The Natural History of Demesnes

TERENCE REEVES-SMYTH

Demesnes have been a dominant feature of the Irish landscape since medieval times and once occupied over 5 per cent of the country. Although dependent upon their surrounding tenanted estates, demesnes – the manor lands farmed directly by the lord – have evolved as separate social and economic areas with distinctive planned and managed layouts incorporating woodland, farmland, gardens and ornamental grounds, as well as a range of building types. Considering their central role in the development of Irish agriculture, horticulture, sylviculture and field sport, it is perhaps not surprising that demesnes have made a distinct contribution to the natural history of Ireland. Indeed, they continue to do so, for despite widespread devastation over the past eighty years, the demesne remains a significant component of the Irish landscape, offering suitable habitats to a wide range of flora and fauna.

Demesne Development

The term 'demesne' or 'demaine' is Norman French in origin and denotes that portion of the manorial estate not leased out to tenants but retained by the lord for his own use and occupation. Although long obsolescent in England, both the term and concept of demesne survived in Ireland until the early twentieth century when the estate system was finally dismantled. The term is still used today, although it is often wrongly understood to be synonymous with landscape parks around country houses. In fact, these parks, which were developed from the middle of the eighteenth century onwards, only covered parts of demesnes, and were invariably the culmination of successive landscape changes over many centuries. Indeed, the continuity of demesnes – many with origins going back half a millennium or more – is a striking characteristic of their development and contributes enormously to their rich variety of archaeological, architectural and botanical features.

Although demesnes were widespread in medieval Ireland, particularly in the eastern part of the country, our knowledge of their composition at that time remains surprisingly limited, partly because of a paucity of documentary material and partly because medieval archaeological research has been so concentrated upon military and ecclesiastical aspects of the period. However, it is evident that both the manorial and ecclesiastical demesnes in medieval Ireland were broadly compatible with their English equivalents, with fields for crops and livestock, an enclosed garden, an orchard and possibly a fish pond, a rabbit warren and deer park.* From an early period these demesnes would have constituted a distinct component of the landscape, their neat fields presenting quite a contrast to the surrounding unenclosed countryside.

During the post-medieval era, demesnes continued to function as manorial home farms, but their size and lavouts were increasingly dominated by ornamental rather than economic considerations. After the Restoration of 1660, in particular, there was an increased desire to provide suitably impressive settings for the great mansions being built in Ireland (Loeber, 1973). Formal features, arranged axially upon the house on broad, controlled vistas, began to affect much of the demesne area. Tree-lined avenues, which sometimes marched out from the house for great distances, were a dominant feature of these layouts, serving as symbols of the authority and rank of the owners and emphasizing the importance of the mansion in the landscape. Demesne fields were laid out in a regular, often grid-like manner, together with small blocks of tree plantations. Other standard features included circular pools and canals, many of which served as fish ponds as well as being ornamental. Closer to the house there were formal garden areas, terraces bowling greens and *bosquets* (ornamental groves pierced by walks), often wedged between a kitchen garden, orchard, haggard and outbuildings.

By the middle of the eighteenth century a new conception of man's place in nature began to transform Ireland's demesnes. The old formal geometric layouts, which sought to prove that man could subdue nature, now made way for 'naturalized' parklands, the planting and layout of which reflected a new appreciation that 'natural' features, such as woods, streams and hills, were beautiful in themselves and indeed good for the soul. It now pleased the optimistic spirit of the age to create Arcadian parkscapes of 'untouched' nature secluded from the outside world by encircling walls and belts of trees that enclosed the mansion at their heart. The ideal now was smooth, open meadows dotted with clumps of oak or beech, sweeping lakes in which the house and park were flatteringly mirrored, and tree-lined glades with animals grazing peacefully in the shadow of romantic ruins, temples and pavilions.

^{*} Most historical research has been focused upon specific manors, but a useful general account can be found in Down (1987).

THE NATURAL HISTORY OF DEMESNES

Although the new landscape style emanated from England, it was ideally suited to the rolling Irish countryside. Nevertheless, parkland creation in Ireland was invariably a costly operation and involved considerable engineering skills, not least in selecting and accentuating the best existing landscape features – moving soil and rock, felling and planting trees, diverting rivers into the park, constructing dams to create lakes, building ha-has and other contrivances. Sometimes even villages were relocated and roads re-routed in the emparkment process. In sharp contrast to the old formal layouts, horticulture was now largely confined to walled gardens, sometimes at some distance from the house, while the home farm was invariably relocated on to newly acquired demesne lands lying beyond the parkland perimeter and out of sight of the house.

