

Ireland in Prehistory

Michael Herity and George Eogan



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IRELAND

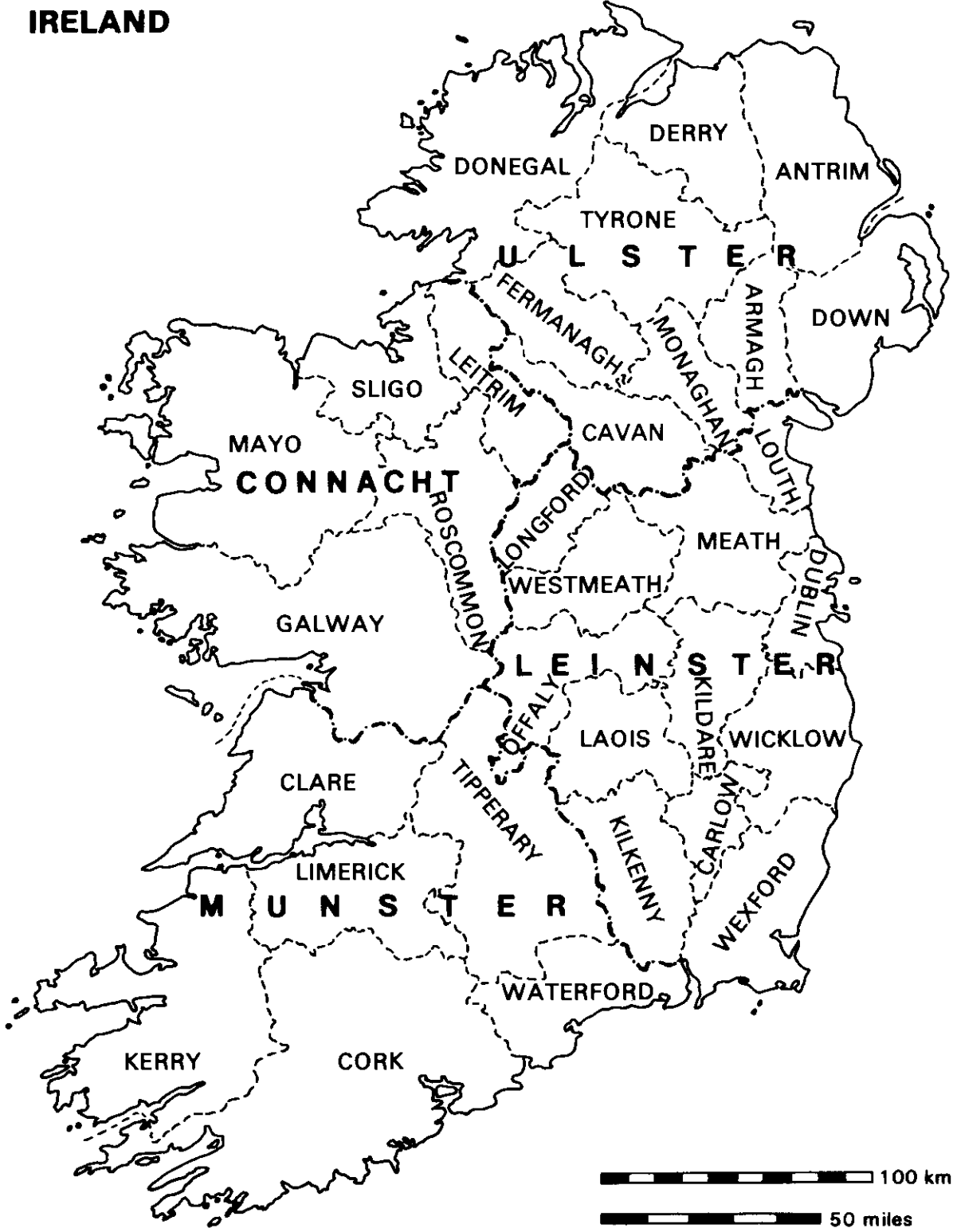


Figure 1 Map of the counties and provinces of Ireland.

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Preface

Though the last forty years have seen a great acceleration in archaeological discovery in Ireland, no work of synthesis covering the whole prehistoric period in the island has appeared since the publication of Raftery's *Prehistoric Ireland* in 1951. Irish archaeologists have been very active in this period however; a growing body of professional workers – there are now forty-five – have been accumulating a formidable body of primary evidence from both field and museum studies. Chance discovery and planned excavation have both contributed their share of information. The present work was conceived from the realization that a general prehistory was needed to order the large body of fact and to provide new orientations. Though this book is designed primarily to serve the large numbers of young people who are now studying archaeology in our universities, it is hoped that the general reader also will find the story of prehistoric Ireland told in its pages of interest.

The writers both specialize in the prehistoric period: Herity's work is related mainly to the Neolithic, and he has written chapters 1–4 and 11; Eogan's work centres upon the later Bronze Age, and he has written chapters 5–10. The material presented in a book of this kind is inevitably only a selection, and both writers are well aware that alternative selections of material and other interpretations can be put forward, particularly in the areas in which they are not specialists. It is hoped, however, that the present compilation will at least have indicated Ireland's wealth of prehistoric material and raised new questions about pre-Christian Ireland.

The writers are indebted to their colleagues in the Department of Archaeology at University College, Dublin, for their willingness to discuss numerous points during the writing of the book. The bibliography is an eloquent tribute to the work of individual prehistorians in Ireland.

Acknowledgments

We are grateful to the Director (Dr A. T. Lucas) and the Keeper of Irish Antiquities (Dr Joseph Raftery) for providing facilities to study prehistoric material in the National Museum of Ireland; we also wish to thank them for providing photographs (Plates 12a and b, 13a and b, 14b).

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For permission to reproduce copyright photographs of Irish monuments and landscapes we are grateful to the Commissioners of Public Works in Ireland (Plates 5b, 6b, 7b, 10b, 15b, 16), Dr J. K. St Joseph (University of Cambridge Aerial Photography Collection, Plates 1a, 5a, 6a, 10a, 11a and b), Mr Seán Ó Nualláin (Plate 4), Mr A. E. P. Collins (Northern Ireland Archaeological Survey, Plate 8b) and Dr Daphne Pochin-Mould (Plates 9a and b). We should also like to thank the following individuals and institutions for permission to reproduce portraits, Miss Saive Coffey (Plate 3c), Mrs Mary Cooper (Plate 2c), Royal College of Physicians in Ireland (Plate 3b), Royal Dublin Society (Plate 2d) and Royal Society of Antiquaries of Ireland (Plates 3a and 3d).

