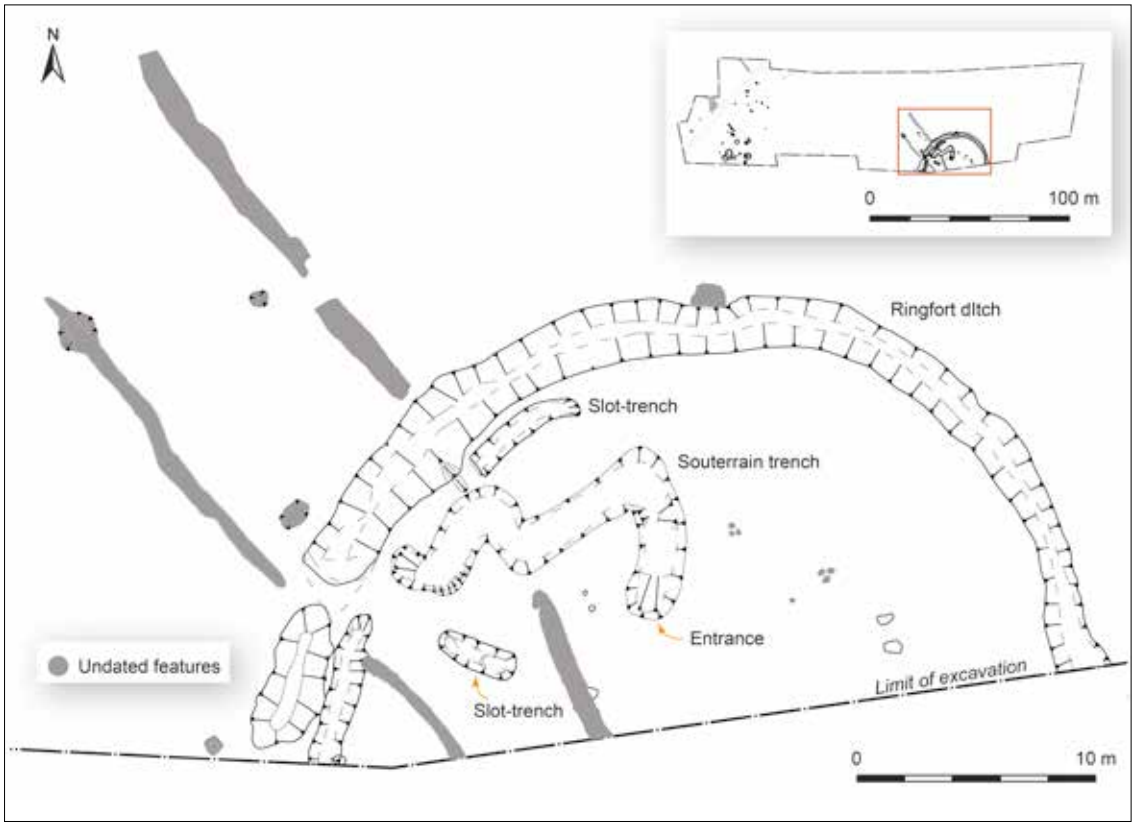
ground within the main farmstead enclosure. The evidence points squarely to occupation in the early medieval period. There is no evidence that the occupation of the site continued until the later medieval period, in spite of the proximity of the Norman-period earthwork fort (Chapter 6) on neighbouring Fort Hill.

A ringfort and souterrain at Carn More 1

Elsewhere on the bypass route, 700 m east of Balriggan 1, another early medieval settlement enclosure was investigated at Carn More 1. This was the site of a ringfort that had previously been identified from map evidence and was recorded in the statutory Record of Monuments and Places as RMP No. LH004:067.[31] Carn More 1 was situated on a hill terrace on a long, gentle, north-facing slope, with good views in all directions. Only c. 50% of the ringfort lay within the lands acquired for the new bypass so that the remaining part of the site was not excavated and remains in farmland adjoining the road. The site is on well-drained arable land and, consequently, the ringfort was heavily truncated over the years by tillage and land improvements (Illus. 5.12). Its earthen banks were long gone by the time of the excavation

Illus. 5.12 Carn More 1. A souterrain and part of a ringfort were excavated within the road corridor. The site was heavily truncated by agriculture. View to south-east (Studio Lab).

31 Excavation No. 03E0867; Director Shane Delaney; ITM 704286 810856; RMP: LH004:067; height 28 m OD; parish of Dundalk; barony of Upper Dundalk; County Louth.

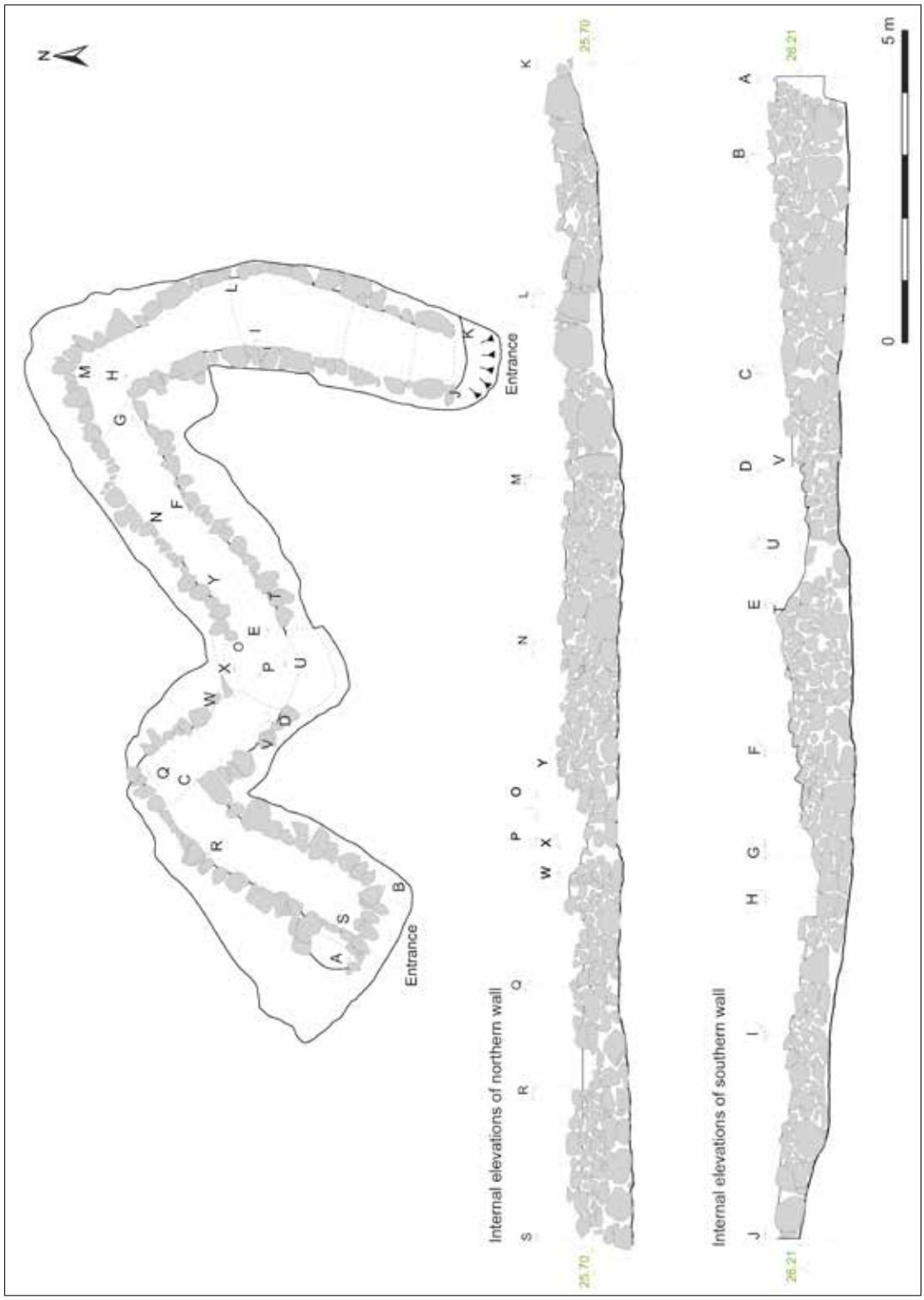


Illus. 5.13 Carn More 1. Plan of the excavated portion of the ringfort, including the souterrain and a number of other earth-cut features (IAC Ltd).

and any features that may have existed in the interior were mostly scarped away too. However, the excavated half of the enclosure did contain a well-preserved souterrain. Souterrain Ware pottery (a minimum of six vessels) recovered from the site confirmed that the enclosure was early medieval in date, and redeposited human bone from the backfilled souterrain suggests there may be a burial ground nearby.

Ringfort

The ringfort was a circular enclosure (Illus. 5.13), defined by a single ditch, with an internal diameter of c. 30 m. The ditch had a splayed, U-shaped profile and was c. 3 m wide by 1.25 m deep (maximum). Its alignment was slightly skewed in the west where the early medieval ditch diggers had encountered bedrock and altered their course to avoid it. The entrance was in the west, where a gap in the circuit of the ditch formed a natural causeway. The ditch fills were natural sediments (silting, collapse), but contained some refuse debris, including sherds of Souterrain Ware from three vessels (Zajac 2009) and a small quantity of animal bone, mostly cattle and sheep/goat (Lofqvist 2007b). The ditch cut through vestiges of some older pits and gullies suggesting an earlier episode of occupation on the site, pre-dating the ringfort.



Illus. 5.14 Carn More 1. Ground plan and elevations of the souterrain (IAC Ltd).

Souterrain

The main feature recorded inside the enclosure was a souterrain. This was of drystone construction using local field rubble, and consisted of a single, continuous passageway, 'W-shaped' in plan, measuring c. 1 m wide, up to 1.3 m high and 19 m long (Illus. 5.14 and 5.15). There was an entrance in the eastern end, where the souterrain floor sloped up gradually towards the ground surface. Adjacent slots, pits and gullies at the surface suggest there may have been a building here, possibly enclosing the souterrain entrance (not illus.). The western end of the souterrain was adjacent to the ditch, immediately north of the enclosure entrance. In this position it would have been sealed by the ringfort bank, assuming one existed, so that an entrance here seems unlikely, unless it was a concealed or secret entrance, incorporated in the bank. The souterrain was roofless as found, and had evidently been deliberately backfilled with soils containing some domestic midden material. Like other souterrains of the period

Illus. 5.15 Carn More 1. Elevated view of the souterrain (Studio Lab).

it was probably a place of refuge in times of conflict or danger but doubled as a store in more ordinary circumstances. A similar souterrain was found at Faughart Lower, less than 2 km to the east, on the A1/N1 Newry to Dundalk road project (Buckley & McConway 2010, 51–2).

Skull fragments from a woman aged 25–35 years were recovered from the souterrain backfill (Kidner 2005). It is impossible to explain an anomalous find like this. Perhaps there is a burial ground within the unexcavated southern half of the enclosure, or nearby; alternatively, the skull might have been a war trophy or even an heirloom with talismanic properties.

There were also animal bones in the souterrain fills. Much of this could not be identified to species but it can at least be said that cattle, sheep/goat, dog, rabbit (probably modern) and fish (possibly pike) were all represented (Lofqvist 2007b).

Six sherds of Souterrain Ware from at least two vessels were recovered from the upper backfills of the souterrain (Zajac 2009), and part of a glass bead. The bead was made from clear glass with opaque yellow stripes and is comparable to examples from the Late Iron Age (Scully 2009).

Other features in the ringfort interior

There were several gullies and post-/stake-holes in the excavated part of the interior of the enclosure but no clear evidence for a building. One curvilinear gully extended c. 5 m along the inside of the ditch, north of the entrance and the souterrain. This feature was filled with natural silts and contained 39 sherds of Souterrain Ware, from one vessel. In this position it would have underlain any earthen bank that may have existed (Illus. 5.13). Possibly it was a foundation trench for a structure built into the bank, or the footing trench for a bank revetment. The post- and stake-holes identified across the ringfort interior did not form any discernible pattern but, bearing in mind the truncation of the site by later agriculture, they must be seen as the vestigial remnants of a once more complete jigsaw set.

A souterrain at Tateetra

Avril Hayes

A large, well-preserved souterrain was discovered at Tateetra,[32] on an elevated site on the south bank of the Castletown River. The site was on the east side of a low, grass-covered hillock but, unlike the example at Carn More 1, the souterrain here was not constructed within an enclosure. It may have formed part of an unenclosed settlement but, even if that were the case, no other evidence of that settlement was found. However, part of the souterrain extends beyond the excavated area, north-west of the new road, so that there may be associated settlement remains outside the boundary of the lands acquired for the road.

The souterrain was roughly W-shaped in plan, consisting of four long galleries or passages, with a small circular chamber at one of the angles (Illus. 5.16 and 5.17). Other features included a drop-hole, a step, a wall-niche, an air vent, a sump/well and other pits, and two doorways, which could be secured. Among the roof stones there were three decorated stones, one featuring

32 Excavation No. E3975; Director Avril Hayes; ITM 702516 809834; height 10 m OD; parish of Castletown; barony of Upper Dundalk; County Louth.

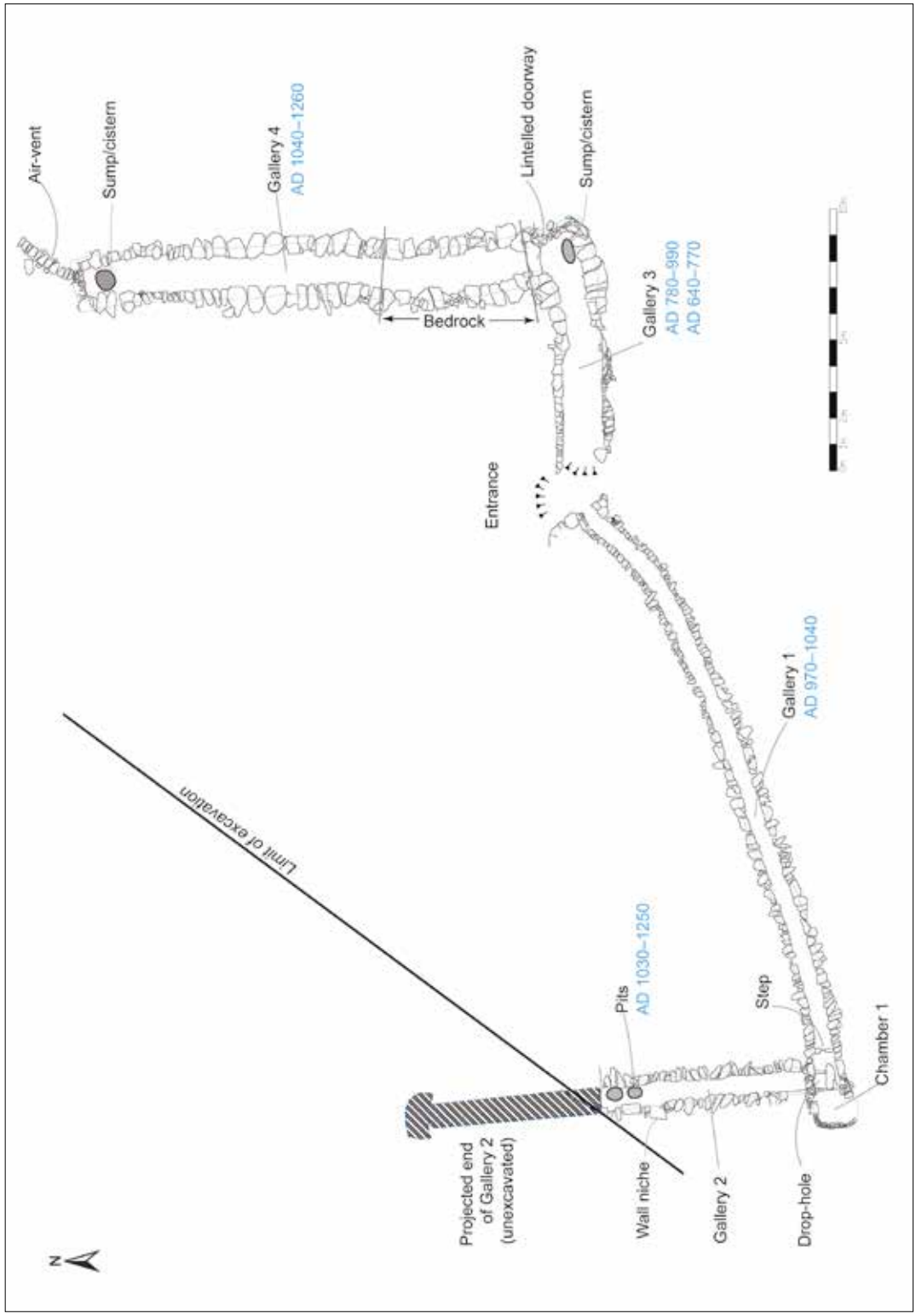
Illus. 5.16 Tateetra. Elevated view of the souterrain with the roof stones removed and set aside, from south-west (Aegis Archaeology Ltd).

megalithic or passage-tomb art and two with inscribed crosses. Artefacts found in the souterrain included a copper-alloy stick-pin, a perforated stone/paste bead and sherds of Souterrain Ware pottery. These finds, supported by radiocarbon dates, indicate that the souterrain was built towards the end of the first millennium AD and continued in use into the early second millennium. Structural details within the souterrain, most notably its restrictive spaces, drop-hole access between chambers and secure doorways, indicate a high level of concern with security and there is no doubt that the souterrain was intended to provide a place of refuge from raiders and enemies. (For a discussion on souterrain design in the region in the context of the 'Viking wars' see Roycroft 2011.)