The 'natural style' landscape parks were so enthusiastically adopted by Irish landowners that by the close of the eighteenth century only a handful of the old formal layouts survived. By the middle of the nineteenth century, parkland occupied around 800,000 acres, or 4 per cent of Ireland, with over 7000 houses featuring associated ornamental or pleasure landscapes of ten acres or more.* Their popularity can be attributed to a variety of factors, not least their suitability to the Irish countryside, the comparatively low cost of their maintenance and the potential of parkland for allowing landowners to distance themselves physically from the economic realities that sustained them, whilst helping to convey the comforting notion that the contemporary social order was somehow natural, unchanging and inevitable. The process of park-making was also greatly aided by the availability of cheap labour and by the need to provide local employment for the poor in times of hardship. Once established, the new demesne parklands proved to be ideal for game shooting and were well adapted to accommodate the specialized plant collections, notably the newly introduced exotic trees and shrubs, that became such a feature of the Victorian era.

In the years following the Great Famine (1845-9), when money and labour were no longer so abundant, there was a sharp decline in the number of parklands being created in Ireland. Indeed, after 1849 hundreds of demesnes changed hands in the Encumbered Estates Courts; many were subsequently reduced in size and in some cases disappeared. The decline of the demesne's traditional social and economic role was greatly accelerated after 1885 with the Ashbourne Act and later with the Wyndham Act of 1903. These acts allowed agricultural tenants to buy out their farms using funds provided by the Treasury; by 1914 three-quarters of the country's former tenants had bought their holdings. The sale of estate lands meant that most demesnes could no longer continue to rely on rental income for their

^{*} Figures based on the author's unpublished research.

maintenance and now had to survive as self-supporting units. Inevitably, ε large number of demesnes and their mansions had to be sold as their owners could no longer afford to maintain them. Many were converted into hospitals, government research centres, schools or convents, but the majority had their lands subdivided among local farmers, their park and woodland trees uprooted and their buildings demolished or allowed to fall into ruin. The sad process reached its climax in the 1950s and continues to this day, though the pressures on demesne parklands now come mainly from housing and leisure developments, notably golf courses and their ancillary buildings. Yet despite the devastation wrought on demesnes over the past century (*plate 17*), they still remain the dominant man-made feature of the post-medieval landscape in Ireland.

Demesnes and Arboriculture

A visitor to Ireland in 1837 remarked: 'In Britain, it is frequently very difficult, when one cannot see the wall or fence, to discriminate between what is, and what is not, park. But in Ireland this is a matter about which there can be no mistake. They differ as widely as light and darkness.' This sharp contrast between demesnes and the immediately contiguous parts of their estates, noted so frequently by travellers in the eighteenth and nineteenth centuries, owed much to the cultivation of trees. As Wakefield (1812) observed, 'A traveller in Ireland finds timber as he does shrubs and exotic plants, merely as appendages to a gentleman's place of residence and after leaving a favoured spot of this kind, he at once loses sight of green foliage, so agreeable to the eye, and enters dreary wastes, where there is scarcely a twig sufficient to form a resting place to the birds fatigued with their flight.'

The scarcity of timber outside the demesne walls was due principally to the ruthless exploitation of Ireland's surviving woodlands during the sixteenth and early seventeenth centuries (Hore, 1858; McCracken, 1971; Hall, 1992). Despite the passage of seventeen Acts in the Irish Parliament between 1698 and 1791 to encourage planting and prevent illegal felling, most estate lands outside the demesne boundaries remained treeless 'dreary wastes', as the tenants were unable to establish adequate rights over the ownership of their plantations (Anderson, 1943; McCracken, 1971).

Until the mid eighteenth century the principal wooded areas in most demesnes lay in the deer parks, where remnants of ancient woodland often survived (Forbes, 1933). Irish landowners were generally slow to appreciate the value of trees and most early planting consisted of orchards, hedgerows, avenues and ornamental areas around the house rather than full-scale plantations. One Irish landowner, Sir John Percival, who was perhaps typical, imported in December 1683 one hundred limes, two hundred Dutch elms and a variety of fruit trees for his demesne at Ballymacow (Egmont) in Co. Cork. In April 1684 he obtained 'an ounce of Scotch fir seed, which cost 5 shillings' and the following year was sent 'a parcel of young elms, I think about 70 or 71, nor have I forgot my Lady's pippens' (Nelson, 1990). Less typical of the time was Lord Granard's demesne at Castle Forbes, Co. Longford, where a visitor in 1682 found 'growing there in great order large groves of Fir of all sorts with Pines, Juniper, Cedar, Lime trees, Beech, Elm, Oak, Ash, Asp [aspen] and the famous Platanous tree ...'. (Sherrard and Fitzpatrick, 1945).

