

Earlier Prehistoric Settlement in the Boyne Valley

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Earlier prehistoric settlement

Conor Brady of University College Dublin demonstrates how field-walking techniques are providing significant insights into prehistoric settlement in and around Brú na Bóinne.

Many *Archaeology Ireland* readers are familiar with the excavation projects that have been carried out in Brú na Bóinne over the last century. Work has concentrated on the impressive remains of Neolithic ritual monuments, e.g. Newgrange, Knowth, Monknewtown and Townleyhall. Indeed, the long and detailed sequence uncovered at Knowth has enabled Professor George Eogan to propose a model of development of activity at Brú na Bóinne from the early Neolithic. However, all of this work concentrates on specific sites where there is clear evidence of monumental activity and much of our knowledge of the sequence of activity in Brú na Bóinne has come to light as a chance by-product of examinations of the monuments. Perhaps because of the fantastic wealth of intact archaeology at these well-known monuments little attention has been devoted to the possibility of deriving information from the landscape around them. However, aerial photographic coverage of the area suggests that there are other low-visibility monuments, and recent geophysical work at Newgrange has revealed totally new and exciting evidence for further probable ritual activity. With these points in mind a systematic survey of the surrounding landscape for settlement evidence was carried out.



Above: Map of study area showing the main monuments and the finds density per field.

The research question

Both the passage tomb cemetery and the later henge monuments needed large populations at least to construct them and presumably to use them. While these monuments would have served the population of a wide area, it is believed that there must also have been a sizeable local community living in their general vicinity, on both sides of the River Boyne. One of the principal aims of this work was to test whether settlement and other activity associated with the Brú na Bóinne complex existed solely as an 'island' on the north side of the river among the monuments or whether there was more widespread evidence than that suggested by the distribution of the standing monuments.

The problem of identifying earlier prehistoric settlement sites is difficult and *Archaeology Ireland* readers will be familiar with the numerous recent discoveries which have come to light during the course of archaeological work on various linear developments. However, the remains of these sites are frequently ephemeral, and it is probable that only a proportion of them are being recognised owing to preservation conditions. Apart from the problems and debates of identifying houses and their distribution and what they might represent (e.g. Sarah Cross's article, *Archaeology Ireland* 15 (1)), it is clear that prehistoric people used their landscape in complex ways. As well as houses with general habitation areas, there would have been a host of other locations of significance within the landscape, e.g. activity/work areas, raw material procurement areas, hunting territories, processing sites and disposal areas, not to mention ritual and ceremonial sites, both natural and built. Of course a range of activities may have taken place on certain sites, but it is probable that certain locations or location types within the landscape were favoured for particular activities.

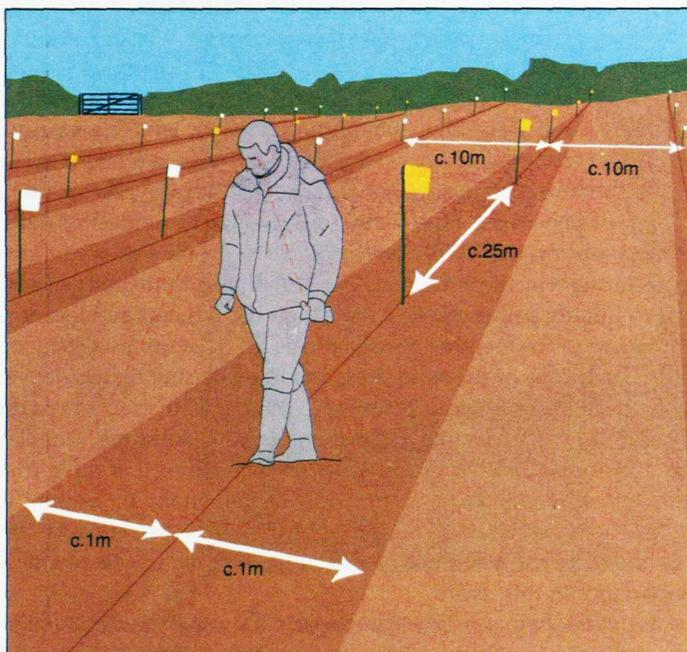
The present study aims to identify the range of site types and their locations in order to construct a model of landscape use during the earlier prehistoric period. The major question facing such work is what evidence should be looked for, i.e. what evidence is likely to survive and be relatively easily recognised in the field. While some of the features identified in aerial photographs may have had settlement-related functions, this is not possible to confirm without excavation. Because it was intended from the outset of this project to take a broad, large-scale landscape approach which could be refined and focused at a later stage, an excavation approach was clearly not the most efficient or effective use of time at this stage. Thus it was decided to address the problem through the use of a systematic field-walking survey.