Souterrain construction

The souterrain was built within a U-shaped construction trench at least 67 m long and over 2 m wide. It had drystone walls, roughly coursed and well faced, raised on a foundation of larger edge-set stones, and battered or corbelled inwards so that the chambers generally narrowed from floor to ceiling. The chambers were generally roofed with large, thick slabs or lintels supported on the side walls, with a layer of smaller rubble packing stones overlying the main roof slabs. Dimensions of individual chambers and their features are given in Table 5.4.

The souterrain was mainly constructed from local stone, mostly shales and sandstone (alias greywacke), but granite was preferred for the door jambs and a few of the



Illus. 5.17 Tateetra. Plan of the souterrain (Aegis Archaeology Ltd).

Table 5.4—Tateetra souterrain: internal dimensions and principal features

Gallery	L (m)	H (m)	W (m) at base	W (m) at top	Principal features
1	25	0.7–1.0	0.8–1.0	0.65	Chamber, drop-hole
2	16	0.8–1.0	1.0	0.70	Sump/well, wall-niche, pit
3	c. 10	1.5	1.5	1.50	Sump/well
4	17	1.5	2.0	1. 25	Sump/well, air vent

roof stones. The granite probably originated in the Cooley Mountains but we cannot say whether it was brought to Tateetra for use in the souterrain, or recycled from some much older monument in the area, or merely occurred locally in the form of glacial erratics. A decorated stone (sandstone) bearing megalithic art was re-used in Gallery 4 and it is conceivable that some of the other, large, undecorated slabs used for capstones and door jambs in the souterrain were also quarried from prehistoric monuments in the district.

Gallery 1 consisted of a long, low, narrow passage. There were remnants of a return wall at the east end, where the souterrain opened to a steeply sloping entrance ramp from the north. A large, granite, pillar stone within this return wall was clearly a door jamb (probably the surviving one of two original jambs). A socket behind the jamb indicates that the door could be bolted from inside the souterrain. There was a small circular chamber at the opposite, west end of Gallery 1. The upper part of this had slight inward corbelling, but it was not a classic beehive chamber—though that form is typical of the region (Clinton 2001, 120)—and it was roofed instead with large flat stones. Charcoal (hazel) from the floor of Gallery 1 returned a radiocarbon date of AD 970–1040 (Beta-217956).

Just before the circular chamber, a step and drop-hole in the floor of Gallery 1 provided access down into Gallery 2, so that the difference in the floor levels here was about 1 m. A similar arrangement was found at a nearby souterrain in Donaghmore (Rynne 1960). Gallery 2 extended north from the drop-hole and terminated after 16 m at a collapsed portion of the souterrain—possibly the remains of another chamber—which was beyond the limit of the excavation site. This gallery had a wall-niche close to two large pits. One of the pits contained fragmented cattle bones and charcoals and is interpreted as a rubbish pit. A charcoal sample (hazel) from this pit was dated to AD 1030–1250 (Beta-217958). The other pit was deeper (0.7 m) and is interpreted as a sump or drain.

Galleries 3 and 4 were larger and less restrictive than Galleries 1 and 2. There were several collapsed roof stones in Gallery 3 and it had become partly infilled. The floor sloped up towards the surface at its western end, indicating an entrance. (This was immediately adjacent to the sloping entrance ramp of Gallery 1.) There was a large pit in the floor at the east end of Gallery 3, interpreted as a sump, with fragments of horse and cattle bones on the floor surface nearby.

At the east end of Gallery 3 there was a doorway giving access to Gallery 4. A large block of shale formed the door head or lintel, with a pair of granite pillar stones forming the door jambs. There was a pair of sockets built into the side walls of the souterrain, at either side of the doorway, on the northside

of the jambs, which indicates that the door could have been secured from inside Gallery 4 with a pair of bracing timbers or bars (Illus. 5.18). Again, there was a large pit in the floor at the north end, interpreted as a sump. Also at this north end of Gallery 4 there was an air vent c. 1.5 m above the floor. This led from an opening within the uppermost course of the end wall, via a drystone channel, c. 0.5 m wide, to extend beyond the chamber over a distance of at least 3.5 m. (The air vent could not be exposed beyond that due to live electricity cables on the site.) Charcoal (hazel) from the floor of Gallery 3 was dated to AD 1040–1260 (Beta-217959) but earlier radiocarbon dates of AD 640–770 (Beta-217960) and AD 780–990 (Beta-217955) were obtained from charcoal (hazel) from soil and rubble infilling Gallery 3. Two cross-inscribed slabs had been re-used as roof stones in Gallery 4, and a decorated megalithic stone formed the final roof stone at the north end of that gallery (below).

Illus. 5.18 Tateetra. A lintelled doorway with granite jambs provided access between Galleries 3 and 4 (Aegis Archaeology Ltd).

Animal bone and shellfish

Both burnt and unburnt animal bones were recovered from the site, representing horse, cattle, pig, and sheep/goat. The pit in the floor of Gallery 2 contained cattle bone fragments, and horse and cattle bones were recovered from the floor surfaces of Galleries 3 and 4. Otherwise, most of the bone came from soil and rubble deposits relating to the collapse and infilling of the souterrain. Analysis of the bones suggests that adult horses and cattle were slaughtered for their meat when their working lives as breeding, milk-producing or draught/riding animals had come to an end (Lynch 2005). A single oyster shell indicates some variety in the diet of the people at Tateetra, and access to marine resources.

Wood

Eight wood species were identified among the charcoals from Tateetra: alder, hazel, spindle tree, ash, ivy, Pomoideae (apple-like hedgerow trees), sloe and willow. The samples were collected from deposits on the floors of the galleries and from pits. The most frequently occurring charcoals were from hazel. Oak was notably absent and may no longer have been growing in the vicinity at this time (Stjuits 2006).

Artefacts

Souterrain Ware

Fragments of Souterrain Ware from a single pot were recovered from the floor of Gallery 1 by the step down to Gallery 2 (Zajac 2006a). The pot was decorated with an incised groove, which ran vertically from the edge of the rim to a cordon of square rosettes around the neck of the vessel (not illus.). The presence

of decoration suggests that the pot dates to the latter part of the early medieval period (Ryan 1973). Very likely it was used to store or transfer foodstuffs or liquid. The exterior surface of the vessel was soot blackened, indicating that it had been placed in a fire at some time.

Personal objects

A copper-alloy stick-pin (not illus.) was located on the floor surface at the east end of Gallery 1, near the entrance. The pin appears to belong to O Rahilly's (1998) 'Class 11, barely differentiated pin', which she dates to between the late 11th and mid 13th centuries AD.

A perforated, white, stone/paste bead (not illus.) was recovered from among the smaller packing stones overlying the roof and walls of Gallery 3. Beads are relatively rare finds from Irish souterrains. The recorded ones include examples in blue glass, amber, polished stone and horse tooth. They generally date to the latter centuries of the first millennium AD (Clinton 2001, 80). Part of a glass bead was also recovered from the nearby souterrain at Carn More 1 (above).

Cross-inscribed stones

Two large, cross-inscribed stones were re-used as roof stones at Tateetra, both in Gallery 4. One is an oblong sandstone slab measuring 1.57 m long by 0.5 m wide and on average 0.4 m thick. It has five, equal-armed crosses on five faces, all towards one end of the stone (Illus. 5.19). These are a large cross on the broadest face and four small crosslets on the remaining faces and the upper surface. There were thin, incised lines extending from the edge of the stone on its broadest face. They correspond to the ogham letters 'T N' and do not seem to have been part of any longer inscription. Ó Carragáin (2011, 72; following a suggestion by Newman 2009, 433) considers the possibility that they are cut marks of the sort made with sword blades to reinforce oaths and treaties. There are two oval hollows on a narrow face, near where the incised lines occur. Oval hollows are known from other cross-slabs, and are believed to have been sockets for the insertion of horizontal wooden arms—combining with the stone to make a cross, but the Tateetra hollows are too shallow for this, and only occur on one side. The stone is slightly weathered, indicating exposure to the elements, so it was probably a pillar stone. The crosses on the Tateetra stone may be an allusion to the little crosses that were inscribed on the four corners of stone and wooden altars of the period.

The second stone is a large, irregular shale slab 2.7 m long by 0.85 m wide and up to 0.17 m thick. It has a single, small, incised Latin cross on the upper end of one broad face (Illus. 5.20). The size of the stone suggests that it was originally erected as a pillar stone rather than, say, laid flat as a grave marker.

The two cross-inscribed stones were probably associated with ecclesiastical sites, perhaps in the adjoining townlands of Killin and Kilcurry. Ó Carragáin suggests that they might not have been brought from the church sites themselves as, in their original positions, they could have been isolated or satellite monuments, as 'minor devotional foci of this sort were common in the medieval landscape' (2007, 71).

Clinton (2001, 74) recorded only four Irish souterrains with cross-inscribed slabs. Warner (1980) suggested that cross-slabs in souterrains were intended to counteract the evil associated with being underground. But only one of the crosses on the stones at

Illus. 5.19 Tateetra. A cross-inscribed pillar stone was re-used as a roof stone in the souterrain (Niall Roycroft).

Illus. 5.20 Tateetra. This possible boundary or wayside marker, inscribed with a Latin cross, was re-used as a roof stone in the souterrain (Niall Roycroft).

Tateetra was visible inside the souterrain, and the stones were not placed near entrances, so this 'safeguarding' aspect may not apply here.

Megalithic art

Another decorated stone was found at the north end of Gallery 4, where it was re-used as a roof stone. This one features megalithic art and would almost certainly have come from a Neolithic passage tomb (for details see Chapter 2.) The stone was originally larger and seems to have been modified for use in the souterrain. It was set on edge within the roof, with the decorated surface facing

north. In this position the decorated face was obscured and the decoration only became visible when the roof was dismantled. Two stones decorated with passage-tomb art were also incorporated in the nearby souterrain at Newtownbalregan 6 (below and Chapter 2), but in those cases the decoration was visible from within the souterrain, in contrast to Tateetra.

Chronology and construction sequence

The earliest radiocarbon dates from the souterrain at Tateetra—with date ranges spanning the seventh to 10th centuries—are from charcoal samples from soil and rubble infilling Gallery 3. Charcoal from the floor of Gallery 1 returned a date range in the 10th to 11th centuries. Charcoal from the floor of Gallery 3, and animal bone from a pit in Gallery 2, returned later date ranges in the 11th to 13th centuries. Artefacts from the souterrain broadly date from the late 10th to the mid 13th centuries. Taken all together, there is reasonably good evidence that the souterrain was in use from the 10th to the 13th centuries, at least intermittently if not continuously. This is consistent with a radiocarbon date of AD 1220–1300 (Beta-217957) for charcoal (hazel) from a pit on the ground surface, north of the souterrain. When the souterrain was built is less clear as the early dates, from deposits infilling Gallery 3, may simply represent residual material from an earlier episode of occupation on the site, which was redeposited in the souterrain as it was backfilled.

We have so far considered the remains at Tateetra as a single souterrain with four galleries and an entrance or entrances at the midpoint, between Galleries 1 and 3. (Unfortunately, the meeting point of the western and eastern galleries was disturbed so that it was not possible to record the entrance in a fully intact state.) But were these in fact two separate and distinct souterrains, with separate but adjacent entrances? Or even a shared entrance? In this scenario the low, narrow Galleries 1 and 2 would form the western souterrain with the more spacious Galleries 3 and 4 forming the eastern souterrain. Despite their differences in size, the style of construction was broadly uniform throughout all four galleries, and seems to have come from a common architectural tradition, if not actually from the same hands. The most satisfactory interpretation would treat Tateetra 1 as a single souterrain that was built in two phases, resulting in some differences in scale and design between the western and eastern halves. (For more detail on this and other aspects of the construction of the souterrain see Collins et al. 2011.)

Happily, in this case, construction of the new road did not result in the destruction of the souterrain at Tateetra. During the investigation only the roof was removed while the walls were left in place. Once the investigation was completed the galleries were backfilled with clean gravel and the roof stones put back in place—apart from nine stones retained by Dundalk Museum, including the decorated ones. The souterrain is now preserved beneath a motorway embankment.

A ringfort and souterrain at Newtownbalregan 6

A previously unrecorded ringfort and souterrain were discovered less than 1 km south of Tateetra at Newtownbalregan 6

Illus. 5.21 Newtownbalregan 6. The ringfort was sited on a level hilltop on well-drained soils (Studio Lab).

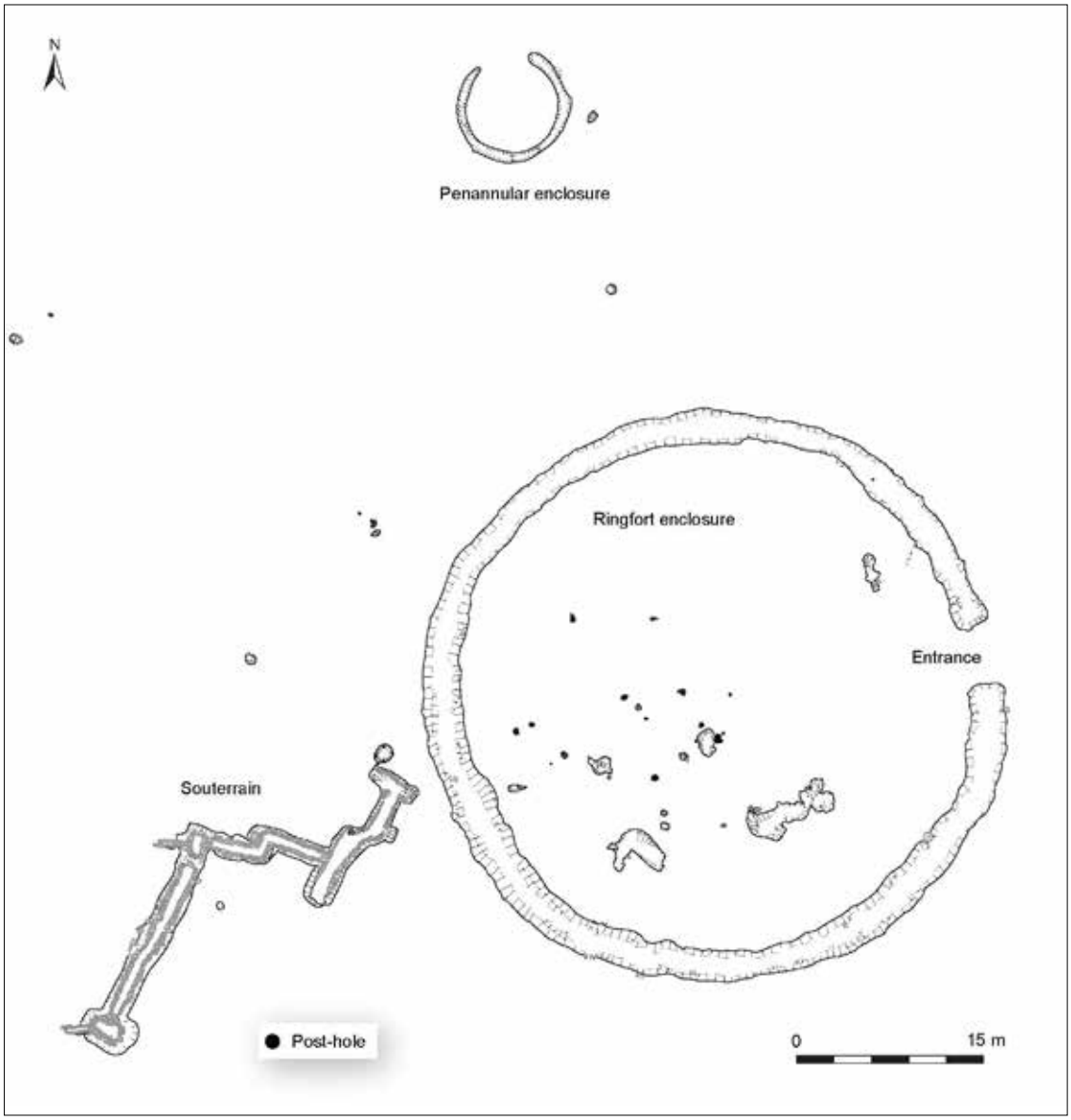
(Illus. 5.21).[33] The earthwork was a single-ditched or 'univallate' enclosure. Though the site was heavily truncated, there were post-pits and stake-holes in the interior, possibly building remnants. Unusually, the souterrain was outside the enclosure. The souterrain was an impressive structure, incorporating re-used stones bearing megalithic art. There were also some impressive finds—including a fine penannular brooch and ornate glass beads.

