Archaeological investigations carried out in advance of the M3 motorway scheme provided an excellent opportunity to examine a number of previously unknown prehistoric sites. The excavations were carried out on behalf of the National Roads Authority and Meath County Council and were undertaken by Archaeological Consultancy Services Ltd (ACS Ltd) and Irish Archaeological Consultancy Ltd. A total of 112 prehistoric sites were excavated, some of which provided evidence for human activity for at least the past 7,000 years. Among these were a Mesolithic fishing site, a range of Neolithic and Bronze Age settlement sites, a significant number of Bronze Age burnt mounds or fulachta fiadh, Bronze and Iron Age burials, an impressive Iron Age post-built ceremonial enclosure, and many more less-easily classified sites.

In order to gain the most potential from the archaeological investigations on the M3 a specific research framework was developed (Deevy, this volume; National Roads Authority & Meath County Council 2005b), with the aim of providing a complete understanding of the individual sites and of fully exploring the relationship between the sites and the evolving archaeological landscape. A significant amount of archaeological research has
already been conducted within this landscape, particularly on the Hill of Tara and its enirons, by the Discovery Programme (Newman 1997; Bhreathnach 2005b) and Muiris O’Sullivan (2005). This information will be combined with the research from the M3, allowing the sites to be understood in their broader landscape context. Three sites from the archaeological investigations on the M3 motorway scheme are briefly described here to illustrate the diversity of discoveries on the scheme and their potential to contribute to our knowledge of prehistoric Ireland.

A hunter-gatherer fishing camp at Clowanstown

The earliest activity identified on the scheme was a Late Mesolithic site at Clowanstown 1, c. 5 km north of Dunshaughlin (Illus. 1). The site was located in a raised bog, and palaeoenvironmental analysis indicates that during its initial phase it was positioned at the edge of a shallow lake. During the Late Mesolithic period a natural rise provided the foundation for a small timber platform or structure (c. 7 m by 5.9 m) used primarily for fishing (Illus. 2). Although the structure was later disturbed by a Neolithic trough, a pit containing a cache of Bann flakes (leaf-shaped stone tools characteristic of the Late Mesolithic period) was identified. Additional stone tools and chipped stone débitage (waste material left over when someone creates a stone tool) in the vicinity indicated that artefact production had also taken place at the site. Quantities of acorn and hazelnut shells and animal bones recovered from the structure provide evidence for food-processing and consumption.

An arc of stakes on the landward side delimited a natural hollow in the lakebed beside the structure. Within this area four conical fish-baskets and several fragments of baskets lay on the lakebed (Illus. 3). The baskets were made using a technique known as twining, in which horizontal twigs of alder, birch and rosewood were woven through vertical elements (FitzGerald 2007a; 2007b) (Illus. 4). Additional stakes and a carved wooden object were found to the east of the platform. The wooden object has been interpreted by the excavation director, Matt Mossop, as a miniature dugout canoe, possibly a woodworker’s model or child’s toy. This may have been ritually deposited here to ensure the prosperity of the site. The wooden artefact and the fish-baskets have been radiocarbon-dated to the Late Mesolithic, roughly from 5300 to 4720 BC (for details of radiocarbon dates see Appendix 1). Organic remains such as those from Clowanstown are exceptional—Mesolithic studies are largely based on stone tool assemblages—and provide a rare opportunity to supplement our knowledge of Mesolithic technology and economy.

The site appears to have been a temporary dwelling, located in an ideal position to take advantage of both the wetland and dryland resources. Several Mesolithic sites have been identified along the shores of lakes, especially in Roscommon and Leitrim (O’Sullivan 1998, 54). Three Late Mesolithic platforms were discovered at Moynagh Lough, Co. Meath (Bradley 2001), only 30 km north of Clowanstown, and are comparable to the Clowanstown platform.