Many of the drawings which illustrate this volume are based on material published in the following journals – *Acta Archaeologia Austriaca*, *Archaeologia Cambrensis*, *Archaeological Journal*, *Journal Cork Historical and Archaeological Society*, *Journal Kildare Archaeological Society*, *Journal Royal Society of Antiquaries of Ireland*, *Palaeohistoria*, *Proceedings of the Royal Irish Academy*, *Sibrium* and *Ulster Journal of Archaeology*.

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The Background, Geographical and Historical

Ireland is an island in the Atlantic. She lies immediately to the west of Britain. Her sea-indented west coast is continuous with that of Atlantic Europe and with the west of Scotland and Norway, this whole long seaboard united from Cadiz to Bergen by the Atlantic Ocean. The eastern half of the country has been left far richer by Nature than the west, and it looks across a less hazardous sea towards Britain, and beyond to the Low Countries and Jutland and the mouths of the rivers Rhine and Elbe.

Two hundred and fifty million years ago, when the Silurian and Devonian epochs had passed, the mass on which Ireland's foundations lie had been roughly sculpted. Her mineral wealth had already been created: the copper deposits of Avoca in Wicklow's Caledonian foldings, the gold which presumably lies at the margin of the Leinster granite close by and, in the Armorican foldings of the south, the Silvermines deposits of Tipperary and the copper of west Cork and Kerry (Fig. 2b).

A relatively short hundred million years ago, the chalk of Antrim and Derry with its layers of flint nodules had been formed at the bottom of a Cretaceous sea (Plate 1a). Later, the ice came. An ice sheet, 300 m thick, ground and smoothed the mountains, leaving a broad central plain, opening to the sea on the east but otherwise surrounded by a ring of mountains. Most of the country was covered over with a generous depth of rich glacial mud and clay (Fig. 2a; Plate 1b).

Only in winter, and then only occasionally, does Ireland today feel the intense cold of the North European Plain; even then, her western seaboard tends to remain under the influence of the mild and moist south-westerlies that blow in over the warm Gulf Stream. These winds and ocean currents have brought to Ireland a dramatic link with the flora of Spain and Portugal and even of America, for several Lusitanian and American plants exceptional in these latitudes are found in the south-west and west of Ireland (Fig. 2c). Nature has thus been generous with Ireland, endowing her with gifts of minerals, land and climate; she is 'rich in pastures and meadows, honey and milk'

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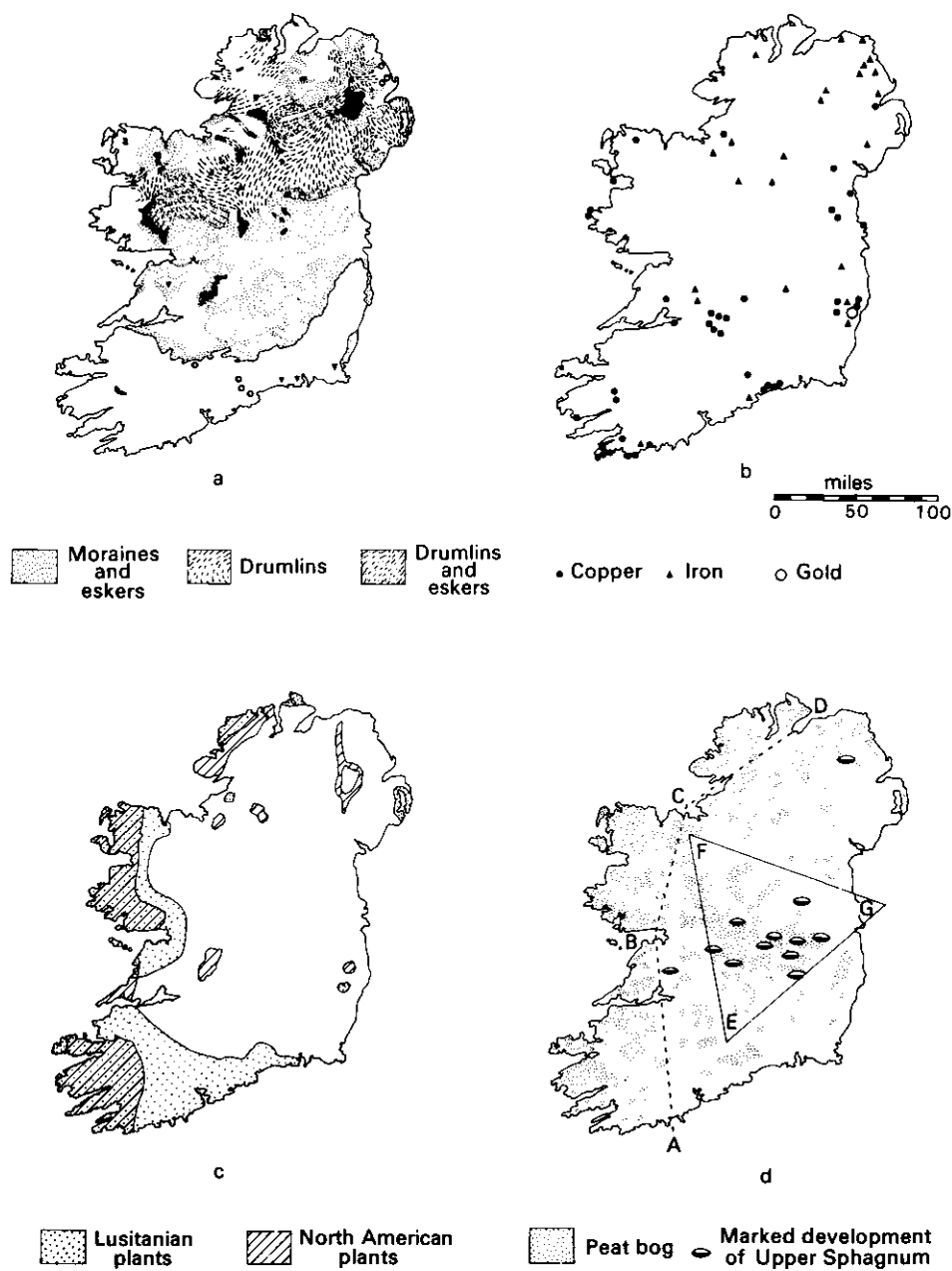


Figure 2 Maps of Ireland showing (a) extent and effects of the most recent glaciation (after Charlesworth); (b) Ireland's mineral resources; (c) the extent of plants of Lusitanian and North American origin (after Charlesworth); (d) Irish peat deposits.

as Gerald the Welshman described her in 1185, having within her shores the best cattle-land in Europe.