Field-walking of the ploughzone has been recognised and used in Britain and elsewhere for a long time, and it is frequently used to good effect as part of large-scale landscape projects. Although amateur 'flinting' has gone on in Ireland in the past, it is only relatively recently that this technique has been used on a systematic basis to answer archaeological questions.

in the Boyne Valley

The field-walking technique

The structural elements of prehistoric houses and shelters were chiefly constructed of organic materials, very little of which survives for any length of time under normal conditions. However, we are fortunate that stone tools were used from earliest times through to the Bronze Age at least. These tools are usually of flint, and a number of other rock types were also used.



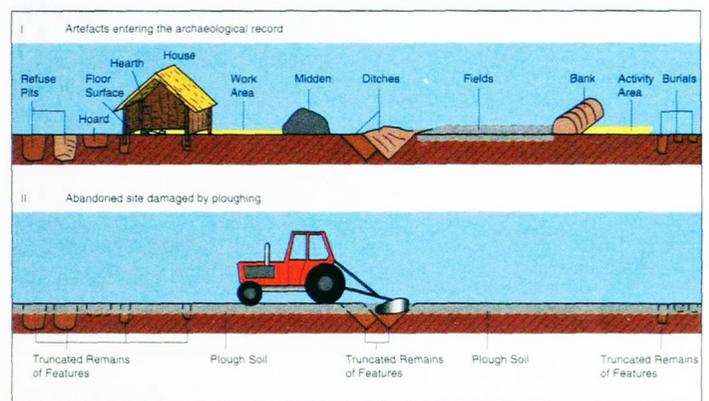
In a ploughzone scatter, finds that might normally be excavated from features on archaeological excavation sites have literally been 'ploughed in' to the ploughsoil. The surfaces and features with which they would have been associated are now largely destroyed, and only the deepest elements of trenches, pits and post-holes survive below the ploughzone. The durable finds from the disturbed portion remain suspended within the ploughsoil, and a proportion of these and later material are returned to the surface when fields are ploughed.

So, paradoxically, one of the processes that has contributed to the destruction of these site types actually allows us to 'see' beneath the soil without excavating. In effect, the plough does the excavating for us. The stone tools will, of course, be disturbed from their original contexts but, generally speaking, scatters of material within the ploughzone will largely retain their spatial integrity and will be recognisable if a suitable systematic method of recovery is used.

Research has demonstrated quite clearly that dense lithic scatters do not necessarily equate with settlement locations. In many cases, large-scale working of materials took place at a remove from

the settlement purely for safety reasons; freshly struck flint flakes and waste are as sharp as glass—not a material to have lying around the house in large quantities! There is a sequence which lithic raw material goes through from its initial quarrying and collection to the finishing, use, resharpening, repair and eventual discard of tools. House sites are generally characterised by material that falls into the later stages of this sequence, and there are generally larger proportions of tools, utilised flakes and blades, trimming (retouch) flakes (which often require sieving to recover on excavations) and prepared platform cores than would otherwise be expected.

The most common method is to walk available (i.e. ploughed/tilled) fields using a grid system with regularly spaced



transects crossing over the field, resulting in the sampling of the surface of the field. The spacing of the transects is determined by the objectives of the survey. If it is a priority to locate small ephemeral sites (like Mesolithic work areas) or to establish the internal structure of larger scatters, then a relatively narrow spacing will be required. If, on the other hand, a rapid assessment of presence or absence of artefacts relating to a series of different periods along with a rough indication of their locations is required, perhaps as a preliminary phase in a multi-stage landscape project, then a wider transect spacing will be adequate. Each transect is subdivided into regular stints of a set length so each find will come from a recordable location, which facilitates the plotting of finds on distribution maps. For the purposes of the current research, walkers were spaced 10m apart and stint length was set at 25m. Each walker can effectively cover a corridor c. 2m wide, i.e. 1m to either side of their path, resulting in 20% coverage of the surface of each field.