Although the structure at Clowanstown was used for a variety of tasks, fishing was probably the main activity. One interpretation is that the baskets were used to scoop fish out of the lake by hand, or alternatively they may have been fixed in position and baited if they originally had a mechanism to prevent fish from escaping, as suggested by diagonal
Illus 2—Plan of the Mesolithic and Neolithic features at Clowanstown 1 (Archaeological Consultancy Services Ltd).
roundwoods on one of the baskets. The importance of fish in the Mesolithic diet is widely recognised (Clarke 1948; Milner 2006). Yet Clowanstown is only one of two sites in Ireland to produce fishing implements. The other, at North Wall Quay, Dublin (McQuade & O’Donnell 2007), provided evidence for weir-fishing in the Liffey estuary. In addition to several wooden fish-traps, a basket fragment of similar manufacture to the Clowanstown fish-baskets was found at North Wall Quay and has been radiocarbon-dated to 5930–5740 BC. This, combined with the evidence for lakeside fishing techniques from Clowanstown, provides a rare insight into the technical abilities of the early inhabitants of Ireland. Prior to the discovery of these sites, only indirect evidence for fishing in the Mesolithic period existed and this was in the form of fish bones; thus these sites are a breakthrough for Mesolithic studies.
Neolithic mounds at Clowanstown

After the abandonment of the Mesolithic platform, the lake was infilled by raised bog and the area was enveloped by peat. The site became the focus of renewed activity in the Early Neolithic period. A large mound, consisting of at least seven interspersed layers of burnt material and redeposited lake marl, was constructed over the natural hollow that featured during the Mesolithic period (Illus. 5). Seven subrectangular troughs surrounding the mound may have been related to each of the burnt deposits. Four similar mounds of burnt and unburnt stone were recorded in the vicinity. In the final stages of use all the mounds were sealed with a layer of unburnt stones, thus consolidating them into one monument. A wooden container was deposited in the centre of the main mound and has been radiocarbon-dated to 3710–3630 BC (Beta-237056; see Appendix 1).

Several deposits consisting of cremated animal bone mixed with marl occurred in the mounds; these were evidently structured or deliberate deposits as some of them were wrapped in bark. Other finds from within the mound included Early Neolithic carinated pottery and burnt flint. Three perforated, polished flint pendants, three polished bone pins and three polished stone axeheads were found in layers of stone sealing each mound.

The purpose of these mounds is not yet understood. A close parallel occurred at Cherryville, Co. Kildare (Breen 2003), where two similar but smaller layered mounds were consolidated by a layer of stones. Deposits of marl mixed with cremated bones and wrapped in bark were also recovered from this site. At Clowanstown the evidence suggests a prolonged formation process, and the animal bone may indicate associated feasting. The high-status objects incorporated into the sealing layer of the mounds may be ritual deposits marking the abandonment of the site.

Illus 5—Section through one of the mounds (Mound A) at Clowanstown 1 (Archaeological Consultancy Services Ltd).
Illus. 6—Plan of the structures and the ring-ditch at Boyerstown 3 (Archaeological Consultancy Services Ltd).
**Bronze Age settlement at Boyerstown**

Two circular structures and a ring-ditch of probable Bronze Age date were excavated at Boyerstown 3, c. 3 km WSW of Navan, under the direction of Linda Clarke and Terry Connell. The first structure (Structure 1) consisted of a circular slot-trench (7 m in diameter) and an internal ring of regularly spaced post-holes (Illus. 6). Two large post-holes defined the entrance on the western side. An east–west arc of post-holes around the structure may represent a palisaded enclosure or annex (Illus. 7). The second structure (9.4 m in diameter) consisted of a slot-trench with irregularly spaced post- and stake-holes and a hearth in the interior. The entrance was to the north-west and was significantly wider than the entrance to the first structure. Sherds of Bronze Age pottery were recovered from each structure (E Grogan, pers. comm.).

Both structures fall within the size range of Bronze Age houses proposed by Doody (2000, 139); the second structure, however, is slightly larger than the average. The first structure represents the remains of a typical Bronze Age house and is paralleled by several sites such as those at Killoran 8, Co. Tipperary (Ó Néill 2005). The construction method of the second structure is generally associated with smaller structures like those from Curraghatoor, Co. Tipperary (Doody 1987). The dimensions of this structure and the width of its entrance would have posed significant problems if it was roofed, and the absence of evidence for roof supports suggests that this may have been an unroofed enclosure or pen.