The ringfort was situated on a level hilltop (c. 30 m OD), with well-drained soils derived from mixed glacial gravels, and commanding views over the surrounding landscape, particularly to the north. The inhabitants of the ringfort could look out across the Castletown/Kilcurry River valley, Dundalk Bay, and north-east to the Cooley Mountains (up to 10 km away). The site was also intervisible with Dún Dealgan, less than 1 km to the east, and was strategically situated beside the main east–west routeway (now the N53 Castleblayney Road).

Ringfort

The ringfort was a circular, ditched enclosure with an internal diameter of 46 m (Illus. 5.22). The ditch was U-shaped and 3 m wide by 1.5 m deep (maximum). No bank survived but, based on the size of the ditch, this would have been up to 3 m wide at the base and up to 2 m high (hence an original internal diameter of c. 40 m). The entrance was in the east, carried on a natural causeway of undug ground between the ditch terminals, 0.5 m wide.

33 Excavation No. 03E0115; Director David Bayley; ITM 702085 808938; height 30 m OD; parish of Castletown; barony of Upper Dundalk; County Louth.



Illus. 5.22 Newtownbalregan 6. Plan of the ringfort and souterrain (IAC Ltd).

There were three main fills in the ditch: natural silting at the base, soil layers with occupation inclusions (charcoal, animal bone, metal artefacts, glass beads, metalworking waste) in the middle, and seemingly deliberate backfills towards the top. The distribution of finds in the ditch suggests that different activities were carried out in different parts of the ringfort. Most of the animal bones were concentrated in the north-western part of the ditch, representing slaughter, butchery and possibly hide preparation in that area. The brooch, glass beads and two stick-pins (below) were all recovered from the southern part of the ditch, reflecting proximity to the main living

area. A burnt fill in the upper fills, possibly a hearth or cooking pit, contained a few sherds of Souterrain Ware. A human skull fragment from an adult at least 35 years old was retrieved from the lowest fill (Lofqvist 2007c). No other human remains were found on the site.

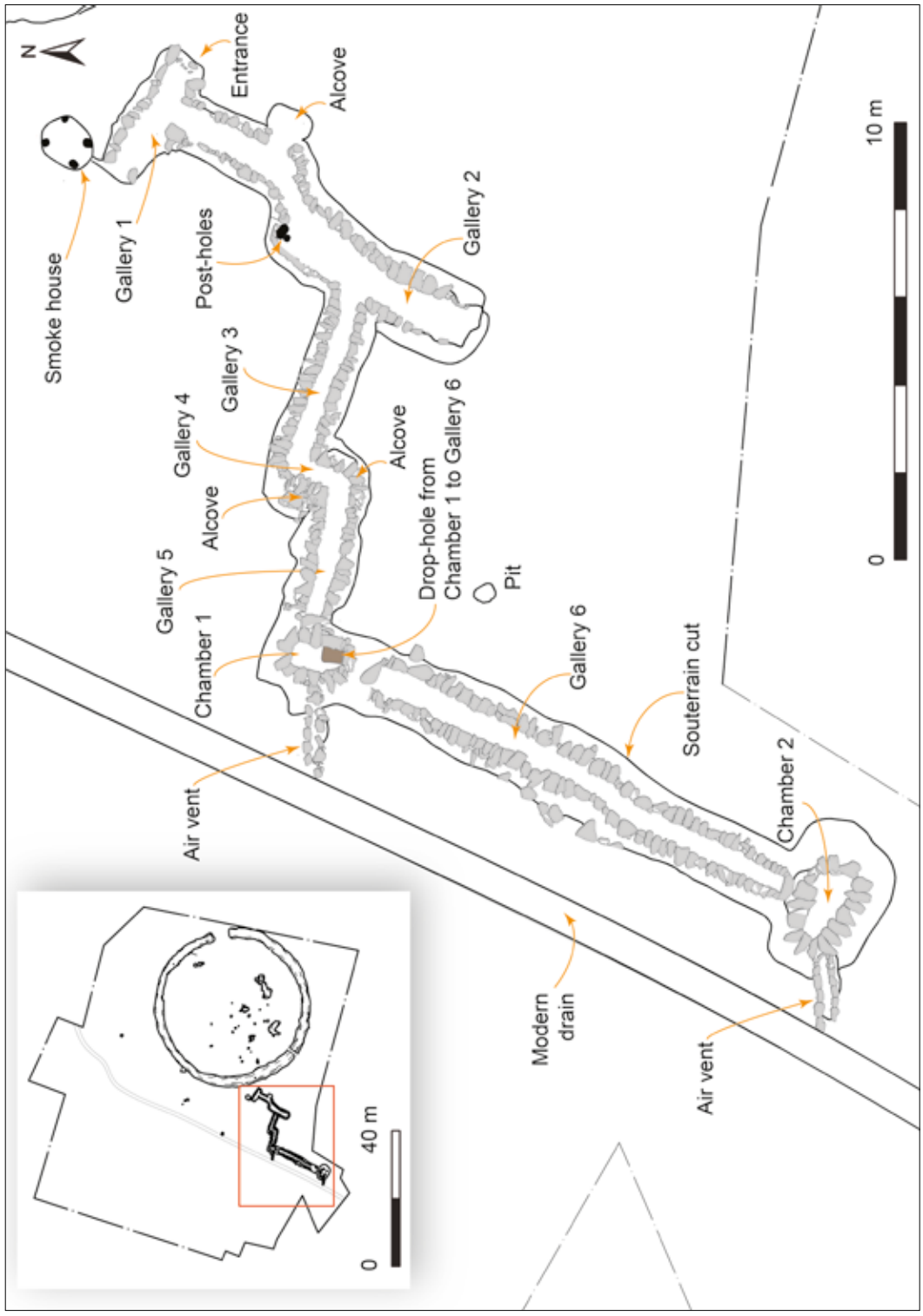
The ringfort interior was heavily truncated and few features survived. Despite this, some pits and post-holes were identified, mostly in the south-western half of the enclosure. Some of the pits included sherds of Souterrain Ware, reflecting domestic life in the ringfort. The presence of post-pits suggests buildings, but no clear building plan could be defined. Such features (pits, post-holes, stake-holes) were largely absent from the north-eastern half of the ringfort. Perhaps this area was used to pen livestock and to process slaughtered animals, as suggested already with reference to the distribution of animal bones in the ditch.

Souterrain

A large, elaborate souterrain was discovered immediately outside the ringfort on the south-west side. Although the ringfort itself enjoyed panoramic views to the north and east, the souterrain was built within a south-

Illus. 5.23 Newtownbalregan 6. The souterrain was well built with roughly coursed rubble and large flat roof slabs (Studio Lab).

Illus. 5.24 Newtownbalregan 6. Elevated view of the souterrain facing east, with the roof stones removed and Chamber 2 in the foreground, at the end of Gallery 6 (Studio Lab).



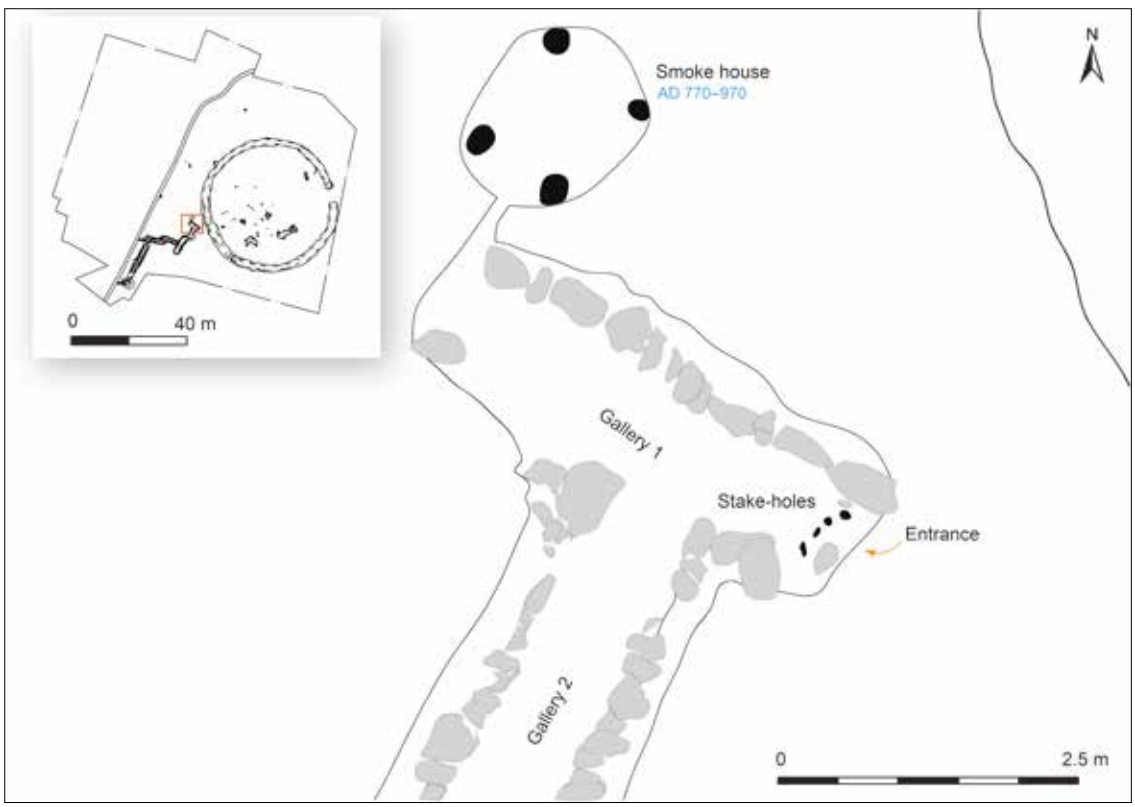
Illus. 5.25 Newtownbalregan 6. Plan of the souterrain (IAC Ltd).

facing slope, on the opposite side from the ringfort entrance, in a site that was probably chosen for its low visibility.

The souterrain was well built, mostly using drystone field rubble and quarried local sandstone, roughly coursed and well faced (Illus. 5.23). As found, the roof was intact over 33 m of its length. It was 46 m long overall, with six galleries (or passages) and two chambers (Illus. 5.24 and 5.25). Architectural details included an internal doorway, air vents, wall alcoves and a drop-hole between a chamber and a passage below. Two of the roof stones featured megalithic art. Like the example at Tateetra, the internal door, drop-hole and low, narrow galleries in this souterrain at Newtownbalregan indicate that security was a foremost concern in its design.

The remains of Gallery 1 became visible as soon as the topsoil was removed and, as first constructed, the gallery, or at least the entrance to it, may have been partly above ground. The surviving walls were built with large, quarried, stone blocks set on their long sides. A row of six stake-holes was set across an opening at the east end, suggesting some sort of wooden frame or grille across an entrance (Illus. 5.26). An entrance grille would have provided ventilation and light while excluding animals.

The floor of Gallery 1 sloped down to its junction with Gallery 2. Gallery 2 was built with quarried stones, roughly coursed over a foundation of larger boulders. It extended south-west from an entrance at a midpoint in a long side wall of Gallery 1. An alcove or



Illus. 5.26 Newtownbalregan 6. Plan of Gallery 1. Stake-holes across the entrance probably supported a door or grille. A pit attached to the gallery allowed its re-use as a malt house or smoke house (IAC Ltd).

recess set into the wall on the east side of Gallery 2 is interpreted as a 'light alcove'. South of the light alcove the passage turned through a narrow, angled doorway, framed by a vertical stone slab on the east side and a post-hole on the west. There were opposing bolt-holes in the walls at either side so that the door could be braced from the inside. An iron object, possibly a bolt (not illus.), was recovered from this area. Beyond the doorway, the gallery widened and the floor dropped steeply, so that the ceiling height increased to c. 2 m. (The dimensions and principal features of all the galleries are given in Table 5.5.) This would have provided more comfort to anyone taking refuge in this part of Gallery 2 and would also have afforded them a fighting advantage: the defenders could have stood upright to wield their weapons, while their pursuers would have had to crouch as they came through the doorway.

Gallery 3 was the first part of the souterrain that was found intact. It extended west from Gallery 2. Access was via a low 'creepway' between the two galleries. Again, the walls were built with quarried stones, roughly coursed on a foundation of boulders. The passage was covered by 12 large, flat, roof stones, covered with a layer of smaller 'packing' stones. There was a recess or alcove at the west end of the gallery. Unlike other alcoves in the souterrain, which were generally shallow (i.e. corresponding to the thickness of the walls), this one was deeper than the wall and was lined with stone at the back.

The third roof stone in Gallery 3 (i.e. third from the east end) was decorated with megalithic art and probably came from a Neolithic passage tomb somewhere in the vicinity. Unlike the example from Tateetra (above), this stone was positioned so that the decoration was clearly visible inside the souterrain (Illus. 2.15; see Chapter 2 for details of the stone). A lamp placed in the alcove at the end of the gallery would have shown the carvings to good effect in a

Table 5.5—Newtownbalregan 6 souterrain: dimensions and principal features

Gallery	L (m)	H (m)	W (m) at base	W (m) at top	Principal features
1	4.40	0.75	0.70	0.7	Doorway or grille
2	11.50	0.85–2.0	max. 1.70	max. 1.00	Light alcove, doorway (1.4 m high by 0.9 m wide), bolt-holes
3	5.70	0.96	0.87	0.60	Wall alcove (0.6 m wide by 0.5 m high and 0.65 m deep), re-used decorated megalith
4	2.50	1.09	0.97	0.63	Wall alcove
5	5.50	1.02	1.14	0.50	None
6	15.40	1.20	1.00	0.70	Access via drop-hole from Chamber 1
Chamber 1	4.00	1.18	max. 2.10	max. 1.50	Flagstone floor, drain, drop-hole, air shaft/vent
Chamber 2	7.00	1.50	3.50	c. 2.00	Air shaft/vent

strong relief pattern of light and shadow. The decorated stone may have had some mythical or symbolic importance for the souterrain builders or, at least, some aesthetic appeal.

Gallery 4 was a short passage linking Galleries 3 and 5. It was covered by three roof stones and there was another alcove at its south end. Gallery 5 led west from Gallery 4. It was constructed in the same way as Galleries 2 and 3 and was covered by 10 roof stones. It terminated at Chamber 1. The last of the roof stones on Gallery 5 was engaged in the wall of the chamber, indicating that they were built at the same time.

Chamber 1 was oval or sub-circular in plan, with a flagstone floor and walls that tapered in to support four roof stones. There was an air vent in the wall-head. This was a drystone, drain-like structure that sloped gently upwards and westwards from the chamber. It was truncated at its outer end by a modern field drain. (The surviving portion was 2.7 m long by 0.5 m wide.) Another decorated megalithic stone was discovered in Chamber 1, but this one was a smaller fragment than the example in Gallery 3 and it was not positioned for display (see Chapter 2 for details). There were possible remnants of a stone-lined drain beneath the flagstone floor, apparently to channel water from Gallery 5 into Gallery 6, allowing Chamber 1 to remain dry. In the south-east corner of the chamber, a drop-hole (0.5 m by 0.3 m wide) led to Gallery 6 (Illus. 5.27). The large lintel that carried the chamber wall over this drop-hole was blackened by soot, perhaps from flaming torches or lamps.

Illus. 5.27 Newtownbalregan 6. A drop-hole in Chamber 1 gave access to Gallery 6 and attests the defensive nature of the souterrain (IAC Ltd).

Gallery 6 followed the natural incline of the hillside, sloping south from Chamber 1. (The total fall in floor level was 0.79 m over its length of 15.4 m.) The walls were built with field rubble rather than the quarried stones seen in other galleries. Also, Gallery 6 was higher and wider than the other galleries (Table 5.5). It was covered by 28 roof stones.

Chamber 2 was at the south end of Gallery 6. The walls were built with field rubble and supported four roof stones. The floor was a bare surface of compacted subsoil. There was an air vent (2.4 m long by 0.75 m wide) in the wall-head, similar to the example in Chamber 1 and, again, extending westwards from the souterrain (Illus. 5.25). There were two pits, containing only natural silt, in the chamber floor (not illus.). They were too shallow to have been drainage sumps or soakaways and may have been simple storage pits.

Smoke house

At some later stage, part of the souterrain seems to have been adapted as a smoke house or perhaps a malting house. A large pit (1.2 m long and 0.6 m deep) was dug immediately north of Gallery 1 and linked

to it by a narrow trench (Illus. 5.26). Both the pit and the adjoining souterrain gallery contained deposits of burnt sediment, with charcoal, charred grass seeds, burnt bone and fragments of fired clay. There were four post-holes arranged around the base of the pit and remnants of burnt timbers in the base. On this evidence it seems possible that the pit was lined and perhaps roofed with wattle and daub. A charcoal sample (alder) from the pit was dated to AD 770–970 (Wk-18556). Although this arrangement did not directly obstruct access to the souterrain, it is hard to imagine how Gallery 1 could have served both as the main point of entry and as the fire pit for a smoke house.