Above left: **The surface sampling strategy.**

Above right: **How artefacts enter the ploughzone.**

Field-walking

The procedure adopted here for laying out the grid was to first choose the longest, straightest field boundary to act as a baseline and then, using a sighting compass, to set out the transects and stints at right angles to this. Transects and stints are marked with high-visibility flags. Each transect was assigned a letter in sequence and, within each one, each stint was assigned a number. Thus each stint will have a unique reference, and finds are bagged according to the stint they come from. The transect letter and stint number are the equivalent of a context number on a conventional excavation.

The results of the field survey, once plotted, can be easily replicated or tested under differing conditions. Careful use of the same field grid from field to field is, of course, essential for results to be comparable. Dull, even light is the best for field-walking as there are no dark shadows created on the field surface. Dry weather is, of course, the preferred option for surveying; not only is it more



comfortable, but when the field surface is wet colours tend to change to a uniform dark brown. In well-weathered fields, however, damp rather than wet conditions can serve to highlight the distinct colours and smooth surfaces of flint. The number of walkers surveying on the day is also recorded, along with the transects that they walked. This is essential as different individuals tend to see different things on the surface depending on their levels of experience. A subjective measure of each person's experience can be made in order to weight areas that appear to be of lighter relative finds densities if it is felt that finds were being missed.

It is also important that fields be left for as long as possible before walking in order to maximise the effects of weathering. Frost helps to break up larger clods, while rain and wind help to clean stones on the surface. Directly after the ploughing of a field very few artefacts will be visible. As with much other archaeological work, patience is rewarded, and six to eight weeks of weathering will result in dramatic differences in surface artefact visibility. In the present survey, fields were usually walked some time after the crop has been sown, as a flat field surface is much easier to walk across than one that has only just been ploughed. However, there is constantly a trade-off between the quality of the surface and the length of the crop. If a crop is left for too long it will be damaged by walking on it, but generally speaking by this stage the crop is so high that it will begin to interfere with visibility anyway.

Analysis

The finds are washed, catalogued and plotted on field maps. Identification of scatters can take place once this has been done. The assumption underlying this work is that the presence of a lithic scatter on the surface of a field is indicative of prehistoric settlement or work-related activity, not necessarily on that exact spot but very close by. The presence of diagnostic artefacts can give broad indications of the dating of particular scatters, while an analysis of the composition of ploughzone assemblages can identify the behaviours that were involved in their initial production. As has been mentioned already, lithic artefacts can belong to one of a series of stages in a sequence from initial collection through to eventual discard. Based on these observations, it has been established that a range of different activities can be recognised. Certain locations within the landscape may have been favoured above others for certain tasks.

The present study

The study area for the present project measures 6km x 4km. It contains a relatively high proportion of arable land, an essential ingredient for field-walking, which is well distributed across the area. It also contains a relatively good variety of landscape types, including a range of slope types, aspects and soil types with a number of water-courses—factors that would have influenced people's choice of locations for settlement in the past. The visibility and proximity of scatters to fording points on the river, extant monuments and locations with views of the monuments will also be analysed using a GIS model of the landscape of the study area. The lithic density figures derived from the field-walking will be linked to this model in order to test the relationships between lithic distributions and landscape variables. Comparison with other excavated assemblages as well as other Irish and British field-walking surveys will be important in helping to refine the interpretation and dating of the scatter assemblages. The assemblages excavated from sites in Brú na Bóinne will be of crucial importance in this regard.

As outlined above, walkers were spaced 10m apart and stint length was set at 25m, resulting in 20% coverage of the surface of each field. Using the same grid, it will be possible to locate any stint again if it is felt that additional complementary techniques might help to improve understanding and aid interpretation of prehistoric activity at a particular location. The results of any such work will easily slot into the overall GIS model as separate coverages.