Climate History

The science of pollen analysis has enabled workers in Ireland to chronicle the history of climatic change from the end of the Ice Age onwards in a series of successive eras, called zones. Raised bog deposits which began to form in the hollows of the central plain as soon as they were free of ice have grown steadily from then on to the present day, trapping and preserving on each new surface the pollens of trees and other plants which grew to windward (Fig. 2d). The analysis of these pollens under the microscope enables us to reconstruct the varying representation of significant plants as time went on and broadly to deduce a history of vegetation and climate. The detailed examination of layers of mud formed at the end of the Ice Age in Scandinavia (Varves) and the new technique of radiocarbon dating allow us to locate each pollen-zone precisely in time (Clark 1960, 143–9, 156–9; Jessen 1949; Mitchell 1951).

The story thus documented opens after the retreat of the ice-sheet with an open tundra vegetation, including dwarf willow (*salix herbacea*), covering Ireland. A new warmer zone began at 10,000 B.C. and lasted to 8800 B.C.; grasses and herbs appeared and birch and juniper were common. A third stage, ending at 8300 B.C., showed a regression to the earlier, open tundra vegetation, suggesting the return of a very cold climate for a brief period at the very end of the last Ice Age. Some oceanic influences can be discerned at this stage. It marks the end of the Palaeolithic or Old Stone Age in these latitudes.

With the beginning of neothermal times, in Zone IV, birch re-appeared and aspen and heather grew for the first time. This Pre-Boreal phase (8300–7500 B.C.) was still significantly colder than modern times. An expansion of hazel indicates a climatic improvement at the beginning of the Boreal phase, named from *Boreas*, the north wind of the Greeks (7500–6900 B.C.). In this zone, birch began to decline and oak and elm reached Ireland and grew in small numbers. By this stage, the climate was as warm as it is today. The climatic improvement continued in the next phase, still Boreal (Zone VI: 6900–5200 B.C.). Summer temperatures then reached a point at which they were higher than today, and the wind system tended towards the oceanic, favouring the growth of holly and ivy. The first signs of man are claimed for this phase, which belongs to the Mesolithic or Middle Stone Age.

An Atlantic phase, Zone VIIa (5200–3000 B.C.), in which alder flourished, brought a climax in the warm oceanic climate. In this phase the sea rose to a maximum post-glacial inundation of the coasts of the north-east of Ireland, leaving behind on its retreat the Larnian raised beaches. Periwinkle (*litorina littorea*), a lover of warm waters, was now as common on these shores as it was in the contemporary Litorina raised beach of the Baltic.

Whereas in the period that has gone before, Nature has determined the changes in

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vegetation, it is probably the influence of man in initiating forest clearance that gives rise to the next or Sub-Boreal phase (Zone VIIb). The arrival of the farmers of the Neolithic or New Stone Age period may have thus caused the elm decline sometimes taken as the distinguishing mark between Zone VIIb and the preceding VIIa. This phase (3000–1000 B.C.) was drier and warmer, as much as 2–5° C. better than today, with less oceanic wind-cycles. Oak was very common, and birch and pine grew 1000 ft above their present limits on the mountain sides. A return to the wetter, temperate climate of today came with the Sub-Atlantic, about 1000 B.C. (Zones VIII–X). It was about this time, or a little before, that the blanket bogs of the higher mountains and of the west of Ireland started to grow, enveloping the tombs and farmsteads of the first farmers and their successors and thus preserving them. The population by now had grown to proportions big enough to have an even more significant influence on the vegetation through tree clearance and the growing of crops.

It was against this backdrop of changing climate and plant life that ancient man in Ireland acted out his story, looking to the land, the riches within it, and the plants, crops and animals feeding off it, for his material necessities. We turn now to another story, the history of how our present knowledge of the ancient drama has developed over the last centuries.

The story of antiquarian thought can help us to appreciate the kind of questions asked in modern archaeology. It can also indicate sources in which useful information about the context of older finds may be obtained, and give us significant insights into the cultural history of Ireland. Although things ancient were much prized in the Celtic tradition, a study of modern Irish antiquarianism can conveniently begin about the year 1600.

History of Irish Archaeology

The English antiquarian tradition, newly begun by William Camden and the Elizabethans, was taken up in Dublin at the beginning of the seventeenth century by Ussher and Ware. Both these men made contact with the scholars of the native Irish tradition who could interpret for them the old Irish chronicles and the mythical Celtic history of Ireland's origins. The native tradition was dying with the break-up of Irish society after the Flight of the Earls in 1607, and the Franciscans, like Colgan on the continent and the Four Masters at home, whose *Annals* were compiled at Bundrowes in Donegal between 1632 and 1636, were doing what they could to commit authoritative versions of it to paper before it was lost forever. Sir James Ware (Plate 2a), whose *Antiquities* was first published in 1654 and in a revised version in 1658, employed as his interpreter An Dubhaltach Mac Fir Bisigh, one of the Mac Fir Bisigh family of Lacken, near Ballina in Co. Mayo, the hereditary learned family of the O'Dowdas (Herity 1970a), one of whose forbears, Giolla Íosa Mór, had written the *Great Book of Lecan* in 1418.