Later features

Apart from the adaptation of part of the souterrain as a smoke house, a miscellany of other features represents a late phase in the occupation of the ringfort. Two hearths/cooking pits were cut through the upper fills of the ringfort ditch. They contained sherds of Souterrain Ware and an iron ring-pin of eighth- to 10th-century type (below). Evidently the ditch was backfilled by this time and no longer provided an effective defensive barrier. There were other earth-cut features outside the ringfort, including features with burnt fills and scorched sides (possible cooking hearths and/or starter pits for charcoal clamps) (not illus.), but these are undated.

The charcoal layer in Gallery 1 of the souterrain (above) was overlain by later layers of deliberate backfill that contained sherds of Souterrain Ware and medieval pottery (indeterminate type). We may speculate that the final abandonment and backfilling of the souterrain coincided with the arrival of the Anglo-Normans in the area. Newtownbalregan is only 1 km from Dún Dealgan/Castletown, where Bertram de Verdon built a motte-and-bailey c. 1185 (Chapter 6).

Penannular ditch

There was a small, penannular ditched enclosure about 25 m north-west of the ringfort (Illus. 5.22). The ditch was steep-sided with an irregular base (1.1 m wide by 0.4 m deep). The enclosure had an internal diameter of c. 7 m and a wide opening on the north-west side. The ditch fills were, variously, stony sands and silts, a burnt spread, and stony rubble in the base. A sherd of post-medieval pottery was found in the ditch.

The feature was not scientifically dated and there is not enough supporting evidence to favour any particular interpretation. The excavation team believed it was the foundation trench for a post-medieval or modern stock enclosure and its proximity to the early medieval ringfort and souterrain may be coincidence.

Animal bone

The animal bones recovered mostly came from the ringfort ditch, especially on the north-eastern side. The assemblage consisted of 439 fragments with a total weight of 3687 g, of which 320 fragments (72.9%) could be identified to species (Tables 5.6 and 5.7). In general, the bones were in a poor and fragmented condition. A single human bone (a skull fragment) was included in the assemblage as presented for analysis.

Seven animal species were identified (Lofqvist 2007c): cattle, pig, sheep/goat, dog, horse, deer and cat. Domesticated meat-producing animals—cattle (74%), pig and

Table 5.6—Newtownbalregan 6 human and animal bones: total number of identified specimens or fragments (NISP), minimum number of elements or anatomical units (MNE) and total weights

Group	NISP	Fragments %	MNE	Weight (g)	Weight %
Fragments identified to animal species	319	*72.7*	229	3,454.5	*93.7*
Human bone	1	*0.2*	1	—	—
Unidentified fragments	119	*27.1*	119	232.5	*6.3*
Total	439	*100*	349	3,687.0	*100*

Table 5.7—Newtownbalregan 6 human and animal bones: NISP, MNE, minimum number of individuals (MNI) and total weights by species present

Species	NISP	%	MNE	%	MNI	%	Weight (g)	%
Cattle	238	*74.4*	160	*69.9*	6	*31.6*	3,003.5	*86.9*
Pig	48	*15.0*	41	*17.9*	5	*26.3*	164.0	*4.7*
Sheep/goat	22	*6.9*	19	*8.3*	2	*10.5*	76.5	*2.2*
Dog	5	*1.6*	3	*1.3*	2	*10.5*	16.5	*0.5*
Horse	4	*1.3*	3	*1.3*	1	*5.3*	104.0	*3.0*
Deer	1	*0.3*	1	*0.4*	1	*5.3*	74.0	*2.1*
Cat	1	*0.3*	1	*0.4*	1	*5.3*	1.0	*<0.01*
Human	1	*0.3*	1	*0.4*	1	*5.3*	15.0	*0.4*
Total	320	*100*	229	*100*	19	*100*	3,454.5	*100*

sheep/goat—dominated the assemblage, and wild animals were represented only by a single fragment of deer antler. Approximately 10% of the cattle and pig bones had cut marks, where they had been butchered for their meat. Only one of the sheep/goat bones showed signs of butchery, but those animals would also have been kept for their wool and milk.

Artefacts

In total 33 sherds (excluding small fragments) of poorly preserved pottery were recovered from 17 separate contexts, representing at least eight Souterrain Ware vessels, four post-medieval wares and four unclassified pots of probable later medieval date (one resembles Leinster Cooking Ware) (Zajac 2006b). The Souterrain Ware came from a variety of contexts across the site, including the ringfort ditch fills, a hearth or burnt fill in an upper ditch fill, pits and post-holes in the interior, backfills of the souterrain (Galleries 1 and 2) and the putative 'smoke house' in one of the souterrain chambers. The probable medieval pottery also came from the ditch fills and souterrain fills.

Almost 600 pieces of flint were recovered from the site, but most of this is unworked (90%) and the remainder is predominantly residual, undiagnostic, prehistoric flake debitage (Nelis 2010b). One possible gun flint was found, which may be an example of an early wedge type or 'gunspall' of 16th- or 17th-century date (not illus.).

A penannular brooch was recovered from

Penannular brooches

Penannular brooches are a Romano-British type that was being produced in Britain in the fourth century AD before the design spread to Ireland. They were high-status items of personal adornment. The brooch had a separate pin that swivelled on a hoop. The pin was passed through the cloth, then through the gap between the terminals of the hoop, which was moved round behind the pin to keep it in place (Edwards 1996, 133).

The Newtownbalregan brooch (Illus. 5.28; 03E0115:37:3) has wide, flattened, angular terminals. The outer diameter of the brooch is 42.8 mm, and the pin is 56.3 mm long. The terminals are decorated in relief with stylised animal heads and curvilinear designs, reminiscent of La Tène motifs but more typical of the sixth or seventh century. Brooches with zoomorphic terminals became popular in Ireland during the sixth and seventh centuries (Youngs 1989, 21).

Fowler (1960, 149–77) developed a classification of penannular brooches based on the morphology of the brooch terminals. The Newtownbalregan example is a combination of Type H, with its large, expanded, flat terminals and Type F, which has zoomorphic terminals. It is very similar to other such brooches dated to the sixth or seventh centuries. Two comparable brooches were recovered from the River Bann, one at Creagh and one near Coleraine (Youngs 1989, 196, Nos 190a and b), both dated to the sixth century.

Illus. 5.28 Newtownbalregan 6. Penannular brooch (03E0115:37:3) after conservation (drawing by Alva McGowan; photo by Niall Roycroft).

a fill containing occupation material in the southern part of the ringfort ditch. The decoration on the brooch suggests it was made in the sixth or seventh century AD (Illus. 5.28; and see text box).

A short, copper-alloy stick-pin (not illus.) was recovered from the same context as the brooch. It consists of a circular, tapering shank and a crescent-shaped head set perpendicular to the shank (Scully 2008). These pins are sometimes referred to as a 'finger' pins, due to the presence of three 'knuckles' on the pin head. The Newtownbalregan example is possibly a variation of O Rahilly's (1998, 26) 'Class 5 crutch-headed stick-pins', which she dates from the early 11th century to the mid 12th century. The diameter of the pin head is 5.7 mm and it is 50.5 mm long.

Another dress pin, a ring-pin (not illus.), was found in a burnt deposit (possibly a hearth) in upper fills of the backfilled ringfort ditch, in the south-west quadrant. This pin was made from iron and is badly corroded. It is a plain-ringed, loop-headed pin, comprising a long pin, circular in section, and tapering to a point, with the other end being flattened and formed into a loop. It measures 102.5 mm in length, while the ring at the top of the pin has a diameter of 13 mm. Pins of this type have been found at ringforts and crannógs dating as early as the fifth or sixth centuries AD, but only gained popularity in the eighth century (Fanning 1994, 16). They

Illus. 5.29 Newtownbalregan 6. Translucent glass bead from the ringfort ditch decorated with a 'Meare spiral' (03E0115:37:5) (Niall Roycroft).

were adopted by Viking settlers in Dublin in the middle of the ninth century and the form spread to Viking territories outside of Ireland (ibid., 17). Similar examples to that from Newtownbalregan have been found elsewhere in County Louth, dating from the sixth to the 11th centuries (Kelly 1986, 196–8).

The three glass beads from the ditch are of good quality. One is blue with white ornamentation; another is red, opaque and plain; the third is decorated with a 'Meare spiral'—a triple spiral in opaque yellow, drawn in molten glass over a clear glass bead (Scully 2008; Roycroft 2010, 22) (Illus. 5.29). Beads of this type were initially produced in England c. 250 BC–AD 50, around Meare in Somerset, but the tradition is now accepted as extending to the sixth or seventh century AD. While a few of these beads have been found in Ireland, the Newtownbalregan example is the first from County Louth.

Burnt mound at Littlemill 2

At Littlemill 2[34] a shallow, sub-circular mound of heat-shattered stone (12 m by 7 m), with charcoal inclusions, covered a round pit (1.35 m wide and 0.16 m deep) (not illus.). Together, the features had the appearance of a classic Bronze Age burnt mound or *fulacht fiadh,* but charcoal (hazel) from the pit was radiocarbon dated to AD 890–1250 (Wk-18553). Assuming that this date is not from residual material or a contaminated sample, it attests the use of a burnt mound in the early medieval period. This is uncommon in the archaeological record but not exceptional. For instance, excavations in advance of the A1/N1 Newry to Dundalk road recorded a burnt mound at Proleek 1, County Louth, with dates of AD 994–1049 (UBA-16139) and AD 1022–1058 (UBA-16140) (Powell 2008).

Temporary occupation at Donaghmore 5

An isolated pit and a hearth were recorded at Donaghmore 5 (not illus.).[35] A corroded bronze item, possibly part of an early medieval penannular brooch, was found in topsoil near the hearth, alongside a blue glass bead. The globular-shaped bead is of a type common in the Iron Age and the early medieval period (Guido 1978, 70). The site was in the vicinity of three previously known souterrains, with the nearest (RMP LH007-033) only 100 m away. Possibly the site at Donaghmore 5 was a temporary campsite associated with more permanent occupation around a nearby souterrain.

34 Excavation No. 02E1753; Director Brian Ó Donnchadha; ITM 702655 805335; height 28 m OD; parish of Ballybarrack; barony of Upper Dundalk; County Louth.

35 Excavation No. 02E1333; Director Brian Ó Donnchadha; ITM 701894 807390; height c. 30 m OD; parish of Dunbin; barony of Upper Dundalk; County Louth.

CHAPTER 6

An Anglo-Norman earthwork castle on Fort Hill

by David Bayley

An Anglo-Norman earthwork castle on Fort Hill

Settlement on the lands around Dundalk Bay intensified in the decades following the arrival of the Anglo-Normans in the late 12th century. The conquest saw the introduction of masonry castles and other fortifications, and the creation of market towns and rural manors. The modern town of Dundalk can trace its origins to this period (O'Sullivan 2006, 1–2; Gosling 1993, 253–66). On the bypass route, the remains of a medieval hilltop fort were discovered by archaeological investigations at Fort Hill, in the townland

Illus. 6.1 The Anglo-Norman de Verdons consolidated their hold on lands they were granted around Dundalk Bay with earthwork and masonry castles, like this fine example at Castle Roche, west of Dundalk town (Noel Meehan, Copter View Ireland).

Illus. 6.2 An Anglo-Norman motte-and-bailey castle at Castletown occupies the site of an important early medieval assembly place called Dún Dealgan (alias Dún Delca), which ultimately gave its name to the town of Dundalk. The tower is an early modern folly (Niall Roycroft).

of Balriggan.[36] A solitary burial was also recorded on the hill, in the abandoned Norman fort—possibly a victim of the wars, famines and plagues that were visited on the region throughout the later medieval/post-medieval periods.

Origins of medieval Dundalk

On the eve of the conquest, what is now County Louth was part of the Lordship of Orgial (afterwards Oriel or Uriel) of the O'Carolls (Ó Cerbhaill)—a territory that extended over Armagh, Louth, Monaghan and part of Meath. Orgial was conquered in AD 1183 by John de Courcy and was settled by his followers. Bertram de Verdon was granted lands around Dundalk and they were confirmed to him when Murchadh Ó Cerbhaill, Lord of Louth, died in AD 1189. The 'English' or settled part of Oriel was afterwards shired by King John and became County Louth—one of 12 counties that he created in AD 1210.

The de Verdons ultimately built outlying stone castles at Carlingford and Castle Roche (Illus. 6.1) but in the first wave of colonisation they built earthwork castles, like the motte-and-bailey fort at Castletown, c. 2 km west of Dundalk (Illus. 6.2; for location see Illus. 5.1). This Norman fort was built by remodelling the earthworks of Dún Dealgan, which had been one of the chief Gaelic

36 Excavation No. 02E1326; Director David Bayley; ITM 703352 810591; height c. 36 m OD; parish of Faughart; barony of Upper Dundalk; County Louth.

assembly places in Ulster. Thus its siting, on a hilltop above Dundalk Bay, was symbolic as well as strategic. Possibly John de Courcy built the fort, but it is more likely to have been the first headquarters of Bertram de Verdon. A settlement soon grew up around it—the eponymous 'Castletown'. Soon after, however, the de Verdons established a new port town at Dundalk, which developed as the major urban centre of the region due to its more advantageous setting. The new town had natural defences. It was ideally placed for commerce, at the mouth of a navigable river. And it was strategically located on the major north–south routeway linking Dublin with Ulster. From this location the merchant burgesses of Dundalk could facilitate, control and levy the trade of its rural hinterland with England and the European mainland. As Dundalk developed into the economic heart of the Norman Lordship, Castletown fell into decline. The foundation date of Dundalk is unclear, but by the late 13th century surviving property deeds make the distinction between the 12th-century settlement at Castletown and the 'new town' of Dundalk (*nove ville de Dundalc*) (Gosling 1993, 264).

Fort Hill

Fort Hill is c. 3 km NNW of Dundalk town and is a prominent feature in the landscape. Archaeological evidence from the investigations on the bypass route attests Neolithic (Chapter 2) and Iron Age (Chapter 4) activity on the hill. Immediately to the west, it overlooks the substantial early medieval settlement recorded at Balriggan 1 (Illus. 6.3; Chapter 5). In Norman times an earth-and-timber fort was erected on

Illus. 6.3 Fort Hill looking north. An earthwork fort built by the de Verdons on the hill summit (left) secured the approach to their new town of Dundalk. The Anglo-Norman earthworks overlooked older, early medieval settlement enclosures at Balriggan 1 on the hill flank (right) (Studio Lab).

the hill as one of a series of fortifications that defended the approaches to the new medieval port town of Dundalk. Strategically sited on the hill summit (c. 36 m OD), the fort enjoyed excellent views in all directions, particularly towards the Norman mottes at Castletown (Dún Dealgan), c. 2.5 km to the south, and Faughart Upper, c. 2.4 km to the north-east, and it overlooked the old 'Gap of the North' road, 650 m to the east, which linked Dublin with Ulster. The builders used the natural slopes and contours of the hilltop. The resulting earthwork bore some resemblance to the motte-and-bailey forts that were part of the first phase of Norman castle building in Ireland, in the late 12th and 13th centuries (O'Conor 1998, 17–20). Pottery from the site mostly dates from the later 13th and early 14th century. The fort may have seen service during the Bruce invasions (1315–18), when much of the region saw intense fighting and depredation. This campaign culminated in the death of Edward Bruce at the Battle of Faughart in October 1318 (Smith 1989, 7–15; Simms 1989, 83–4).

Inner enclosure

The central feature of the fort was an oval enclosure on the hill summit (Illus. 6.4 and Illus. 6.5). The west side was defended by a broad V-shaped ditch (3.4 m wide and up to 1.4 m deep) (Ditch 1 in Illus. 6.5). The east side was protected by a steep, scarped slope. These features defined a secure inner enclosure on the summit, corresponding with the motte mound in a motte-and-bailey fort. Approximately 80% of this inner enclosure lay within the footprint of the road project and was excavated. The total extent of the inner enclosure can be projected as c. 40 m north–south by 23 m east–west, defining an internal area of c. 600 sq m. There was no surviving trace of an earthen bank. Along the eastern break of the slope, above the scarp, a group of post-holes and shallow linear cuts—2.2 m and 3.5 m long respectively—is interpreted as the remains of a footing trench with bracing posts for a palisade. Sherds of late 13th-/early 14th-century pottery, animal bones and horn-working debris (Lofqvist 2010c) were recovered from the V-shaped ditch.