Trees were, of course, an essential component of the formal layouts that dominated demesnes from the 1660s until the 1740s. Common limes were the most favoured choice for avenues because of their regularity of shape and because when planted close together their branches interweave without becoming stunted. Good lime avenues still exist at Huntington in Co. Carlow, Kilruddery in Co. Wicklow and Castletown in Co. Kildare. Lime was also frequently used to flank canals, as at Gaulstown (Malins and Glin, 1976) and Castle Ward (McErlean and Reeves-Smyth, 1990); at Antrim the limes along the canal were clipped into tall hedges (Jupp, 1993).

Another popular tree of the period was the Dutch elm, and until recent decades there was a fine avenue of these trees at Old Rossenarra in Co. Kilkenny planted in 1690 (Forbes, 1933). Dutch elms were planted along the walks at Castlemartyr, Co. Cork, in the 1720s,* while at Breckdenstone, Co. Dublin, Lord Molesworth was planting elms in 1720 about his great circular basin '30 or 40 foot asunder in double rows by which means all the fine prospects will appear under their branches and between the intervals of trees till they grow exceedingly old' (Malins and Glin, 1976). A mixture of 'fir and elm' was being planted along the grand avenues at Florence Court, Co. Fermanagh, between 1716 and 1719, while its demesne lands had been 'divided into large square parks, all planted with ash and elm' (Reeves-Smyth, 1990). Other trees used for avenues at this time included sycamore, walnut, Spanish chestnut and sometimes oak; the still impressive grand oak avenue at Castle Coole, Co. Fermanagh, was recently dated by dendrochronology to 1725 (McErlean, 1984). Beech was occasionally planted along avenues, though like hornbeam it was more commonly used for bosquets and arcades, as at Kilmore, Co. Cavan**. Beech in particular was favoured for hedging as it kept its leaf late into the winter and thus helped preserve the garden structure through the seasons; until recent years the gardens at Howth boasted magnificent beech hedges, planted in 1738 and claimed to be the tallest in these islands.

^{*} Shannon Papers D2707 (Public Records Office, Northern Ireland).

^{**} Henry Mss, pp. 111-12 (Public Records Office, Dublin).

Block planting in the formal demesne layouts of the 1660-1740 period was very limited, though most demesnes had at least one small plantation of a single species. At Eyre Court, Co. Galway, for example, there was a grove of beech present in 1697 (Boate, 1755, appendix) and at Belan, Co. Kildare, there were blocks of elm, oak and Scots pine amidst an elaborate layout incorporating canals and avenues (McCracken, 1971). Sometimes such woods were traversed by straight alleys and walks to form a 'wilderness'; one such still existing at Antrim comprised 'very tall and tapering elms, intersected with a few other trees and shrubs'.*

Some late seventeenth-century landowners were enthusiastic planters of pines and conifers, notably Lord Massareene, who had his 'greatest entertainment' planting different kinds at Antrim (MacLysaght, 1979). Many demesnes of the period consequently boasted a 'fir grove', usually a reference to Scots pine. At Burton, Co. Cork, one such 'Firr Grove' was laid out in March 1686,** and at Thomastown, Co. Tipperary, there were several 'large plantations of fir' (Loveday, 1790), while farther to the south at Coolnamuck Court, Co. Waterford, Pococke on his 1752 tour of Ireland noted that there were '20,000 firris which thrive much' along the banks of the Suir (Pococke, 1891). In 1723 at Castle Ward, Co. Down, a 'fir tree park' was planted in linear belts, giving the illusion of more extensive tree cover than in fact existed, and typically for the period it was confined to sloping land of little agricultural value (McErlean and Reeves-Smyth, 1990).

More extensive demesne planting in Ireland followed the introduction of 'natural style' landscape parks in the 1740s. Professional 'landscape gardeners' were widely employed to design the new parks; James Sutherland was the most celebrated (Bowe, 1977, 1980), while others included Peter Shanley and Thomas Leggett (Desmond, 1994). Great numbers of trees were now required, not for regularly shaped woods or avenues, but to frame views and make shadows in the belts and clumps of the new parks. While many magnificent avenues were felled in the creation of these new landscapes, it should be noted that many trees from the old formal layouts were often retained. At Carton, avenue trees were kept as isolated specimens in the new park; at Florence Court old woodland blocks were ingeniously incorporated into the new 'Brownian' park; and at Castle Coole, substantial portions of the old Queen Anne layout, including the oak avenue, were left largely untouched in the new 'naturalized' layout of the 1780s (Horner, 1975; Garner and Webb, 1977; Reeves-Smyth, 1990; McErlean, 1984). The practice of moving mature trees also helped give the new naturalized parks an aged

^{*} James Boyle in the Ordnance Survey Memoirs for Antrim Parish (1835); see Jupp (1993) for full text.