When the Dublin Philosophical Society was founded by William Molyneux and Sir

William Petty in 1683, this collaboration between the new and the native antiquarian traditions was continued: Thady Rody of Fenagh in Co. Leitrim was asked to write descriptions of his native county and of Longford, and Roderick O'Flaherty, who was at that time finishing his *Ogygia* (1685), wrote a description of Iar-Connacht. Though the new spirit recognized the value of legendary history, this attitude did not bring any significant results in Ireland until the coming of Edward Lhuyd in 1699. Lhuyd, who was Keeper of the Ashmolean Museum at Oxford, and who had conceived a plan of investigating the language, antiquities and natural history of Wales, Scotland and Ireland, was to spend almost a year in Scotland and Ireland. In August of that year, Lhuyd arrived in Dublin with three young helpers, David Parry, Robert Wynne and William Jones. There they split forces: Jones and Wynne were sent west and south with specific instructions to reconnoitre and record the geology, botany, history, antiquities and folklore of the country, while Lhuyd himself and Parry went northwards to Antrim and into Scotland to return to the north and west of Ireland in January of 1700 (Campbell 1960). Though Lhuyd's original notebooks have almost entirely perished, several letters of his are extant as well as copies of the drawings made by the party, which were rescued by John Anstis immediately after Lhuyd's death in 1709 (British Museum MSS. Stowe 1023, 1024). Among the antiquarian drawings and descriptions are several of New Grange, of the High Crosses at Monasterboice, of the monuments around Cong in Co. Mayo, of megalithic tombs around Donegal Bay, and of the monastic remains at Clonmacnois on the Shannon. Lhuyd's observations were perceptive and rational (Herity 1974, 1-2). In all, about sixty monuments are drawn in the Anstis notebooks, a cross-section of Ireland's monuments not equalled until the Ordnance Survey began its work in the late 1820s. Volume 1 of the *Archaeologia Britannica*, embodying some fruits of his linguistic researches, was published in 1707, and he died in 1709. Had Lhuyd lived to complete Volume 2 of this work, an incisive analysis of the monuments, their folklore and their legendary history would have been produced. As it was, this was not to be done until O'Donovan and Petrie began their work with the Ordnance Survey well over a century later.

The eighteenth century began with the issuing of a number of editions of Ware's *Antiquities* translated into English. Sir Thomas Molyneux, a medical doctor, who became the state physician in Ireland, and brother of William Molyneux, also republished Gerard Boate's geographical work, the *Natural History of Ireland*, published originally in 1653 for the benefit of Cromwellian planters; with this he included several articles written under the aegis of the Dublin Philosophical Society and published in the *Philosophical Transactions* of the Royal Society, as well as his own essay asserting the Danish origin of the Round Towers and of New Grange, the *Discourse concerning the Danish Mounts, Forts and Towers in Ireland* (1726).

Walter Harris, who brought out the most extensive and useful edition of Ware's *Antiquities* (1764), was one of the members of another Dublin group, the Physico-Historical Society, a society consisting mainly of noblemen, who met for the first time

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in the Lords' Committee Room of the Parliament House in Dublin in April 1744. Its members described themselves as 'a voluntary society for promoting an enquiry into the Ancient and Present State of the several Countys of Ireland'. Harris, a Dublin lawyer, and Charles Smith, an apothecary from Dungarvan in Co. Waterford, published a description of Co. Down in 1744. Smith went on to publish descriptions of Cos Waterford (1746), Cork (1750), and Kerry (1756), and to assemble the materials for a description of the rest of Munster. James Simon's *Coins* was also published under its aegis (1749) but, had he not communicated them to the Society of Antiquaries at London, drawings and descriptions of several Irish prehistoric antiquities found about that time would have been lost. Several valuable accounts written by Dr Pococke, Bishop of Ossory, would also have been lost had they not been communicated to the same Society (Pococke 1773; Herity 1969).

About 1770, the new romantic spirit brought a surge of interest in the past. In that year, Major (later General) Charles Vallancey began the publication of his *Collectanea de Rebus Hibernicis* of which six volumes in all were to appear by 1804 (Plate 2b). The first publication was Sir Henry Piers's *Chorographical Description of the County of West Meath* written for the Molyneuxs in 1682. The title page of volume 1 describes Vallancey as *Soc. Antiq. Hib. Soc.*, but apart from other equally oblique references, little is known of this Hibernian Antiquarian Society. The original purpose of the *Collectanea* (1770–1804) was to publish the writings of earlier workers like Ware, Camden and Lhuyd, but soon the only contributions were those of Vallancey himself, 'inspired omniscient antiquary', whose quotations in Arabic, which he had learnt during a sojourn in Gibraltar before coming to Ireland, were to exhaust the stocks of Arabic type in all the Dublin printing presses:

THE Author, desirous of printing the Arabic words in their proper characters, prevailed on the printer to borrow all the Arabic Types, this city afforded; after all endeavours to compleat the alphabet, but one *Kaf*, and no final *Nun*, could be found, and several deficiencies in the points appeared. We were therefore under the necessity of writing most of the Arabic words in Roman letters, adopting the sound in the best manner we could.

(*Collectanea*, vol. 5, iv)

In May 1772, the Royal Dublin Society, which had been established in 1731 for the improvement of farming and industry, founded a Committee of Antiquities. Joint secretary with Vallancey was Edward Ledwich, Dean of Aghaboe and author of the *Antiquities of Ireland* (1790). Not to be outdone by Vallancey, he deciphered writing 'in Bebeloth characters' on the face of one of the High Crosses at Castledermot. As the Molyneuxs and the Physico-Historical Society had earlier done, this committee sent out a questionnaire seeking antiquarian information; its most important act, however, was to advertise in the continental gazettes seeking manuscripts which would have been taken abroad by Irish noblemen, soldiers and clerical students after the Williamite Wars and during the Penal times.

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Some of the most valuable work done in this period was done under the influence or patronage of William Burton Conyngham of Slane in Co. Meath, who was a Lord of the Treasury at Dublin Castle and who, after coming into his inheritance in 1779, devoted much of his private money to antiquarian research (Plate 2c). He engaged two artists, Gabriel Beranger (Plate 2b) and Angelo Bigari, a scene-painter at the Smock Alley Theatre, and sent them on two tours, one to Sligo and the west, the other to Wexford, to plan and describe antiquities (Wilde 1870). Bigari's drawings were afterwards published in full by Grose (1791), but not Beranger's, though a number of his were used by Vallancey and, afterwards, by Petrie. This group of 'Castle' antiquaries included Austin Cooper, who was a clerk in the Treasury at Dublin Castle and who also acted as a landlord's agent. A number of his published drawings indicate the interests of a typical antiquary of this school and period: old castles, churches and towers, earthworks like Norman mottes and ring-forts and megalithic tombs (Price 1942). Because of the difficulties of travelling, many of the drawings in his collection are copies from those of other artists and antiquaries; several of Cooper's, for instance, are the work of Vallancey, Lord Carlow, Jonathan Fisher and of Cooper's cousins Turner and Walker.

The Royal Irish Academy, founded in 1782, had a good deal in common with the contemporary movements. The scholars connected with it were mainly from Trinity College and they included Antiquities with Polite Literature in the scope of their inquiries; their *Transactions*, the first volume of which commenced in 1785, contained an account of a Bronze Age Urn from Kilranelagh in Co. Wicklow. Other objects donated as a result of the investigations of Vallancey and Conyngham were placed in the Trinity College Museum for safe-keeping. A scholar who was sought after by all the different bodies of Dublin antiquaries was Charles O'Connor of Belanagare in Co. Roscommon, an Irishman trained in the native learning, the equivalent in the eighteenth century of Mac Fir Bisigh, Rody and O'Flaherty in the seventeenth, whom the Dublin antiquaries of that day had also sought out.