A curvilinear trench in the western part of the inner enclosure is interpreted as the foundation trench for a circular building. Only a segment of this was exposed, at the southern limit of excavation. Its projected circuit is at least 8 m in diameter. There were three post-holes in its base. The building may have been a round-house or a watch-tower. Whatever the building type, the dating evidence is problematical. Charcoal (blackthorn and ash) from the trench fills was radiocarbon dated to AD 250–430 (Wk-18560), in the Late Iron Age. However, the trench fills and post-holes contained animal bones and horn-working debris similar to the assemblage from the enclosure ditch. The presence of fallow deer is especially telling here, as this species was not introduced to Ireland until the 13th century (Kelly 1998, 272). Most likely the building was medieval and the Iron Age date from the trench fills represents disturbed, residual charcoals from an earlier episode of human activity on the hill.

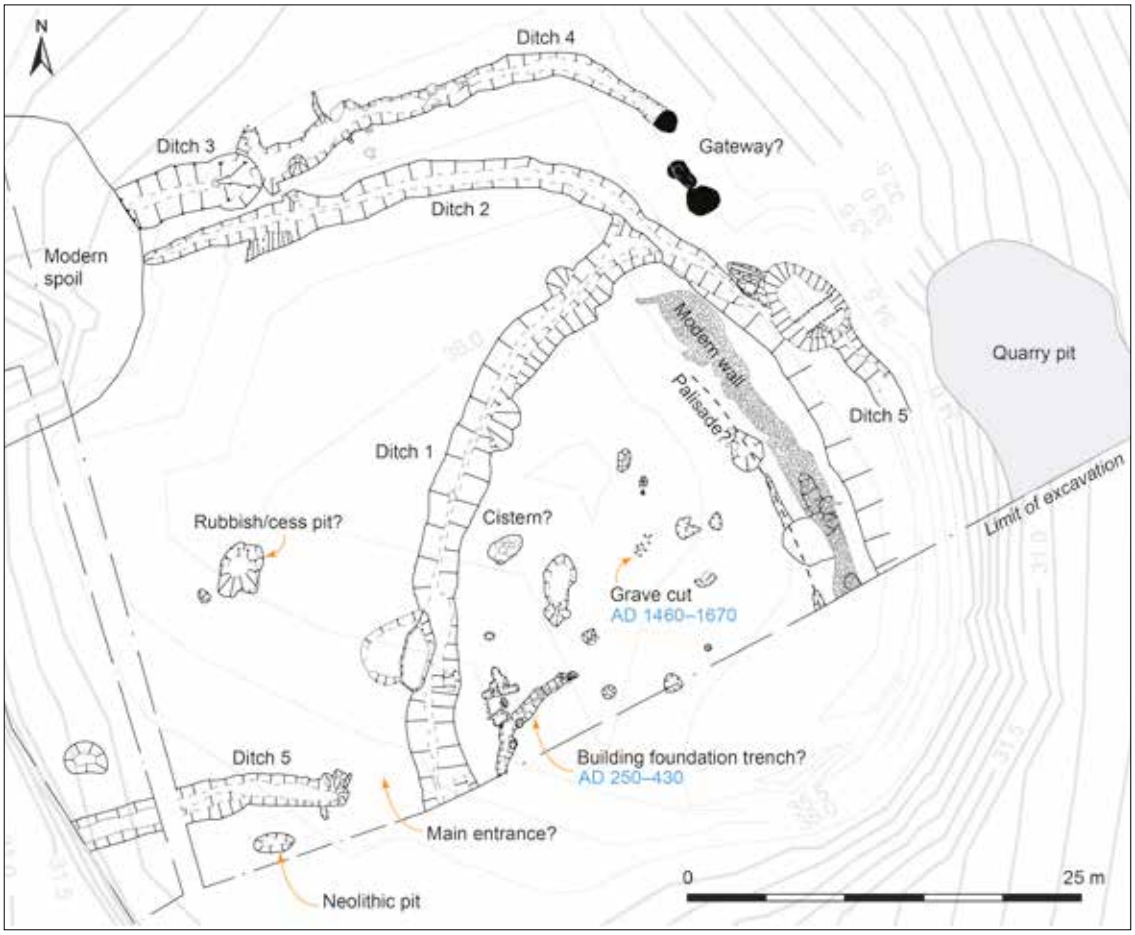
There was a miscellany of other earth-cut features in the inner enclosure. Most of these were heavily truncated and their provenance and purpose are unknown. Three large, irregular hollows (maximum width 0.9 m, 1.3 m and 4.5 m) were located north of the putative circular building. The hollows had mixed fills containing, variously, burnt clay

Illus. 6.4 Fort Hill. Aerial view of the excavated remains of the Anglo-Norman earthwork fort (Studio Lab).

and charcoal, flint pieces, medieval pottery sherds, animal bone and stones or pebbles. They may be vestigial floor remnants of other buildings that once stood in this part of this enclosure. A large pit (2.2 m wide by 1.3 m deep) located on the highest point of the enclosure could have been a water cistern or perhaps just a large rubbish pit. It contained animal bones and flint pebbles.

Outer enclosure

On the north side of the inner enclosure, a further group of ditches formed an outer enclosure or 'bailey', bounded roughly along the 35 m contour of the hill. (The hill summit was not much higher than this, at 36.5 m OD.) It is not clear whether these ditches were parts of a single design or, indeed, whether they were all medieval in date. For instance, the main ditch (Ditch 1 on Illus. 6.5) was broad and shallow (3.5 m wide by 0.6 m deep) but an adjacent ditch segment (Ditch 2) outlying it was more obviously defensive, being narrow and deep (2.3 m wide by 1.8 m deep). These two ditches had animal bones and 13th-/early 14th-century pottery sherds in their fills but two other outlying ditches (Ditch 3, Ditch 4) did not. Taken all together, these ditches formed an outer enclosure on the western slope of the hill, with projected dimensions of roughly 35 m north–south by 40 m east–west internally, amounting to an area of c. 1,400 sq m. The upcast soil from digging the ditches was probably heaped into banks but there were no surviving traces of these. An annexe was formed by the outermost ditch (Ditch 4)



Illus. 6.5 Fort Hill. Plan of the excavated remains of the Anglo-Norman earthwork fort (IAC Ltd).

on the north side. Substantial post-holes at either end of this annexe hint at gated entrances but the main entrance to the bailey is more likely to have been via a gap between the outer ditch (Ditch 5) and inner enclosure on the south side.

The presence of midden material (bone, pottery and charcoal) in the northern ditches suggests that occupation of the outer enclosure was concentrated on that side, but there was no surviving evidence for domestic buildings or industrial activity to corroborate this. In fact, the only significant feature offering a glimpse of everyday life within the outer enclosure was a large, rectangular pit (3.5 m long by 0.5 m deep) with a quantity of animal bones and medieval pottery sherds in its fill—perhaps the truncated base of a rubbish pit or a cess pit. There were several other, smaller pits of unknown provenance. No ironworking features were found on the site but a small quantity of slag was collected.

Artefacts

In total 131 sherds of medieval pottery were recovered from ditches, pits and post-holes throughout the site (McCutcheon 2010). Most of the sherds represented domestic wares made locally between the late 13th and

Illus. 6.6 Fort Hill. Artist's impression of an Anglo-Norman earth-and-timber castle (Niall Roycroft).

early 14th century (Table 6.1). A medieval pottery kiln was recorded at Bridge Street in Dundalk (Campbell 1998) and it is possible that some of the 'Dundalk-type' pots from Fort Hill were produced there or at another kiln within the town. The assemblage includes a single sherd of Saintonge Ware, which is a fine, green-glazed pottery from western France, associated with the wine trade. Most of the medieval pottery was recovered from the fills of the inner enclosure ditch, with smaller quantities from the bailey ditches and from pits in the interior. A total of 146 sherds of post-medieval and modern pottery was recovered from the topsoil (Table 6.2). Much of this later material no doubt derives from manuring with household midden material and does not represent occupation of the site.

Other artefacts from the site were generally found in the topsoil. They are mostly post-medieval or modern in date but there are a few medieval objects too (Scully 2010). The assemblage includes broken clay tobacco pipes, a ceramic marble (a bottle stopper), modern glass and iron objects including 16 nails, two blades and a fragment of sheet metal. The nails included oval flat-headed, semi-circular flat-headed and pyramidal-headed types, in addition to small nails/tacks with both flat rectangular and flat square heads. The nails would have

Table 6.1—Medieval pottery recovered from the earthwork castle on Fort Hill (mainly from ditch fills) (MVR=minimum number of vessels represented)

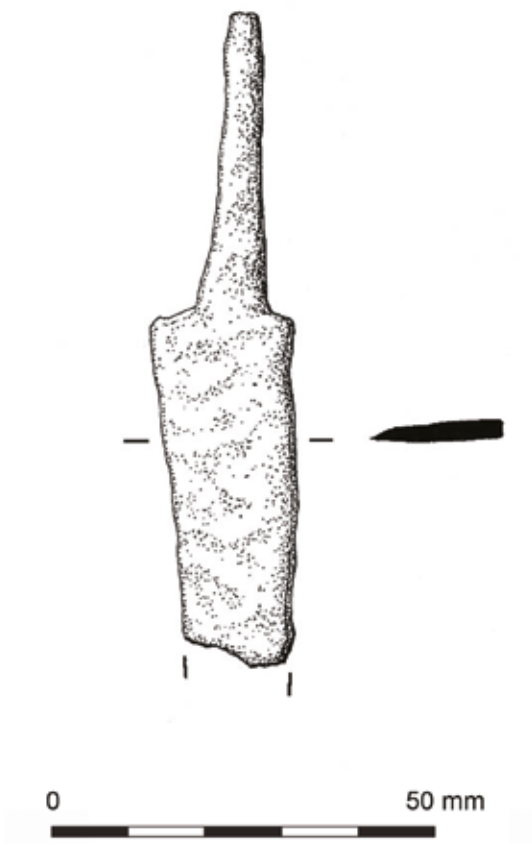
Fabric type	Sherds	MVR	Form	Century
Leinster Cooking Ware	1	1	Cooking pot	Late 12th–mid 14th
Dundalk-type gritty ware	17	3	2 jugs, large pipkin	Late 13th–early 14th
Dundalk-type fineware	105	6	5 jugs, storage jar	Late 13th–early 14th
Dundalk-type unglazed ware	4	1	Cooking pot	13th–early 14th
Saintonge green-glazed ware	1	1	Jug	13th–14th
Unidentified	3	2	Jugs?	13th–14th?
Total	**131**	**14**		

Table 6.2—Post-medieval/early modern pottery recovered from the earthwork castle at Fort Hill (mainly from topsoil) (MVR=minimum number of vessels represented)

Fabric type	Sherds	MVR	Form	Century
North Devon gravel free ware	33	>1	Straight-sided bowl	17th
North Devon sgraffito ware	1	1	Plate	17th
White salt-glazed stoneware	1	1	Plate	18th
Black-glazed ware	23	5	Jars	18th–19th
Glazed red earthenware	31	>1	Straight-sided bowl	18th–19th
Glazed red earthenware, slip coated	2	1	Plate	18th–19th
Unglazed red earthenware	19	>3	Flower pots	19th–20th
Pearlware	12	3	Bowl, cup, plate	19th–20th
Mochaware	1	1	Cup	19th
Transfer printed ware	14	3	Jug, plate, bowl	19th–20th
Stoneware	9	2	Blacking bottle, whiskey jar	19th–20th
Total	**146**	**>22**		

been suitable for general carpentry purposes, and those with pyramidal heads may have been decorative as well as functional. While typologically the nails could be medieval or post-medieval, one fragmentary nail came from a post-hole that appears to have supported a gate-post at the west end of the annexe, so that nail, at least, is probably medieval in date. The two blades correspond to Goodall's (1990, 835–47) Type C whittle-tang knives from Winchester, which he dates between the 10th and 13th centuries. One of the blades was recovered from a post-medieval quarry pit and the other (Illus. 6.7) came from topsoil.

A small flint assemblage from the site is dominated by unworked material (150 of 190 pieces) (Nelis 2010c). Much of the rest is primary knapping debris (29 pieces), including cores, angular shatter and flake debitage. The remaining artefacts (11 pieces) are modified tools including scrapers, blades



Illus. 6.7 Fort Hill. Iron, whittle-tang knife recovered from topsoil (02E1326:1:2) (Alva McGowan).

and edge-retouched pieces. While it is likely that this material is prehistoric, it could also derive from opportunistic knapping in the medieval or post-medieval period. (None of the pieces could be classified as a gunflint or strike-a-light.) The obvious exception is the flint blade found in a pit outside the bailey, in association with Early Neolithic pottery and a polished stone axehead, as already described in Chapter 2.

Charcoal

Nine taxa could be identified among the charcoals from the site (229 charcoal fragments from 10 samples representing eight contexts) (O Carroll 2010b). The samples came from the curvilinear foundation trench, ditch fills, and pits including a post-pit at the entrance to the annexe. In order of prevalence, the charcoals represented hazel, Pomoideae, oak, ash, blackthorn, alder, holly, willow and cherry. These are mainly associated with a dry or well-drained environment and include a mixture of tall woodland trees, light-demanding trees and understorey scrub-like trees. Alder and willow are the only wetland trees represented and the fragment count from these is small. Most of the charcoal probably represents kindling and fuel wood. The fragment counts for oak were high in the post-pit at the annexe gate but, as three other taxa were also present, the charcoals from this fill cannot confidently be identified as a burnt oak post.

Animal bone

The animal bone assemblage from Fort Hill consists of 3,463 fragments (total weight of 12,148 g) (Table 6.3). In general, the bones were in poor condition as found. Many were gnawed, by dogs or rats, and some were burnt. Only 772 fragments (22.3%) could be identified to species (Lofqvist 2010c). The animals identified are cattle, horse, pig, sheep/goat, deer (red and fallow), dog, bird (including possible domestic fowl), fish (unspecified) and also one oyster shell (Table 6.4). Cattle, pig and sheep/goat account for 87.3% of all the bones that could be identified.

Cattle bones amount to 74% of the bones identified to species. The minimum number of individuals (MNI=9) includes four adults, two semi-adults and three yearlings. Pathological changes on one vertebra

Table 6.3—Fort Hill animal bones: total number of identified specimens or fragments (NISP), minimum number of elements or anatomical units (MNE) and total weights

Group	NISP	Fragments %	MNE	Weight (g)	Weight %
Fragments identified to animal species	772	*22.3*	501	9,272.3	*76.3*
Unidentified fragments	2,691	*77.7*	2,691	2,876.0	*23.7*
Total	3,463	*100*	3,192	12,148.3	*100*

Table 6.4—Fort Hill animal bones: NISP, MNE, minimum number of individuals (MNI) and total weights by species present

Species	NISP	%	MNE	%	MNI	%	Weight (g)	%
Cattle	571	*74.0*	389	*77.6*	9	*36.0*	7,088.5	*76.4*
Horse	63	*8.2*	30	*6.0*	3	*12.0*	1,558.0	*16.8*
Pig	54	*7.0*	27	*5.4*	4	*16.0*	185.5	*2.0*
Sheep/goat	49	*6.3*	29	*5.8*	3	*12.0*	176.5	*1.9*
Deer	24	*3.1*	17	*3.4*	2	*8.0*	233.5	*2.5*
Dog	4	*0.5*	4	*0.8*	1	*4.0*	24.5	*0.3*
Bird	2	*0.3*	2	*0.4*	2	*8.0*	3.0	*<0.1*
Fish	1	*0.1*	1	*0.2*	1	*4.0*	0.2	*<0.1*
Shell	4	*0.5*	2	*0.4*	0	*0.0*	2.6	*<0.1*
Total	*772*	*100*	501	*100*	25	*100*	9,272.3	*100*

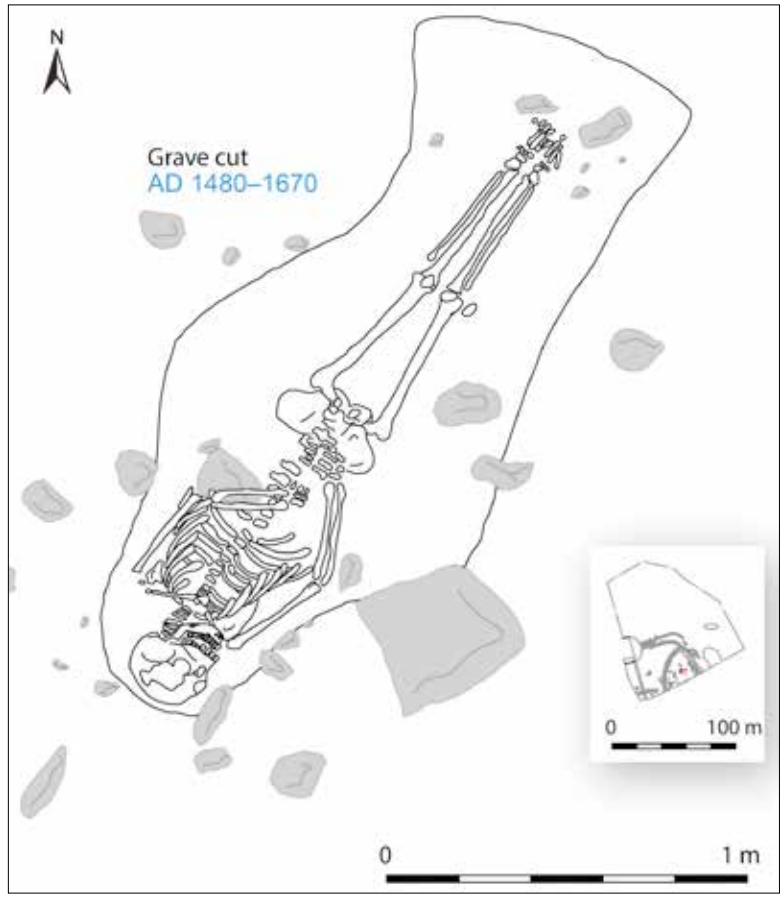
possibly resulted from the animal being used for traction. The pig bones (MNI=4) represent at least one adult, a semi-adult and two juveniles. The sheep/goat bones (MNI=3) represent a semi-adult and two adults. Older sheep were kept for their wool, primarily, as a sheep's wool tends to be of a poorer quality until the animal has passed its second winter.