Data gathered to date

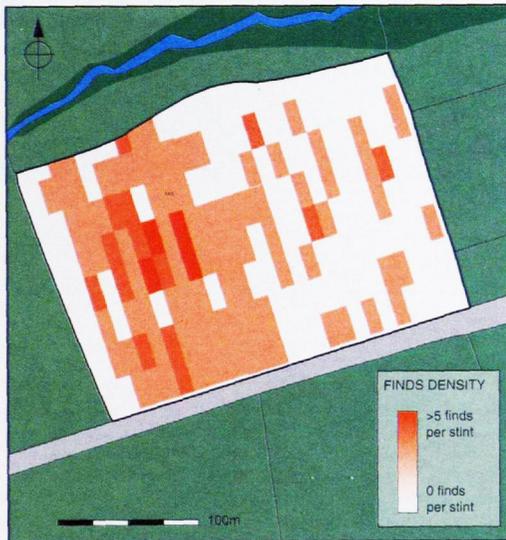
So far, all 111 available tillage fields in the study area have been walked. This adds up to just over 5km² of land, representing just over 20% of the total land surface of the study area. This has involved a team of twelve people, although a maximum of only four people will be walking at any one time because of logistical constraints. Cataloguing and analysis are complete, and approximately 13,500 finds make up the collection. Of these, 7900 are flint, and other materials collected include chert, quartz and quartzite. Finds range in date from the Neolithic through to modern times. Broad zones of activity have been identified, the most dense of which are located in the fields in Newgrange townland, representing prolonged intense activity. Elsewhere, approximately 40 scatters have been identified which have densities above normal 'background' levels. The largest

of these are distributed along the high ground at the top of the southern slope of the river valley facing into Brú na Bóinne, a number are located on the north-facing slopes overlooking the river and on the floodplain itself in Rosnaree townland, and there is another group on the eastern slope of the Cullen ridge, the highest point in the study area. There are other, smaller scatters distributed throughout the area, mainly on south-facing slopes or flat land close to or overlooking small rivers or modern streams.

Prehistoric finds include a possible fragment of a Bann flake (the only Mesolithic implement found), Neolithic leaf and lozenge arrowheads, later Neolithic transverse arrowheads, a javelin-head, early Bronze Age barbed-and-tanged arrowheads, scrapers of all classes and a number of plano-convex knives. Nine stone axes have been recovered, including examples of shale and porcellanite, and

Far left: A field-walker in action at Newgrange.

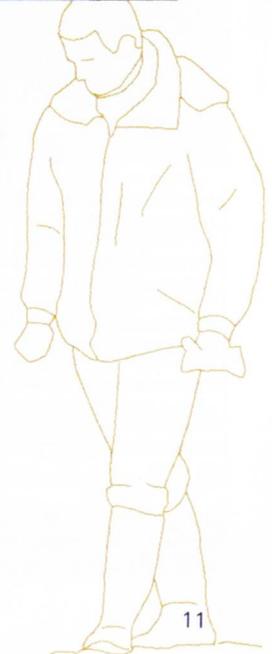
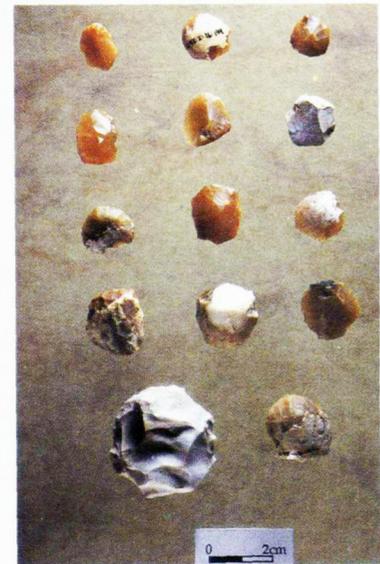
Right: Finds density plot for Field 5, Gilttown, Co. Meath.



Top: A selection of stone axeheads and a plano-convex knife.

Right: A selection of scrapers from the study area.