The Ordnance Survey

With the passing of the Act of Union in 1800, the Ascendancy *dilettanti* left Dublin for London and antiquarian work went into decline for want of private patrons. When the Ordnance Survey was set up in 1823, it was now the turn of the State to provide the patronage. Travel was becoming easier in this century, with the building of roads and canals and, later, railways. Printing technology was improving and wider markets for printed works were being created with the growth of popular education: the Irish National Schools system was set up in 1829.

The Irish Ordnance Survey was founded to provide a set of detailed and authoritative maps on which a new valuation of land could be based. The trigonometrical survey was begun in 1824 under the direction of Colonel Thomas Colby, who commanded the Survey Corps, a branch of the army with headquarters at

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Mountjoy House in the Phoenix Park in Dublin. In 1828, Lieutenant Thomas Larcom was appointed to assist Colby in the work of surveying and engraving the large-scale maps, the work for which was at that time being begun in the north of the country. Notes were to be taken by the surveyors of the natural resources, population, economic potential and the historical and archaeological monuments of each parish as they surveyed it. Because of the importance attached by Larcom to the marking of the names on the maps, he undertook the study of the Irish language in 1828. The teacher he chose was John O'Donovan (1807–61).

O'Donovan was born in Attateemore in Co. Kilkenny and received a good education in Irish and in the Classics. In 1830 he joined the Survey in the Placenames and Antiquities section: his job was to follow the surveyors into the field, to determine the pronunciation and derivation of the names collected by them and noted in a Namebook for each of the 2400 Civil Parishes in the country, and to suggest a suitable English rendering of each name for the maps.

The basic map of the Survey was engraved at a scale of six inches to the mile (1 : 10,560). On it was marked every field and farmhouse in the country and all antiquities and other features noted by the surveyors. Even today, this is the best basic survey of field antiquities in Ireland. O'Donovan's vast experience of the country is attested by the great number of letters written by him from the field to Larcom at Mountjoy House: so extensive was his knowledge of Irish monuments that he was able to suggest authoritative identifications for most of the hundreds of sites mentioned in the pages of the *Annals of the Four Masters*, which he edited in 1849. In 1851 he became Professor of Celtic at the new Queen's College in Belfast.

The Ordnance Survey thus brought an ordered and sustained effort to bear on the study of field antiquities on a countrywide scale. The Heads of Inquiry issued as guidelines to the officers listed the principal requirements as drawings and descriptions and a note of local traditions in respect of 'Ecclesiastical Buildings', 'Military Buildings', 'Remains of Pagan, or unknown origin' and 'Miscellaneous'; while the Survey personnel were enjoined, 'a good drawing is more valuable than an inscription and well preserved tradition than doubtful history.'

George Petrie (1789–1866), who had begun life as an artist and had been drawn into the study of antiquities in the 1820s, became head of the Placenames and Antiquities section of the Survey in 1835 (Plate 3a). His clear-minded approach and his respect for Baconian logic helped to bring Irish antiquarianism from the extremes of the romantic phase into harmony with the more logical and scientific spirit of nineteenth-century science. Both his great published works benefited from the collaboration of O'Donovan and the exact mensuration of the surveyors. His *History and Antiquities of Tara Hill*, published by the Royal Irish Academy in 1837, is a detailed description of the monuments remaining on the hill and an identification of these with a *Dindseanchas* description written by an antiquary of the old Celtic tradition about the year 1000.

Petrie's *Essay on the Round Towers* was first written for a competition of the Academy

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in 1832: the prize was a gold medal and £100. In the published version he argued three major conclusions based on the siting of the towers in ancient monasteries, on the fact that many bore Christian ornament and on the nature of their architectural construction. His conclusions were as follows:

- I That the Towers are of Christian and ecclesiastical origin and were erected at various periods between the fifth and thirteenth centuries.
- II That they were designed to answer, at least, a two fold use, namely, to serve as belfries, and as keeps, or places of strength, in which the sacred utensils, books, relics, and other valuables were deposited, and into which the ecclesiastics, to whom they belonged, could retire for security in cases of sudden attack.
- III That they were probably also used, when occasion required, as beacons, and as watch-towers.

(1845, 2)

Petrie supported his arguments with several passages from ancient historical sources and noted that his conclusions were supported 'by the uniform and concurrent tradition of the country'. The essay, published in 1845, brought order and logic to a subject that had long excited antiquarian attention. By the time of its publication, the large-scale maps of the Survey had been engraved for all thirty-two counties and many of the personnel disbanded.

Eugene O'Curry (1794–1862) joined the Survey late, in 1837. A scholar in the native tradition, he had learnt Irish from his father at his home at Doonaha in the south-west of Co. Clare. After leaving the Survey he was employed with O'Donovan editing Irish texts at Trinity College, and in 1854 he became Professor of Irish History and Archaeology at Cardinal Newman's Catholic University in Dublin. Two series of his lectures were afterwards published: *Lectures on the Manuscript Materials of Ancient Irish History* (1861) and *On the Manners and Customs of the Ancient Irish* (1873).

With the publication of the Ordnance Survey maps, a basic document was available from which the study of field antiquities could be begun. John Windele of Cork was using the Ordnance Survey maps of Kerry as early as 1848 and, later in the century, Wood-Martin, Westropp and Borlase were to make extensive use of these valuable maps.

The coming together of Petrie and Larcom with O'Donovan and O'Curry reflects the meeting of the more scientific antiquarian spirit with the native tradition begun more than two hundred years before. In the Ordnance Survey, the sustained and disciplined efforts of these men extending over a period of at least ten years' full-time work brought Irish antiquarianism on to a new plane. Yet, their very success with Tara and the Round Towers had within it a weakness that was to retard progress later on.

Ancient Objects, Collectors and Museums

Chance finds of ancient objects were recorded long before the establishment of our

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first museum: a sword found at Eamhain Macha in 1111, a gold horse-bit presented by Strafford to Charles I, gold objects, including a Tara-type torque from Ballymorris in Co. Laois, the subject of a Treasure Trove inquisition in 1673, a Late Bronze Age horn found in a cairn near Carrickfergus and drawn and described by Lhuyd in 1699. Before Lhuyd's visit, a Food Vessel found in a Passage Grave at Waringstown in Co. Down had been presented to the Dublin Philosophical Society and was housed in the Library of Trinity College with a small collection of other antiquities.