Among all three of these main domesticates (cattle, sheep/goat and pig) bones representing low-meat parts (skull, mandible, teeth, lower legs and extremities) have a higher or slighter higher prevalence in the assemblage. This suggests that at least some animals were being slaughtered and butchered on site with the meat-rich cuts being consumed elsewhere. An alternative possibility, for the cattle bones, is that their hides were being brought to the site for processing with the skulls and lower extremities still attached.

There are bones of at least two adult horses in the assemblage. One was an older horse, the other a juvenile of c. 18 months. Four of the horse bones have cut or chop marks. Three of these were fragments of longbone ends (diaphyses). From this slender evidence it is not possible to say whether the cut and chop marks represent removal of the hides or bone working to produce, say, tool or knife handles.

Wild animals constitute a very small part of the bone assemblage (3.2% of the bone identified to species). The deer bones represent one semi-adult and two adults. Red deer and fallow deer bones are both

present. No doubt their meat was consumed, though wild animals did not make a significant contribution to the economy of Anglo-Norman Ireland. Again, cut and chop marks on several of the bones could represent bone or antler working, or removal of the hides.



Illus. 6.8 Fort Hill. Skeleton of a girl who was buried in the abandoned fort sometime between the 15th and 17th centuries (IAC Ltd).

Post-medieval burial

In the late medieval or post-medieval period, a female child, nine or 10 years of age, was buried near the hill summit in the inner enclosure of the abandoned fort (Kidner 2010; Illus. 6.8). The grave was aligned SW–NE. The skeleton was more or less complete as found. A bone sample was dated to AD 1480–1670 (Wk-19863). The bones reveal evidence of biological stress, probably relating to nutritional deficiencies in early childhood. No evidence for chronic illness or violence was found. We cannot say why the child did not receive a Christian burial in consecrated ground. War, famine and disease were endemic in Ireland in the 16th and 17th centuries. This solitary burial may reflect a traumatic episode in the locality when normal burial traditions could not be observed.

Afterwards

Although high medieval pottery was found throughout the site, there was no 15th-/16th-century pottery in the assemblage. This suggests that the fort was abandoned by that time. A circular earthwork is indicated on Fort Hill in Taylor & Skinner's *Map of County Louth* (1783) and again on the first edition Ordnance Survey map of 1835, which also labels the site as a 'fort'. The earthworks were finally levelled in 1840 (Stubbs 1908) in the course of landscaping associated with nearby Fort Hill House (a 'parsonage' on the first edition map). The quarry pits we recorded on the eastern face of the hilltop probably date to this period and may have been associated with the construction of the house.

CHAPTER 7

Early modern industry, transport and settlement

by Shane Delaney

Early modern industry, transport and settlement

The modern Irish landscape began to take shape in the 18th century with the development of a long-distance transport network (roads and canals), towns and villages with broad main streets or market squares, big houses and their demesne landscapes, and the continuous web of rectilinear field boundaries that remains the single most characteristic feature of the countryside today. As the Industrial Revolution gathered pace in Ireland from the early 19th century, the ability to generate power from water and steam became increasingly important and, by the end of that century, the country was served by a fully developed railway network. In domestic life there was an increasing concern with sanitation and privacy and this is reflected in the greater sophistication of the three-roomed cottages and, later, the two-storey farmhouses that gradually replaced the one-roomed *bothán* as the typical dwelling house of ordinary country people. But change is the only constant in our affairs. All around us, the early modern landscape is giving way to the 21st century, as farmhouses and cottages, mills and railways become relics of a recent past that is already historical. The physical remains of the early modern period can warrant the same kind of archaeological attention in the field as more ancient sites and monuments and in the course of our work for the Dundalk Western Bypass we recorded early modern buildings and industrial remains at several locations along the route. In this chapter we will describe remains of Scotch Green Mill on the Kilcurry River, the construction of part of the Dundalk to Enniskillen Railway (1849–1957), and a ruined farm cottage at Littlemill—one of three early modern cottage sites examined on the bypass route (Table 7.1).

Table 7.1—Early modern features recorded along the route of the Dundalk Western Bypass

Site name	Main context	Period	Principal finds
Balregan 3, 5 and 6	Scotch Green Mill	19th century	None
Donaghmore 8	Railway embankment	19th century	None
Donaghmore 9	Road and farmyard	19th century	None
Donaghmore 2 and 3	Farmstead (site of)	19th century	None
Littlemill 2	Cottage	19th century	Ceramics

Scotch Green Mill

Scotch Green Mill is located on the east bank of the Kilcurry River, in Balregan townland. There are only vestigial remains of the mill buildings, but the millpond, mill-races and sluices were all intact as found, albeit in a silted and overgrown state (Illus. 7.1 and 7.2). The millpond was slighted by the construction of the bypass but the mill ruins survive, immediately south of the new road, and the mill-races can still be traced in the landscape. Our investigation of the site consisted of a survey of the remains of the mill building, pond and channels, and limited test excavations.[37]

The mill is shown on the first edition Ordnance Survey map of 1836 (Illus. 7.3) but not on Taylor & Skinner's (1783) *Map of County Louth*, which suggests that it was built around 1800. In the archives of the Valuation Office of Ireland, the mill is described in 1860 as a 'house and mill offices' worth £120, and in 1864 as a 'corn flour mill' valued at £100. The archives indicate that the mill had gone out of use by 1882, when it is recorded as 'flour mill not used' and valued at £90. In 1891 the value of the 'vacant dilapidated

Illus. 7.1 Scotch Green Mill. View to south-west across the confluence of the Castletown and Kilcurry rivers. Trees conceal the mill-races and main mill buildings (bottom). There are excavated remains of an associated store or barn nearby (right) (Studio Lab).

37 Excavation No. 03E0158; ITM 702735 810104; height c. 5 m OD; Balregan 3 and 4; Director Shane Delaney; parish of Castletown; barony of Upper Dundalk; County Louth. Excavation No. 03E0159; ITM 702776 810068; height c. 5 m OD; Balregan 5 and 6; Director Shane Delaney; parish of Castletown; barony of Upper Dundalk; County Louth.

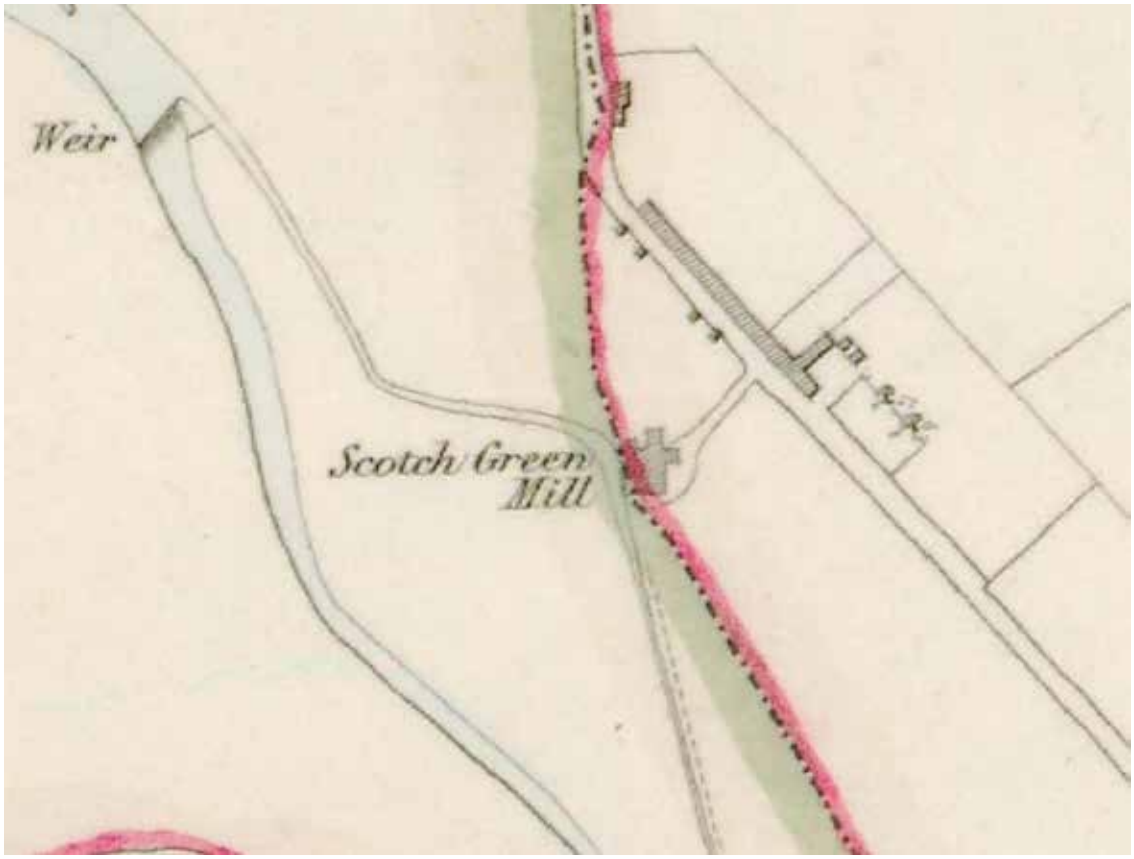
Illus. 7.2 Scotch Green Mill. Building remnant (left) and mill-race looking north-west towards the millpond (IAC Ltd).

flour mill' had plummeted to £50, and this continued to be its value until 1938 when it was no longer deemed a rateable property.

Remains of the mill

The first edition Ordnance Survey map (1836) shows the mill as a single, large building, albeit with a complex footprint. However, our investigations discovered a core group of four or five smaller, closely spaced buildings, grouped around the wheel-race (Illus. 7.4). The ruins consisted of denuded walls, standing up to 3 m high in places. There were less well-preserved remnants hinting at a separate range of buildings fronting the millpond, and another fronting the tail-race of the mill. There was no mill-wheel on site but the surviving structural remains indicate an 'undershot' wheel within a well-constructed stone wheel-pit that would originally have accommodated a wheel about 3 m in diameter (Illus. 7.5). A wheel-fixing stone survived *in situ* on the west face of the wheel-pit. This was a large block of dressed limestone (2.7 m long).

The mill-race was an earth-cut channel that led from the Kilcurry River. It extended over a total course of 620 m and was originally 7 m wide at the top and 3 m wide

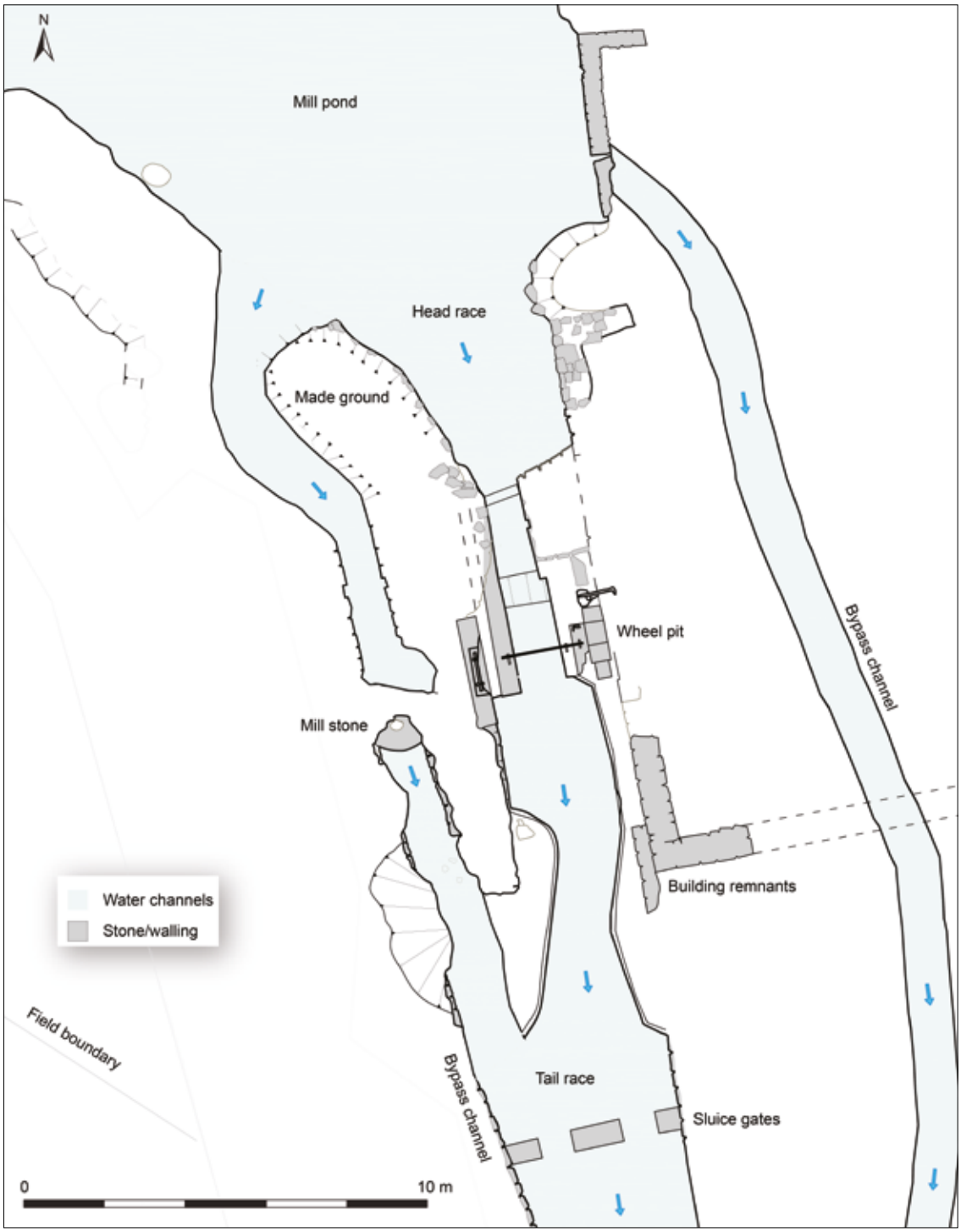


Illus. 7.3 Scotch Green Mill, on the Kilcurry River, is shown on the first edition Ordnance Survey map of 1836 (Ordnance Survey of Ireland).

at the base. The millpond was located midway along the mill-race, where it flared out to form a pool up to 15 m wide and 20 m long. The western edge of the pond had a roughly coursed stone revetment, with a slight batter at its base. At some stage the size of the millpond was reduced or narrowed by dumped fills, on the west side, edged with loosely laid stone blocks. Eventually the pond silted up completely.

There were bypass or overflow channels flanking the wheel-race and mill buildings to the west and east. The channel to the west was evidently a later feature as it was cut through the infilled material in the millpond. This channel was bridged with stone slabs and a large, disused millstone (0.9 m in diameter) (Illus. 7.6). As found, it was infilled and partly blocked at this point. There were building remnants at the opening to the east bypass channel but we are unable to say from the limited evidence available whether there was once a second or earlier mill at this location.

At some point the wheel-pit was reduced in size to accommodate a smaller wheel, c. 2.4 m in diameter. The wheel-race was reduced in width and the tail-race was also narrowed, with a facing of concrete blocks (breeze blocks). A pair of concrete sluice-gates was added at the outfall.



Illus. 7.4 Scotch Green Mill. Plan of the main elements of the mill site (IAC Ltd).

Illus. 7.5 Scotch Green Mill. North-facing view of the wheel-race. The water was delivered through the sluice over a stone-lined channel, and down a stone ramp to an undershot waterwheel (IAC Ltd).

Illus. 7.6 Scotch Green Mill. A re-used mill-wheel was part of the dumped material used to block the western sluiceway from the millpond (IAC Ltd).