Below: A selection of arrowheads from the study area.



some possible early Neolithic carinated bowl pottery has also been recovered. A significant proportion of finds dated from the medieval period and included pottery, floor tile fragments and plough pebbles. Large amounts of nineteenth- and early twentieth-century pottery were also encountered at some locations and these are the result of the spreading of manure, much of which would have been transported from the local towns and villages. The density of prehistoric finds is very varied, ranging from a high of 82 finds per hectare for one of the fields at Newgrange down to less than one item per hectare. Examination of these density figures and analysis of their distribution will form the basis of an understanding of the use of the landscape within the study area over the earlier prehistoric period.

The results of the current project are exciting because there is now clear evidence that there was substantial settlement and related activity not only outside the immediate areas of the monuments themselves but also on the south side of the river. In comparison to the excavated assemblages, the range and densities of the finds recovered during the field-walking are highly significant in terms of the scale of activity they represent. Many scatters identified represent activity at least as intense as any investigated during the excavations, and some appear to be significantly larger. For example, the

Field-walking

number of finds from the scatter in Field 5 suggests a total lithics count of between 15,000 and 30,000, while the late Neolithic/Beaker settlement at Newgrange produced over 11,000 lithics. A number of scatter sites were revisited in order to carry out limited geophysical



Above: Aerial view of Field 5 from the west, with the River Boyne and the fields in front of Newgrange to the left of the picture.

survey, and one was test-excavated in conjunction with a limited geochemical survey. The results of this have added some depth to the picture presented by the lithics distributions and have been very encouraging. Work is ongoing and it is hoped that more will be revealed in the near future! ■

Notes

Under the 1994 National Monuments (Amendment) Act all archaeological objects are the property of the State. The National Museum of Ireland should be notified of the discovery of any such objects within four days. For the purposes of the present project, a National Museum collection number was sought and received before the commencement of fieldwork.

The material within the ploughzone is, like all archaeological deposits, a non-renewable resource, and when collected unsystematically or without proper recording is, in effect, useless as a source of archaeological information.

The permission of landowners was obtained before any work was carried out.

I am grateful for the financial support of the Irish Research Council for the Humanities and Social Sciences who awarded a Government of Ireland scholarship for this work.

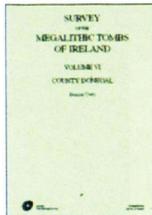
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by Eamon Coday

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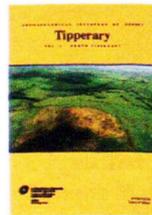


Archaeological Inventory of County Tipperary. Volume I — North Tipperary

Compiled by Jean Farrelly and Caimin O'Brien

The Archaeological Inventory of Co. Tipperary North Riding is one in an ongoing series of county inventories compiled and published by the Archaeological Survey of Ireland (ASI), part of Dúchas The Heritage Service. It is aimed at a general readership as well as the scholarly researcher. It is hoped that this publication will foster a greater awareness and appreciation of the county's cultural landscape thereby encouraging the preservation of its rich archaeological heritage. The book comprises 2474 entries of archaeological sites, which are individually described.

Format/Extent: 488pp, 297mm x 210mm
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The Liam Price Notebooks (2 vols)

Edited by Christiaan Corlett and Máiréad Weaver

District Justice Liam Price (d. 1967) had a passionate interest in history, archaeology, folklore and placenames: his book on the placenames of County Wicklow is a classic. He was a meticulous fieldworker and recorded details of sites and traditions in a series of small notebooks whose entries span some thirty-six years, from 1928-1966.

Liam Price lived and worked at a time when there were very few full-time archaeologists working in the county, and it is in this context that the importance and value of his extensive research reveals itself. Effectively, he single-handedly achieved a comprehensive archaeological survey of County Wicklow and this was acknowledged in his own life time by his friend, Harold G. Leask, Inspector of National Monuments with the Office of Public Works.

The contents of Price's notebooks have been prepared for publication in order to make available the valuable information which he gleaned from site visits and from talking to local people, often on his way to and from the local courts of Wicklow. Price also made several excursions into the neighbouring counties of Wexford, Carlow, Kildare and Dublin. The reader will find much of interest in his various accounts of monuments and traditions from this part of Ireland. Many sites and antiquities, which have since been damaged or destroyed, are described here and numerous placenames – some of which may have been forgotten – are also recorded.

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