With the acceleration of land clearance and agriculture in the eighteenth century, the finding of objects also increased and the few records we have of the finding of gold objects are probably only the tip of the iceberg. Several are recorded in the Minutes of the Society of Antiquaries at London (Herity 1969), and many of those in the collection of the Royal Dublin Society, founded in 1731 for the improvement of agriculture, may have come from there as it was the only scientific Society with which the finders had any contact. There are many accounts, however, of objects that came into private collections and have since disappeared, and many others of objects which came into the hands of jewellers and were melted down into bullion. Such was the fate of a massive treasure of Viking armlets of gold, found on an island on the Shannon in 1803 and weighing 160 oz (5 kg), which was melted down by Delandre, a Dublin jeweller, because he could not find a collector to pay a small premium on the bullion value, say £700 in all (Vallancey, *Collectanea*, vol. VI, 255–65). Happily, objects like the Clones gold fibula, which weighs 15 oz, came into the possession of the Hibernian Antiquarian Society and were preserved in Trinity College and the Royal Irish Academy at the end of the previous century, before the Union.

In the 1830s, interest in the Academy's collections was revived and a new policy of acquisition was begun. In 1837, a collection of antiquities was bought from Underwood, a Dublin jeweller, and two years later the Cross of Cong was acquired from the representatives of Fr Prendergast, the last abbot of Cong, who had died some years earlier. In the same year, two gold torques found at Tara were bought for £150 from West, the Dublin jeweller: these had been found in 1810 and had been more or less continuously in West's possession since then. In 1842, the Academy raised over £1000 by subscription for the purchase of an extremely valuable collection, that of Dean Dawson of St Patrick's Cathedral in Dublin.

Victorian drainage works on the Bann and the Shannon brought up quantities of objects which had been lost at prehistoric crossing-places: these, too, were added to the Academy's museum, so that when William Wilde (Plate 3b) was commissioned to edit the catalogue of the Academy's collections in March 1857, in preparation for the visit of the British Association, the collections had grown to something approaching those of Copenhagen, the foremost prehistoric museum in Europe. Wilde chose to order the objects by simple categories; stone, earthen, vegetable and animal materials; copper, bronze, silver and gold (1857, 1861, 1862), despite the fact that Thomsen's Three Age system was gaining acceptance all over Europe and had been promulgated at the Academy itself in 1847 by Worsaae (Daniel 1964, 47; Wilkins

1961). His choice of this arrangement may have been dictated by the necessity for speed: the resolution to spend £250 'in the arrangement and cataloguing of the Museum' was taken on 16 March 1857, and the first section of the *Catalogue*, amounting to 250 pages, was ready for printing by August, at the end of which month the British Association met in Dublin.

The thirty years ending in 1860 had brought Irish antiquarianism onto a new plane of development largely through the efforts of the Ordnance Survey and the Royal Irish Academy: Wakeman's assessment was that it had been shown 'that Ireland contains an unbroken series of monuments, many of them historical, which lead us back, step by step, to a period long before the conversion of her people to Christianity', that museums had been formed and that annals and manuscripts relating to her history and antiquities had been translated (1848, viii). New antiquarian societies had been founded. In Belfast, the Natural History and Philosophical Society was founded in 1821; by 1831, its members were ambitious and energetic enough to collect £10,000 to build a public museum, and between 1853 and 1862 a first series of the *Ulster Journal of Archaeology* was published under the editorship of Robert MacAdam. In Cork, the Cuvierian Society had encouraged antiquarian work from 1836 on, and in Kilkenny a local antiquarian society, founded in 1849, began the publication of its own journal, which now continues as the *Journal of the Royal Society of Antiquaries of Ireland*. Excavations with a more or less scientific purpose began to be made: at Lagore, under Petrie and Wilde in 1839, at Dowth, by Frith for the Academy's Committee of Antiquities in 1847, and at Ballynahatty in 1852 under MacAdam and Getty. Public interest was certainly enlightened, as Thomas Davis's essays in the *Nation* newspaper (1842-5) testify. The very success of Petrie's essays of 1837 and 1845 may have done much to foster an insular climate of opinion in which it was easy silently to reject Thomsen's Three Age system. The archaeological arguments in the Round Towers essay were strongly supported by a wealth of quotations from historical sources, as well they might be, for the towers probably began to be built about A.D. 900, by which time the Irish annals were well established. In the Tara essay, Petrie had an illusory success. Following on Petrie's success, O'Curry ascribed Bronze Age weapons to the Celts in his *Manners and Customs* and accepted the mythical chronology of prehistoric Ireland devised by the pseudo-historians as having historical validity. He was followed by Eugene Conwell, the schools inspector who described the Loughcrew Passage Graves in Co. Meath, who identified Cairn T, the focal tomb on Carnbane East, as the tomb of the mythical Celtic figure, Ollamh Fódhla (1873).

Petrie, O'Donovan and O'Curry, who had dominated for three decades, all died in the 1860s and Irish archaeology lost impetus after their deaths. They were followed by a generation of field-workers, Conwell, James Fergusson, a Scottish architect (1872), W. G. Wood-Martin, a Sligo landlord, who in his *Rude Stone Monuments* (1888) followed a lead given by Fergusson, and fell in with the European vogue for lake-dwelling archaeology in his *Lake-Dwellings of Ireland* (1886). Westropp's work in the

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field, which began before 1890 and continued well into the twentieth century, is typical also of the period. The finest of all of these field syntheses was written by a Cornishman, William Borlase, whose compilation, *The Dolmens of Ireland*, is a most thorough corpus of 898 Irish megalithic tombs (1897).

Fieldwork, George Coffey and R. A. S. Macalister

The search for the earliest man in Ireland was largely conducted in the implementiferous raised beach gravel of Antrim and Down from about 1870 onwards. Collectors in that area, following the work of de Perthes, de Mortillet, and Lartet and Christy, searched for flint tools of primitive aspect in the hope that these might parallel those of the French cave and drift deposits which had been recognized as of great antiquity only about 1859 (Daniel 1964, 45). William Knowles, a landlord's agent from Ballymena, was a central figure in these investigations and also in a series of parallel examinations of the sandhills deposits of the same area, conducted by a Committee of the Royal Irish Academy and modelled on the contemporary Kitchen-midden Commissions of Denmark. As had earlier happened at Meilgaard, the first of these kitchen-middens to be scientifically investigated in Denmark, and in the Swiss lake-dwellings investigations which began in 1854, archaeologists and natural scientists worked in collaboration, and the theoretical basis of Irish archaeology may have benefited from this contact with the more developed natural scientific disciplines.