Ancillary building

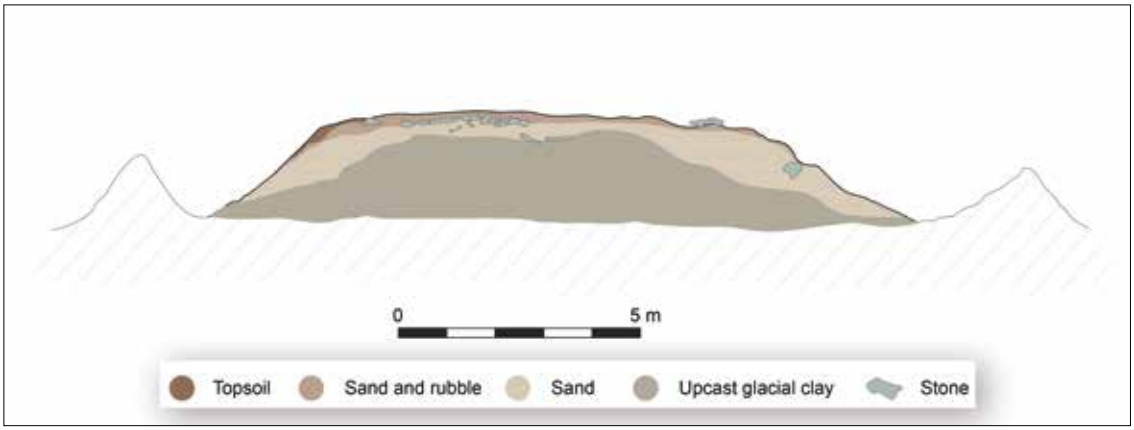
About 50 m north of the mill, beside the pond, the foundations and some basal wall remnants of a large building were uncovered (Illus. 7.1 and 7.7). This was a long building (21 m long by 6.5 m wide), rectangular on plan, built with mortared rubble. There was one large and one smaller chamber internally. (The walls of the larger chamber were entirely 'robbed out' as found.) There were no visible door or window openings and there was no evidence of a

Illus. 7.7 Scotch Green Mill. Plan of the excavated remains of a store or barn associated with the mill (IAC Ltd).

fireplace. The building was probably a store or barn associated with the mill. It is not shown on early Ordnance Survey maps (1836; 1908–9) and may be a later 19th-century building that quickly became ruinous when the mill itself became disused. A local landowner told us that it was demolished in the mid 20th century.

Dundalk to Enniskillen Railway (1849–1957)

The Dundalk to Enniskillen line was part of a national rail network developed by private companies in the great age of steam travel that commenced in the 1820s and had spread to all parts of Britain and Ireland by the 1890s (Hajducki 1974). The Dundalk to Enniskillen line was commenced in the 1840s and finally reached Enniskillen in 1859. It was initially promoted by two companies—The Dundalk and Enniskillen Railway and The Newry and Enniskillen Railway—with the aim of developing trade between Enniskillen, Newry and the port of Dundalk, via Armagh, Monaghan and Clones (Geraghty 2013). Its subsequent history was fraught with financial and political difficulties. Following the partition of Ireland in 1922 the line became a cross-border concern. In the 1950s it was effectively nationalised but was now jointly owned by two separate states. (It was administered by the newly created Great Northern Railway Board.) This fragile alliance lasted less than a decade and by 1957 the



Illus. 7.8 Dundalk to Enniskillen Railway (Donaghmore 8). West-facing section through the railway embankment (IAC Ltd).

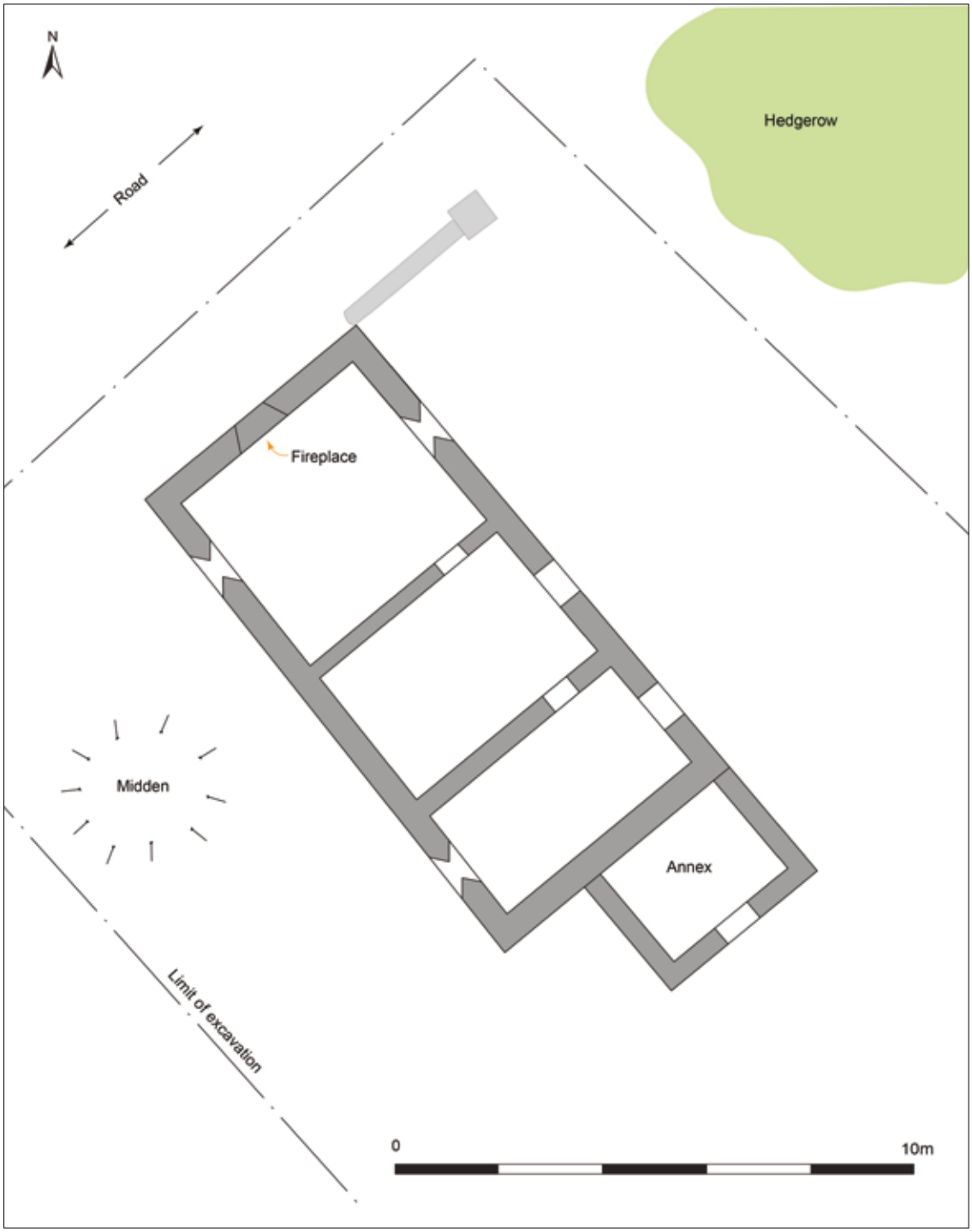
Northern Ireland government had closed all railways with any connections to cross-border traffic, signalling the end of the Dundalk to Enniskillen line. The relics of the railway have had an uneven history since then but well-defined sections survive here and there in the landscape.

At the point where the railway line is traversed by the new bypass, in Donaghmore townland, it was carried through low-lying agricultural land on an embankment. The embankment was recorded with a transverse section trench (Illus. 7.8) in the course of our work on the new road.[38] At this location the embankment was c. 2.2 m high and 19.4 m wide at the base. The core was made with quarried dumps of sandy clay subsoil (glacial till). This was overlain by a layer of compacted sand and rubble that would have provided a level bed for the railway. The sleepers and rails were removed in the 1950s and none of these were found *in situ*. The embankment was flanked on either side by wide, shallow drainage ditches and, beyond that, by embanked hedgerows, forming a rail corridor with a total width of over 24 m (80 ft).

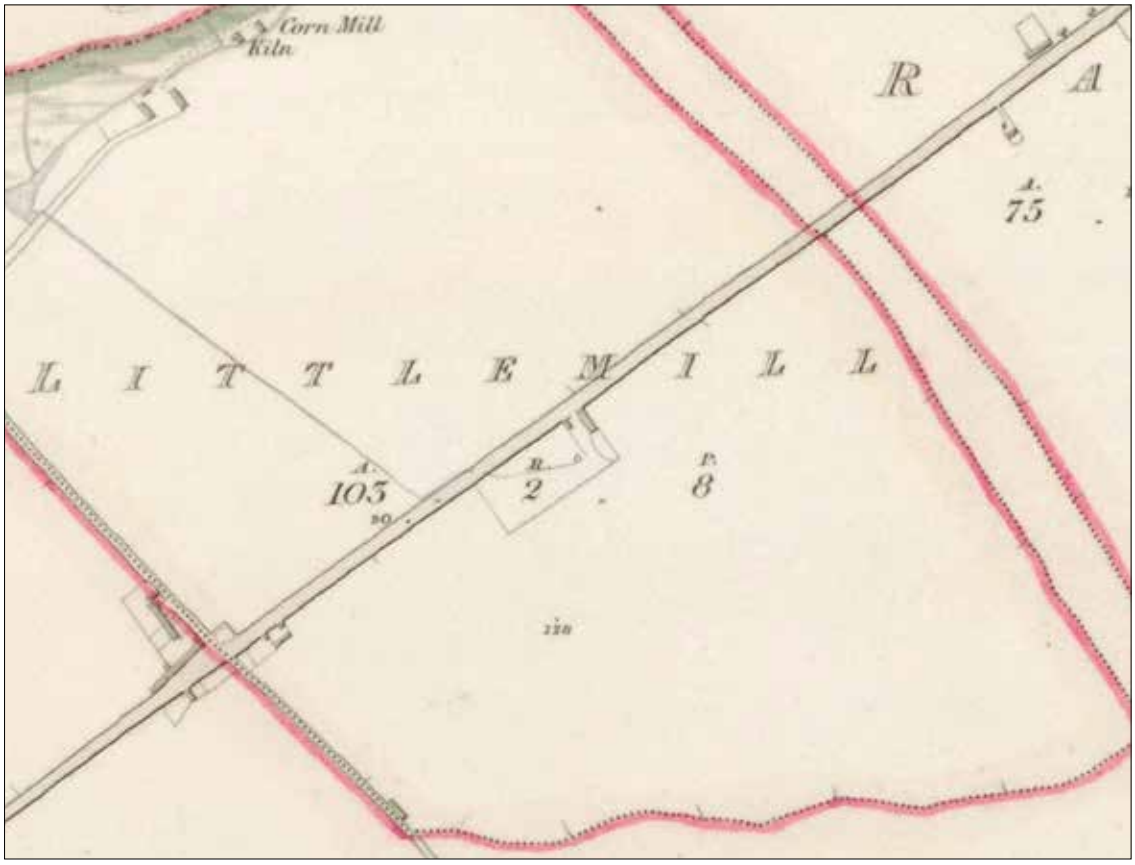
Farm cottage at Littlemill

The ivy-clad ruins of a 19th-century cottage and outbuildings were recorded at Littlemill 2 (Illus. 7.9).[39] An enclosed building group is shown here on the first edition Ordnance Survey six-inch map (1836) (Illus. 7.10) and on subsequent map editions (25-inch map 1909; six-inch second edition 1942). The maps show a house, outbuilding and well. The first more detailed information on the site is from Griffith's Valuation (1855), which lists a 'house, offices and land' (c. 7 acres) with a total value of £8 and 10s. The cottage as found was very ruinous with only the west (rear) elevation fully extant. Originally it was a gable-ended building with a pitched, slated roof and a chimney stack to the north gable. It was aligned north–south with a gable end towards the public road at the north and the

38 Donaghmore 8 (Dundalk to Enniskillen Railway embankment). Excavation No. 03E0063; Director Brian Ó Donnchadha; ITM 702349 806031; height c. 18 m OD; parish of Dunbin; barony of Upper Dundalk; County Louth.
39 Excavation No. 02E1753; Director Brian Ó Donnchadha; ITM 702655 805335; height 28 m OD; parish of Ballybarrack; barony of Upper Dundalk; County Louth



Illus. 7.9 Littlemill 2. Survey plan of a 19th-century roadside cottage (IAC Ltd).



Illus. 7.10 Littlemill 2. The farm cottage, with its outhouse and well (circle symbol) are shown within an enclosed site by the first edition Ordnance Survey map of 1836 (Ordnance Survey of Ireland).

main, east elevation was fronted by a laneway leading from the road. The walls were of roughly coursed, local limestone, with red bricks used for secondary work (below). The footprint of the building measured 10.5 m by 7 m (34 ft x 23 ft), with an annexe to the south gable bringing its total length to 14 m (46 ft). It originally comprised two rooms but the northern room was subdivided by a partition wall so that overall there were then three rooms in the building. There was a fireplace in the northernmost room, in the gable wall. Red brick was used for the partition wall, to rebuild or reface the fireplace, to renew all the door and window margins, and also in the gate piers at the roadside. The annexe to the south may have been a toilet or, more likely, a fuel store. There was a midden heap on the west side of the house containing numerous items of modern debris (ceramics, glass and clay pipe). According to local information, the house was inhabited throughout most of the 20th century and only became ruinous in living memory.

Appendix 1 Radiocarbon dates

Radiocarbon ages (Yrs BP) are radiometric measurements expressed in conventional years 'before present' (i.e. before AD 1950) and the errors for these dates are expressed at one-sigma (1 σ) (68% probability) level of confidence. Calibrated date ranges are the probable calendrical ages of the sample material and are expressed at one-sigma (1 σ) and two-sigma (2 σ) levels of confidence (68% and 95% probability). The $\delta^{13}C$ values indicate the difference between the $^{13}C/^{12}C$ isotope ratios of the sample material and that of a standard. (This can indicate contamination in the sample or in processing.) Dates produced by the University of Waikato (Wk) were calibrated using IntCal 04 (Reimer et al. 2004) and OxCal v3.10 (Bronk Ramsey 2009). Dates produced by Beta Analytica (Beta) were calibrated using IntCal 98 (Stuiver et al. 1998) and Talma & Vogel (1993).

Chapter 2—Neolithic period					
Site	**Lab code**	**Context**	**Years BP**	**$\delta^{13}C$ ‰**	**Calibrated dates**
Donaghmore 1	Wk-18551	Charcoal (hazel and oak) from a stake-hole	4971 ± 44	-24.9	3800–3690 BC (1 σ) 3940–3650 BC (2 σ)
Littlemill 1	Wk-18552	Charcoal (oak) from a post-hole of the house	5168 ± 52	-26.4	4050–3840 BC (1 σ) 4070–3790 BC (2 σ)
Chapter 2—Chalcolithic and Bronze Age					
Site	**Lab code**	**Context**	**Years BP**	**$\delta^{13}C$ ‰**	**Calibrated dates**
Faughart Lower 6	Beta-217946	Hazel charcoal from a pit (C2)	4030 ± 50	-25.2	2590–2480 BC (1 σ) 2850–2460 BC (2 σ)
Faughart Lower 6	Beta-217947	Hazel charcoal from a pit (C4)	4070 ± 50	-24.9	2830–2500 BC (1 σ) 2860–2470 BC (2 σ)
Faughart Lower 6	Beta-217948	Hazel charcoal from a pit (C8)	4010 ± 40	-26.3	2580–2470 BC (1 σ) 2600–2460 BC (2 σ)

Chapter 2—Chalcolithic and Bronze Age					
Site	**Lab code**	**Context**	**Years BP**	**$\delta^{13}C$ ‰**	**Calibrated dates**
Faughart Lower 6	Beta-217949	Pomoideae charcoal from a pit (C14)	4140 ± 40	-24.7	2870–2620 BC (1 σ) 2880–2580 BC (2 σ)
Carn More 6	Beta-217961	Human bone from a male skeleton	3400 ± 40	-22.5	1740–1650 BC (1 σ) 1760–1610 BC (2 σ)
Faughart Lower 1, 2, 3	Wk-18554	Charred timber (hazel/alder) from a hearth platform	3011 ± 36	-25.6	1370–1210 BC (1 σ) 1390–1120 BC (2 σ)
Newtownbalregan 5	Wk-18555	Charcoal (alder, blackthorn, cherry) from a burnt mound trough	2915 ± 51	-26.1	1210–1020 BC (1 σ) 1270–930 BC (2 σ)
Newtownbalregan 1.1	Wk-18557	Charcoal (alder, ash, hazel) from under the floor of a kiln/oven (C18)	3320 ± 41	-26.6	1660–1520 BC (1 σ) 1730–1500 BC (2 σ)
Newtownbalregan 1.2	Wk-18558	Charcoal (alder) from the floor deposits of a hut	3649 ± 49	-26.6	2130–1940 BC (1 σ) 2190–1890 BC (2 σ)
Carn More 5	Wk-18559	Charcoal (oak) from a cremation pit (C84)	3042 ± 39	-24.3	1390–1260 BC (1 σ) 1420–1190 BC (2 σ)
Carn More 1	Wk-18566	Charcoal (hazel, ash) from Hut 1 (C154)	3109 ± 38	-26.0	1440–1310 BC (1 σ) 1460–1260 BC (2 σ)
Carn More 1	Wk-18567	Charcoal (ash) from Hut 2 (C259). Possibly residual material	4106 ± 38	-26.1	2850–2570 BC (1 σ) 2870–2500 BC (2 σ)
Newtownbalregan 2	Wk-19929	Charcoal (alder) from the basal fill of a pit (C68)	3990 ± 46	-25.8	2580–2460 BC (1 σ) 2630–2340 BC (2 σ)