Another interesting aspect of this site is the occurrence of a ring-ditch c. 80 m north of the two structures. Penannular in shape, it measured 22.5 m by 17.5 m and had an entrance...
to the north-west. Although ring-ditches are generally associated with burials, only a few fragments of cremated bone were recovered from the enclosing ditch, so this particular example may have been a commemorative monument or cenotaph. The identification of ring-ditches lacking burial evidence is becoming increasingly common, and is paralleled, for instance, by four sites in Mitchelstowndown West, Co. Limerick (Daly & Grogan 1993). Seven burnt mounds or fulachta fiadh have been excavated in the vicinity of Boyerstown 3. Grogan et al. (2007, 152) have suggested that clusters of domestic, ritual and burnt mound sites may represent the catchment areas of family groups. Consequently, the scientific dating of these sites—if they prove to be contemporary—will inform us whether they form part of a discrete Bronze Age settlement landscape.

Iron Age ceremonial enclosure at Lismullin

The excavation of an Early Iron Age ceremonial post enclosure at Lismullin under the direction of Aidan O’Connell is ongoing at the time of writing. The results presented here are therefore provisional. An outer enclosure, 80 m in diameter, was defined by a concentric double ring of post- and stake-holes (Illus. 8). Located at the centre of the outer enclosure was a second, smaller enclosure, 16 m in diameter, defined by a single ring of post- and stake-holes. At the east side of the smaller enclosure an avenue of posts extended towards the outer enclosure. A slot-trench ran across the avenue, 4 m from the inner circle, and may have held a screen. Two of the post-holes have been radiocarbon-dated to 520–380 BC (Beta-230460) and 490–370 BC (Beta-230461), placing the enclosure firmly in the Early Iron Age (O’Connell 2007a; 2007b; Director’s Excavation Progress Reports detailing the progress of the Lismullin excavation can be viewed online at: www.nra.ie/Archaeology/NationalMonumentatLismullin/).

The interior of the enclosure has been truncated by centuries of agricultural activity, so that it is now difficult to determine what ceremonies may have taken place within it. The layout of the monument, however, provides an indication of how the enclosure may have been used (Illus. 9). The site lies in a natural hollow surrounded by slightly higher ground, thus occupying a natural amphitheatre (see Deevy, this volume, illus. 8). It is possible that spectators gathered on the higher ground to watch activities that were being performed in the enclosure. A social distinction may have been created between the spectators and those within the enclosure. The processional avenue provided access into the inner sanctum. As participants approached, the screen would have restricted visual access to the inner enclosure, which would have created a sense of mystery and anticipation. Thus physical and visual access into the enclosure may have been afforded to people according to their social and religious status. The ongoing investigations will hopefully provide more information on the rites that took place within the enclosure.

Similar ceremonial enclosures have previously been excavated in Ireland, but none date from the Early Iron Age. Late Bronze Age ceremonial enclosures have been identified at Emain Macha, Co. Armagh, Hugh ey’s Fort, Co. Armagh, and Lugg, Co. Dublin (Waterman 1997; Mallory 1995; Kilbride-Jones 1950; Roche & Eogan 2007). Closer parallels that have evidence for avenues include the Middle Iron Age sites at Emain Macha, Co. Armagh, Dún Ailinn, Co. Kildare, and possibly Rathcroghan, Co. Roscommon (Waddell 1998; Wailes 1990; Fenwick et al. 1996). Three successive timber enclosures have been identified at the
Illus 8—Post-excavation plan of the post-built ceremonial enclosure at Lismullin 1 (Archaeological Consultancy Services Ltd).
Rath of the Synods, Tara, Co. Meath (Cooney & Grogan 1999, 187–93). Geomagnetic survey has also revealed a large ditch and pit enclosure surrounding the Rath of the Synods (Fenwick & Newman 2002). Dates for this enclosure are not available without excavation, but the possibility that it is contemporary with the three successive enclosures at the Rath of the Synods cannot be ruled out. If contemporary, this enclosure would provide a close, if somewhat larger, parallel to Lismullin. The proximity of Lismullin to the ritual complex at Tara is therefore significant. Although many aspects in the construction of these sites differ from the Lismullin enclosure, it is probable that the concepts behind their construction, function and purpose are similar. The potential information from this site will contribute significantly to our understanding of ritual and ceremonial sites in the Iron Age and how these practices developed from preceding periods.
Conclusion