By 1895, archaeological knowledge had advanced to the stage where it was possible for W. G. Wood-Martin to publish his *Pagan Ireland*, the first extensive work of synthesis on Irish prehistoric archaeology. The great antiquity of man was recognized, and the study of his remains was allied to the study of modern so-called primitive peoples, while the uncritical acceptance of Celtic myth was castigated. The story was not yet conceived in sequence, however; his chapters were mainly descriptive, treating of the different categories of monuments and museum objects.

In 1897, George Coffey (1857–1916) was appointed Curator of the Royal Irish Academy's collections, which by then were housed in a new Museum of Science and Art set up by the government. Coffey, the first professional archaeologist since O'Curry, had studied engineering at Trinity College, Dublin, and had been called to the Irish Bar in 1883 (Plate 3c). He was a member of the circle of literary men and artists who fostered the Celtic Revival in Dublin and he frequently exhibited at the Royal Hibernian Academy. He devoted himself to continuing the cataloguing of the collections begun by Wilde, and in 1909 he brought out his *Guide to the Celtic Antiquities of the Early Christian Period*. His description of New Grange and other Irish Passage Graves, *New Grange and other Incised Tumuli in Ireland*, sub-titled 'The Influence of Crete and the Aegean in the Extreme West of Europe in Early Times' (1912a), probably shows the influence of the notion *ex oriente lux* of Oscar Montelius, the dominant figure of northern prehistory, with whom he corresponded. In *The Bronze Age in*

Ireland (1913), he adopted Montelius's five-period division of the Bronze Age in Britain and Ireland.

Coffey conceived his three books as complementing one another in delineating the history of ancient art in Ireland and in relating Irish remains with those of the European continent and the Mediterranean (1913, vi); now, in the age of Montelius and of the French synthesist Joseph Déchelette (1861–1914), the prehistory and proto-history of Ireland could be conceived in sequence.

Coffey's assistant from 1907, who became Keeper on his retirement in 1914, was E. C. R. Armstrong (1879–1923). He studied archaeology in Germany, and is probably best known for his *Catalogue of the Gold Ornaments in the Collection of the Royal Irish Academy* (1920). In 1922, he resigned the post to become Blue Mantle Pursuivant of Arms at the Heralds' College in London, and he died shortly afterwards.

A great stimulus was given to archaeological work in Ireland with the appointment of R. A. S. Macalister (1870–1950) to the chair of Celtic Archaeology (interpreted in the older sense of prehistoric archaeology) at University College, Dublin, in 1909 (Plate 3d). For the previous nine years he had worked in Palestine as Director of the Palestine Exploration Fund and he was to teach at University College until 1943. His *Ireland in Pre-Celtic Times* (1921a) is an interesting combination of the historical and anthropological approaches, with chapters on the 'Stone and Bronze Ages', 'Ornament and Symbolism', 'Social Organisation', 'Pottery', 'Dwellings and Fortifications', and 'Religion and the Disposal of the Dead', an arrangement foreshadowed in Wood-Martin's *Pagan Ireland*. In the same year, he published the first volume of a projected but unfinished *Textbook of European Archaeology* (1921b), an excellent summary of the Palaeolithic and Mesolithic. The notion of an archaeological culture so familiar today had not been realized in 1921, and Macalister referred only to *societies* and *states*. Besides continuing his Near Eastern work, he kept up a constant flow of articles in the fields of Celtic Studies and archaeology (Brennan 1973). His *Archaeology of Ireland* (1928) and *Ancient Ireland* (1935) continued the synthesis of prehistory and early history begun in his earliest lectures, which were published in instalments in the *Irish Monthly* in the years before 1920. Archaeology was established as a degree subject in all of the colleges of the new National University with the founding of Chairs at the Cork and Galway colleges (Clark 1939, 193–4).

The Period 1930 to the Present

It was in 1932 that fieldwork on the sustained scale that is normal in modern times began, for in that year two young members of the staff of Queen's University, Belfast, Estyn Evans of Geography and Oliver Davies of Classics, collaborated in the excavation of a Neolithic Court Cairn at Goward in Co. Down. In the following decade, they conducted several excavations, mainly in tombs, and provided much of the driving force behind the survey of monuments begun under the auspices of the Belfast Naturalists' Field Club. Of this a first instalment was published by Evans and

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Gaffikin (1935) and an enlarged version in the *Preliminary Survey* (Chart 1940). To all these workers goes the credit for reviving the *Ulster Journal of Archaeology* in a third series which began in 1938, and the creation of a lectureship in archaeology at Queen's University, Belfast, in 1948.

In 1927, a Committee of Inquiry which included Professor Nils Lithberg of Stockholm among its members was set up by the Minister for Education to inquire into and report on the main purposes that should be served by the National Museum in Dublin, and the needs of the Museum in the light of these purposes. Several recommendations were made by the end of the year: a Board of Governors should be appointed, public lectures should be given and the staff of the Antiquities Division should consist of a Keeper and six Assistants. In that year also, Dr Walter Bremer had been appointed to the Museum, but he died soon afterwards and was succeeded by Dr Adolf Mahr, who increased dramatically the numbers of acquisitions to the Museum, initiated the Album of Christian Art (1932; 1941) and also made an outstanding contribution in his review *Prehistory in Ireland* which was published by the newly formed Prehistoric Society in London during his presidency of that body (1937).

An enlightened National Monuments Act in February 1930 defined a national monument as a monument or its remains 'the preservation of which is a matter of national importance by reason of the historical, architectural, traditional, artistic or archaeological interest attaching thereto.' The Act also provided for the guardianship, preservation and acquisition of national monuments, restricted the export of archaeological objects and provided for the licensing of excavations.

In 1932, the Harvard Archaeological Expedition began work in Ireland. This was part of a broader campaign that also included surveys in physical and cultural anthropology. Several excavations were conducted by Hencken of megalithic tombs, Bronze Age cairns and crannogs (lake-dwellings), and by Movius on Larnian shoreline sites and in the Bann Valley.