Chapter 4—Iron Age					
Site	**Lab code**	**Context**	**Years BP**	**$\delta^{13}C$ ‰**	**Calibrated dates**
Fort Hill	Wk-18560	Charcoal (blackthorn, ash) from a building foundation trench	1679 ± 33	-26.0	AD 260–420 (1 σ) AD 250–430 (2 σ)
Balriggan 1	Wk-18562	Charcoal (ash) from the earliest firing of a cereal-drying kiln	1857 ± 43	-26.5	AD 80–220 (1 σ) AD 60–250 (2 σ)
Balregan 1 and 2	Wk-18563	Charcoal (hazel) from redeposited layer of silty sand	2441 ± 38	-26.2	740–410 BC (1 σ) 760–400 BC (2 σ)
Donaghmore 7	Wk-18564	Burnt timber (oak) from the ditch of a ring-ditch	2030 ± 35	-24.7	90 BC–AD 30 (1 σ) 120 BC–AD 60 (2 σ)
Balregan 1 and 2	Wk-18565	Charcoal (alder, hazel, oak) from layer of colluvial soil (hill-wash)	2172 ± 43	-26.0	360–160 BC (1 σ) 380–100 BC (2 σ)
Balregan 1 and 2	Wk-18568	Charcoal (hazel, alder) from 'fire pit' (C6) cut into a Neolithic ditch	2278 ± 35	-24.0	400–230 BC (1 σ) 410–200 BC (2 σ)
Chapter 5—Early medieval period					
Site	**Lab code**	**Context**	**Years BP**	**$\delta^{13}C$ ‰**	**Calibrated dates**
Tateetra	Beta-217955	Charcoal (hazel) from collapsed material in souterrain Gallery 3	1150 ± 40	-25.0	AD 870–960 (1 σ) AD 780–990 (2 σ)
Tateetra	Beta-217956	Charcoal (hazel) from the floor of souterrain Gallery 1	1020 ± 40	-26.6	AD 990–1030 (1 σ) AD 970–1040 (2 σ)

Chapter 5—Early medieval period					
Site	**Lab code**	**Context**	**Years BP**	**$\delta^{13}C$ ‰**	**Calibrated dates**
Tateetra	Beta-217957	Charcoal (hazel) from a pit to the north of the souterrain	750 ± 40	-28.6	AD 1260–1290 (1 σ) AD 1220–1300 (2 σ)
Tateetra	Beta-217958	Charcoal (hazel) from a pit in souterrain Gallery 2	880 ± 40	-27.8	AD 1060–1210 (1 σ) AD 1030–1250 (2 σ)
Tateetra	Beta-217959	Charcoal (hazel) from the floor of souterrain Galleries 3 and 4	860 ± 40	-26.8	AD 1160–1230 (1 σ) AD 1040–1260 (2 σ)
Tateetra	Beta-217960	Charcoal (hazel) from collapsed material in souterrain Gallery 3	1340 ± 40	-25.4	AD 660–690 (1 σ) AD 640–770 (2 σ)
Littlemill 2	Wk-18553	Charcoal (hazel) from the burnt mound trough	968 ± 85	-25.9	AD 990–1160 (1 σ) AD 890–1250 (2 σ)
Newtownbalregan 6	Wk-18556	Charcoal (alder) from the 'smoke-house' pit	1163 ± 33	-28.1	AD 780–940 (1 σ) AD 770–970 (2 σ)
Balriggan 1	Wk-18561	Charcoal (ash, oak) from a pit in the industrial area of the main enclosure	1497 ± 34	-25.7	AD 540–610 (1 σ) AD 430–650 (2 σ)
Chapter 6—Later medieval period					
Site	**Lab code**	**Context**	**Years BP**	**$\delta^{13}C$ ‰**	**Calibrated dates**
Fort Hill	Wk-19863	Human bone from a female skeleton	293 ± 34	-20.9	AD 1520–1650 (1 σ) AD 1480–1670 (2 σ)

Appendix 2 Bronze Age burials at Carn More 5 and 6

Disturbed chamber in truncated barrow	
No.	C47
Description	Spread of medium and large angular stones; probably the disturbed remnants of a stone-lined chamber in the former barrow
Dimensions	2.3 m x 1.5 m x 0.15 m deep (in a shallow pit 3.5 m wide x 0.15 m deep)
Bone	Cremated fragments only, in disturbed soil spreads associated with the remnant chamber
Pottery	Fragments of a cordoned urn (Vessel 19)
Other finds	Four copper-alloy objects: the shank of a stick-pin, a cylindrical object—possibly a rove, and two amorphous pieces that were fused to burnt bone fragments. Also two pieces of flint debitage (flakes)
Radiocarbon date	—
Central (primary) pit and adjacent burials in the flat cemetery	
No.	C222
Description	A large pit at the centre of the flat cemetery, mostly filled with stones and silty sand with occasional charcoal flecks and burnt bone fragments. Possibly a primary burial or foundation deposit. There was an intact food vessel bowl (Vessel 5) in the south-west corner of the pit but no associated bone. The pit was sealed by a stone spread that did include a concentrated deposit of cremated bone—probably disturbed—and the stone spread was surmounted by two large stones, one with seven cup marks or hollows.
Dimensions	2.45 m x 2.0 m x 0.9 m deep
Bone	Cremated fragments in pit fills; one concentration of cremated fragments in overlying stone spread
Pottery	Intact food vessel bowl (Vessel 5)
Other finds	A few pieces of flint debitage and angular shatter
Radiocarbon date	—

Central (primary) pit and adjacent burials in the flat cemetery	
No.	C46 / C116
Description	Sub-rectangular stone cist, cut into the large crescentic pit near the centre of the flat cemetery
Dimensions	0.5 m x 0.3 m x 0.42 m deep (internally) (in a pit 1.5 m wide x 0.6 m deep)
Bone	Cremated fragments (flecks of bone in upper fills)
Pottery	—
Other finds	—
Radiocarbon date	—
No.	C96 / C115
Description	Roughly square cist, cut into the large crescentic pit near the centre of the flat cemetery
Dimensions	0.68 m x 0.7 m x 0.49 m deep (internally)
Bone	Occasional flecks of cremated bone
Pottery	Fragments of an encrusted/cordoned urn (Vessel 13) and a food vessel (Vessel 14)
Other finds	Flint platform flake and possible scraper
Radiocarbon date	—
No.	C121
Description	Sub-rectangular stone cist with a roughly paved floor; capped with a large slab of granite; cut into the large crescentic pit near the centre of the flat cemetery.
Dimensions	1.0 m x 0.95 m x 0.68 m deep (internally); within a large pit (dimensions not recorded)
Bone	Cremated fragments throughout the fills indicate multiple burials of adults and children (at least five adults and three children/juveniles)
Pottery	Fragments of a food vessel (Vessel 16)
Other finds	Flint flake
Radiocarbon date	—
No.	C206
Description	Large sub-rectangular pit filled with mixed soils and stones and containing one large boulder (over 1 m long). There were no bones in the pit and only a few charcoal flecks but it is included here as a possible inhumation grave with no surviving bone.
Dimensions	1.4 m x 1.2 m x 0.5 m deep
Bone	—
Pottery	—
Other finds	—
Radiocarbon date	—

Central (primary) pit and adjacent burials in the flat cemetery	
No.	C363
Description	Large oval pit filled with mixed sandy soils, stones and one large granite boulder (dimensions not recorded). There was no bone in the pit and only occasional flecks of charcoal or burnt, oxidised soil. Again, the feature is recorded here as a possible inhumation grave with no surviving bone.
Dimensions	1.7 m x 1.3 m x 0.8 m deep
Bone	—
Pottery	—
Other finds	—
Radiocarbon date	—
Cist burials in the inner ring of the flat cemetery (clockwise from north-east)	
No.	C21, C28
Description	Five large stone slabs formed a sub-pentagonal cist, aligned NW–SE. Smaller stones were roughly corbelled over the side slabs to support a capstone. The floor was not stone lined. No artefacts or bone were recovered.
Dimensions	0.88 m x 0.55 m x 0.45 m deep (internally)
Bone	—
Pottery	—
Other finds	—
Radiocarbon date	—
No.	C22, C30
Description	Four large stone slabs formed a rectangular cist, aligned NE–SW. There were broken remains of a capstone and some rough cobbling on the floor. A ribbed bowl (Vessel 6) was found in the south-west corner of the cist, along with a flint flake and fragments of burnt human bone (all cranial fragments).
Dimensions	0.37 m x 0.29 m x 0.25 m deep (internally)
Bone	Cremated fragments (cranium) from at least one individual
Pottery	Intact food vessel (Vessel 6)
Other finds	Flint flake
Radiocarbon date	—

Cist burials in the inner ring of the flat cemetery (clockwise from north-east)	
No.	C7, C50
Description	Five large stones and several smaller stones formed an elongated pentagonal cist, aligned NW–SE. There was no evidence of flooring or a capstone. The cist contained a lugged tripartite bowl (Vessel 8) but no human bone or charcoal.
Dimensions	1.2 m x 0.7 m x 0.72 m deep (internally)
Bone	—
Pottery	Near complete lugged tripartite bowl (Vessel 8)
Other finds	—
Radiocarbon date	—
No.	C9, C49, C73
Description	Three large stones formed three sides of a cist; the western side was open or missing. Four stones formed a rough floor or pavement. There was no surviving capstone. Occasional fragments of burnt bone and charcoal were observed in the basal fill but could not be identified as human.
Dimensions	0.75 m x 0.42 m x 0.63 m deep (internally)
Bone	Indeterminate burnt bone fragments
Pottery	None
Other finds	—
Radiocarbon date	—
No.	C128, C129
Description	Seven large stone slabs and nine smaller stones formed a roughly oval cist, aligned NE–SW. A large stone on the floor was probably a fallen capstone. The floor was otherwise unlined. Although the cist was large and well constructed, it contained no pottery vessel and only some small fragments of burnt bone and charcoal, which occurred in the primary or basal fill.
Dimensions	1.4 m x 0.95 m x 0.6 m deep (internally)
Bone	Indeterminate small fragments in basal fill
Pottery	—
Other finds	—
Radiocarbon date	—

Cist burials in the inner ring of the flat cemetery (clockwise from north-east)	
No.	C110, C133, C134
Description	Four large stones and several smaller stones formed a rectangular cist aligned NE–SW. Two flat stones lay on the floor. The capstone was a large boulder (max. 0.8 m). A small, intact, highly decorated bipartite bowl (Vessel 7) stood on these. The fill of the cist contained burnt bone throughout and some of this was identified as human.
Dimensions	0.6 m x 0.39 m x 0.35 m deep (internally)
Bone	Cremated fragments from at least one individual, a young adult
Pottery	Intact bipartite bowl (Vessel 7)
Other finds	—
Radiocarbon date	—
No.	C65, C78, C81
Description	Six stones formed a rectangular cist, aligned east–west. Two of the stones were displaced (probably by a plough). There was no capstone present. The floor was paved with five flat stones. The cist contained a substantially intact tripartite bowl (Vessel 9) and many pottery crumbs, and a quantity of cremated human bone. There was a shallow pit with a charcoal-rich fill 1 m west of the cist and this may be an associated feature.
Dimensions	0.8 m x 0.8 m x 0.4 m deep (internally)
Bone	Cremated fragments from at least one individual
Pottery	Near complete tripartite bowl, and fragments (Vessel 9)
Other finds	—
Radiocarbon date	—
No.	Carn More 6
Description	Edge-set stones formed four sides of a rectangular stone cist. (The cist was discovered during archaeological monitoring of drainage works; one side stone was accidentally removed during the works.) There was a damaged capstone. The floor was roughly paved with 18 smaller flat stones. The cist contained the poorly preserved remains of an adult male crouched inhumation (parts of the skull, left humerus and left tibia) and an almost complete tripartite (variant) bowl.
Dimensions	1.2 m x 0.95 m x 0.7 m deep (internally)
Bone	Crouched inhumation; adult male
Pottery	Near complete tripartite (variant) bowl
Other finds	—
Radiocarbon date	1760–1610 BC (Beta-217961) (bone sample)

Cist and pit burials in the outer ring of the flat cemetery (clockwise from east)	
No.	C12
Description	Small round pit with a flat base, filled with stony silt and clay and containing the base of a cordoned urn
Dimensions	0.36 m wide x 0.15 m deep
Bone	Cremated fragments from at least one individual
Pottery	Remains (base) of a cordoned urn (Vessel 11)
Other finds	—
Radiocarbon date	—
No.	C84
Description	Round pit with steep sides, undercut at base, containing a layer of charcoal, unburnt wood and burnt bone in the base. A smaller, shallow re-cut contained stony, sandy silt and an iron nail. Interpreted by the excavation team as a pyre pit rather than a burial
Dimensions	1.3 m wide x 0.6 m deep
Bone	The stratigraphic section of the excavation final report for this site describes a 'thick layer of bone' in the base of the pit but there is no further reference to this in specialist osteological reporting for the project.
Pottery	—
Other finds	—
Radiocarbon date	1420–1190 BC (Wk-18559) (oak charcoal from basal fill)
No.	C389
Description	Small round pit with vertical sides and flat base; brown, sandy, silt fill with burnt bone fragments (some spilled from the urn)
Dimensions	0.37 m wide x 0.38 m deep
Bone	Cremated bone fragments from at least one individual, possibly an adult male
Pottery	Fragmented cordoned urn (Vessel 10)
Other finds	—
Radiocarbon date	—
No.	C257
Description	Small round pit with a flat base and brown, silty, sand fill, with cordoned urn fragments and associated cremated bone
Dimensions	0.45 m wide x 0.16 m deep
Bone	Cremated fragments; minimum two individuals: a young adult and a child
Pottery	Fragmented encrusted or cordoned urn (Vessel 12)
Other finds	—
Radiocarbon date	—

Other cist and pit burials in the flat cemetery	
No.	C45
Description	Round pit with convex sides and flat base, filled with a stony, sandy silt and containing one large granite boulder (> 1 m). A smaller granite boulder (> 0.5 m) lay like a capstone on the pit. This had a carved triangular motif on its upper surface, interpreted as a representation of an axehead. There was no evidence for a burial in this pit but it is included here as a possible burial pit.
Dimensions	1.2 m wide x 0.35 m deep
Bone	—
Pottery	—
Other finds	—
Radiocarbon date	—
No.	C207 / C208
Description	Shallow round pit filled with brown, sandy silt, with frequent burnt bone and some charcoal
Dimensions	0.57 m wide and ‘quite shallow’ [as recorded]
Bone	‘Frequent burnt bone’ is reported in the stratigraphic section of the excavation final report but there is no reference to this in specialist osteological reporting for the project.
Pottery	—
Other finds	—
Radiocarbon date	—
Ring-ditch burials	
No.	C159, C169
Description	Cremated bone in charcoal-rich soil in a pit at the centre of a circular ring-ditch
Dimensions	Ring-ditch diameter 6 m overall; burial pit 0.9 m x 0.3 m deep
Bone	Fragments of cremated bone were present in the fills.
Pottery	Cordoned urn, five fragments
Other finds	—
Radiocarbon date	—
No.	C379, C380
Description	A few cremated bone fragments in the fill of a pit at the centre of a circular ring-ditch
Dimensions	Ring-ditch diameter 6 m overall; burial pit 0.6 m x 0.5 m deep
Bone	Some fragments of cremated bone only
Pottery	—
Other finds	—
Radiocarbon date	—

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Index

Note: *Persons cited as authors are not included in the index; page references in italics denote illustrations*

In every book in the TII Heritage series we rediscover the capacity of the Irish landscape to offer us encounters with past peoples, from remote periods, and lives that were very unlike our own. *Around the Bay of Dundalk* is a special treat. Here the landscape of the past has a grandeur and diversity seldom encountered in a single archaeological project. Among 34 excavated archaeological sites, highlights include a Neolithic ceremonial site at Balregan, a complex Bronze Age cemetery at Carn More, an early medieval cemetery-settlement at Balriggan, beautifully built souterrains at Newtownbalregan and Tateetra, and an Anglo-Norman earthwork castle on Fort Hill.

Archaeological investigations on the M1 Dundalk Bypass in 2002–2004 were carried out by Irish Archaeological Consultancy Ltd with supplementary work by Aegis Archaeology Ltd. They were licensed by the Minister for Arts, Heritage and the Gaeltacht and funded by the National Roads Authority (NRA, now Transport Infrastructure Ireland) through Louth County Council.

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Department of Transport, Tourism and Sport

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ISBN: 978-1-911633-21-1
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