The excavations carried out in advance of the M3 led to the exciting discovery of a large number of previously unknown prehistoric sites. This paper presents provisional and very brief interpretations of three sites. The Mesolithic platform at Clowanstown highlights early human activity in south-west Meath. This is the first Mesolithic site found in this area and, combined with the nature of the discovery at Moynagh Lough further north, indicates that similar sites in this area may be concealed by peat deposits. Although no parallels for the Neolithic mounds can be found in the immediate area, the occurrence of a similar site in County Kildare indicates that this ritual activity was not a local phenomenon.

The Bronze Age settlement activity and ring-ditch at Boyerstown 3 provides evidence for a discrete landscape and highlights the intimate relationship between the living and the dead. It is also interesting to note that people were working, living and burying their dead in the vicinity of the Hill of Tara, and that these daily tasks were performed contemporaneously with the construction of many of the monuments on the hill.

The ceremonial enclosure at Lismullin provides further evidence that ritual activities were often removed from the Hill of Tara. At a fundamental level, the Lismullin enclosure is paralleled by the activity at the Rath of the Synods, although certain elements, such as its construction and siting, differ considerably. Interestingly, the avenue is aligned towards Rath Lugh, a defended enclosure that dominates the south-western views from Lismullin, and away from the Hill of Tara, further emphasising its separation from the sacred hill.

These examples highlight the potential for the archaeological investigations and the research framework to inform us further about the nature of prehistoric activity in the landscape surrounding Tara, and more broadly in County Meath.

Much of the archaeological research that was previously conducted in this area has focused on the Hill of Tara. Excavations were carried out by Seán P Ó Ríordáin at the Mound of the Hostages and the Rath of the Synods in the 1950s, and the former site provided evidence for some of the earliest activity on the Hill of Tara (O'Sullivan 2005). Detailed topographical, geophysical and historical surveys of the hill, carried out under the auspices of the Discovery Programme (Newman 1997; Fenwick & Newman 2002; Bhreathnach 2005b), have contributed to a better understanding of the complex of monuments on the hill and have revealed several previously unidentified sites. Although Newman has considered the wider landscape of Tara, this research has been largely focused on the surviving upstanding monuments (dominated by funerary monuments) and sites revealed as cropmarks by aerial photography. The route of the M3 motorway deliberately avoided upstanding features and has thus provided a rare and exciting opportunity to investigate a number of previously undocumented sites hidden beneath the soil.

In many ways the research themes, such as prehistoric settlement, burial and ritual activities, have been informed by the type of sites revealed during the archaeological investigations. These themes, however, will be integrated with the existing research into the Hill of Tara, thus providing a wider landscape study covering much of the western part of County Meath. These discoveries allow us to examine the settlement patterns and ways of life of prehistoric people in this area, and to consider how people lived, worked and organised their surrounding landscape. Through a combination of careful excavation, post-excavation analysis and ongoing research, these discoveries have the potential to revolutionise our understanding of life in prehistoric Ireland.
Acknowledgements

The author wishes to thank all the excavation directors in this project, especially Matt Mossop, Linda Clarke, Terry Connell and Aidan O’Connell. Thanks also to Mary Deevy, NRA Senior Archaeologist, and Maria FitzGerald, NRA Archaeologist, and to Donald Murphy, Killian Murray and all the staff of ACS Ltd. Thanks finally to Niall Kenny, Jonathan Kinsella and Dr Eoin Grogan for comments on an earlier draft of this paper.

Notes

1. Clowanstown 1; NGR 295518, 257771; height 118 m O.D.; excavation reg. no. E3064; ministerial direction no. A008/011; excavation director Matt Mossop.
2. Boyerstown 3; NGR 283319, 266223; height 71 m O.D.; excavation reg. no. E3107; ministerial direction no. A023/015; excavation directors Linda Clarke and Terry Connell.
3. Lismullin 1; NGR 293437, 261602; height 77 m O.D.; ministerial direction nos A008/21 & A042; excavation reg. no. E3074; excavation director Aidan O’Connell.