A further impetus was given to archaeological excavation by the provision in 1934 of government funds for excavation in areas where there was unemployment. The first excavation under the scheme was that of Leask and Price at the Labbacallee wedge-shaped tomb in Cork (1936). Expenditure under this head has grown from about £500 in 1934 to about £50,000 in recent years.

Since 1945, the pattern of large-scale excavations has increased dramatically, field surveys have been begun by the Megalithic Survey under the auspices of the Ordnance Survey at Dublin – three volumes have been published – and county surveys have been under way since 1950, from Belfast where the volume on Co. Down has been published (1966) and from Dublin where several counties have been surveyed under the Office of Public Works. The publication of these surveys and of corpus studies of museum objects will bring prehistoric studies in Ireland on to a new plane and facilitate and broaden the scope of future syntheses of our prehistory.

The reconstruction outlined in the following pages begins, after a short prologue

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dealing with the hunter-fishers of the coasts of Antrim and Down, with the arrival of the first farmers before 3000 B.C. Apart from the fact that their tools were of stone, their way of life differed little from that of many small farmers in Ireland up to the beginning of this century. Before the end of that Neolithic era, at 2000 B.C., the potential of the land of Ireland for farming had twice been realized by colonists from Atlantic Europe, and the exploitation of the metal resources of Leinster and of the lands bordering the Irish Sea had been begun. The prospectors who found the Irish El Dorado came, not from Atlantic Europe, but along the Elbe and across the North Sea and Scotland from Central Europe. The story of the metal ages which follow is in large measure a story of Ireland's relations with these two major areas of prehistoric Europe, now looking south to Iberia, now east to Bohemia and beyond, as far even as Transylvania and the east Mediterranean. Ireland's relations with Britain oscillate after a similar pattern, looking now south to the richer lands of Wessex and now to a northern province. The mythical colonizations of Ireland invented by the pseudo-historians of the Christian period bring colonists from both Iberia and Scythia: perhaps at the root of these inventions there are folk memories from thousands of years earlier in the prehistoric period?

Stone Age Beginnings: Hunter-Fishers and First Farmers

During the last Ice Age, which ended gradually in Britain and Ireland over the period between 12,000 and 8000 B.C., only the part of Ireland south of a line from Wexford to Tralee had been free of ice. Here, the reindeer, the brown bear, the mammoth, the lemming, and the Arctic fox lived in a rich tundra vegetation, using the many caves of the area as places for shelter. As the ice receded northwards, the giant Irish deer (*cervus giganteus*) flourished in the open, unforested terrain of the country, but was occasionally trapped and suffocated in the raised peat-bogs which began to form in the hollows as the ice continued to recede.

With the coming of a warmer climate, a new fauna found it possible to immigrate into Ireland, probably across a short-lived land-bridge between north Antrim and Kintyre. One result of the early separation of Ireland and Britain is that Ireland has today a much narrower range of plants and animals than has Britain. The most notable absence is that of wild ox, which has never been found in Ireland despite many thorough examinations of the fauna of late-glacial and post-glacial times found in caves (Movius 1942, 74, 91; Herity 1970b, 29–30). A special Lusitanian fauna, derived from the Atlantic coast as far south as Portugal and flourishing along the western seaboard, derives from Ireland's position on the Atlantic façade of Europe (Fig. 2c).

Only the faintest record of the presence of Ice Age man can be detected. Recently, a waste flint flake struck in Clactonian style was picked up on the surface of glacial gravel deposited as early as 200,000 B.C. near Drogheda in Co. Louth (Mitchell and Sieveking 1972). The flake shows faint signs of rolling, and was probably transported with the gravels in which it was found from somewhere to the east of the find-spot. It documents the existence of man in middle Palaeolithic times close to the basin of the Irish Sea. Claims for an inter-glacial immigration by Mousterian Man into Ireland about 40,000 B.C., made on the basis of limestone flakes found near the shore in the Sligo area, have been disposed of by Charlesworth and Macalister (1929).

Tratman's excavations at Kilgreany Cave in Co. Waterford recovered a skeleton, Kilgreany B, which was claimed by him to be Palaeolithic because of its association with late-glacial animals, now extinct. No Palaeolithic implements were found (1928). Movius's excavation at the same site in 1934 showed that the skeleton was probably associated with a hearth which yielded oak, ash and hazel charcoal typical of warmer post-glacial climates, and that bones of domesticated ox were found nearby (Movius 1935a; 1942). This new evidence would suggest that the skeleton belonged to the Neolithic period, which began about 3000 B.C. Though a Palaeolithic date, before 8000 B.C., has again been recently claimed for the skeleton on the basis of a flourine test (Raftery 1963, 103), it seems reasonable, because of the uncertain nature of that method, not to alter Movius's view.

Larnian and Mesolithic

In the old shoreline on the coasts of Antrim and Down opposite Scotland, where the shortest of the sea-crossings to Britain can be made, the implements of a flint industry have been discovered. These deposits are found as far south as Dublin and as far north-west as Donegal. The industry they represent has been labelled 'Larnian' from the extensive deposits found at Curran Point which is situated in the modern harbour of Larne, sheltered by the Island Magee peninsula. The greatest part of this material is found in the storm beach deposits of the old shoreline, and is consequently much battered, making it difficult to distinguish between artifacts and waste material. This north-eastern area is also the area of easiest availability of fresh flint in Ireland (Fig. 3).

The raised beach in which the Larnian material is found was formed after the end of the last Ice Age. When the ice-cap retreated, its meltwater was added to the seas and oceans, raising their level and drowning great areas of low-lying coastal land. With the release of the ice-cap's pressure, the earth's crust re-asserted itself, raising parts of the landmass out of these newly deep seas. Raised beaches and old shorelines are the tangible results of this series of oscillations, and their history is particularly well recorded in Scandinavia, where they culminated in four minor transgressions of the warm Litorina sea towards the year 2000 B.C. In Ireland the Larnian raised beach was first inundated and later, over centuries, raised up to 9 m at its highest above the present level of the sea in Antrim. From the association of Neolithic material of the first farmers with the storm beach which marks the maximum point of this inundation at Sutton, north of Dublin, it can be dated about 3000 B.C.

The Larnian material consists of the battered remnants of both flint artifacts and waste material which had been lying on the shore before it was rolled into the storm beach. Sites like Sutton, Rough Island in Co. Down, and Glenarm and Island Magee in Co. Antrim, have remains of this kind. Extensive mounds of seashells, presumably the refuse of communal eating, are associated with the Sutton and Rough Island sites. Related sites on the nearby coasts of Scotland are those of Campbelltown in Kintyre