^{**} Egmont Papers 3: 739-47, 371, Historical Manuscript Commission Report

appearance (Forbes, 1933); diagrams of transplanting machines were published in Hayes's *Practical Treatice on Planting* (1794), the first and perhaps only really important book available on Irish arboriculture in the eighteenth and nineteenth centuries.

The trees in demand for the new parks were predominantly oak, beech, chestnut, elm, lime and sycamore with a mixture of silver fir, pine and spruce. Popular nurse trees included Scots pine, birch, hazel and ash, while plenty of holly was often planted on the woodland fringes. Wide shelter screens on the western and south-western perimeters were a standard feature of the new parks. In the 1760s at Bellevue in Co. Galway, the owner selected 'hardy trees for the west side of his plantations; they are very much beech, hornbeam and sycamore'. Other trees he planted, notably larch, Scots pine and sweet chestnut, were 'bent by westerly winds', though his oak, spruce, silver fir and Weymouth pine were apparently unaffected (Dutton, 1824). Elsewhere in Ireland the trees most used for parkland shelter belts were sycamore, beech, silver fir, spruce and maritime pine.

Fences were normally used to protect the trees from livestock, though these were not always successfully maintained, and Irish demesne records are peppered with references to cattle breaking into the plantations. The young parkland plantations must have looked rather stiff behind their wooden fencing. In order to improve their appearance a variety of shrubs were often added to the underplanting to provide interest. At Downhill, Co. Derry, the Earl-Bishop's architect, Michael Shanahan, informed his patron in July 1778 that he had tried to procure for his plantations 'an ample store of tamarisk, laburnums, myrtles, roses of every kind, sweet briar etc etc, as your Lordship order'd ... the walks round the demesne being planted with shrubs of this kind will look very delightful' (Reeves-Smyth, 1991). At Gracefield Lodge, Co. Leix, in 1817, a profusion of hyacinths, primroses and violets were planted beneath the trees (Brewer, 1826).

Although the Dublin Society offered yearly premiums for tree planting and the stocking of nurseries from 1740 until 1807, landowners were slow to establish large-scale plantations. The absence of local nurseries certainly curtailed planting in many areas as transporting seedlings was expensive, but by the late eighteenth century many large demesnes were raising most of their own seedlings (McCracken, 1979). At Baronscourt, Co. Tyrone, for example, the Marquis of Abercorn had established by the 1790s a series of thriving nurseries for his demesne plantations (Gebbie, 1972), as had Lord Mountjoy nearby at Rash, outside Omagh. When planting first commenced at Rash large quantities of seedlings were imported from Scotland, but this ceased once those raised on the demesne's nurseries proved more satisfactory. More than 600,000 trees were planted at Rash between 1791 and 1800, while a further 300,000 plants were given to other gentlemen in the district (Camblin, 1967). Such large numbers of trees were still quite unusual at the time, though after the Napoleonic wars demesne-planting operations increasingly started to assume a more economic aspect. By this time, however, most of Ireland's demesne parklands had already been created.

The Victorian era was marked by the introduction of numerous ne exotic species from abroad – so many, indeed, that rare specimens were increasingly cultivated for their own sake rather than as part of the overall parkland scheme. Arboreta and pineta became a standard feature of demesnes – usually informal areas, arranged botanically or at random, traversed by paths, rides and vistas (Malins and Bowe, 1980). New tree varieties were occasionally displayed on avenues, such as the splendid monkey-puzzle avenues at Woodstock and Powerscourt or the mile-long avenue of Wellingtonias at Emo, Co. Leix (Fitzpatrick, 1933). After 1840 the block planting of conifers also became fashionable and they increasingly played an important role in commercial forestry.

Sadly, Irish demesne woodlands went into serious decline following the Land Acts of 1881 and 1885 (Forbes, 1933; Durant, 1979). Irish landowners were forced to fell their tree stocks prior to the sale of estate lands, while tenant purchasers were rarely interested in retaining 'even as few as one tree' (Edwards, 1908). By the 1920s Ireland's woodland had shrunk from 340,000 acres in 1880 to about 130,000 acres. Although by this time the State had started to become involved in forestry (Fitzpatrick, 1966), little was done to prevent the inexorable decline of demesne hardwood plantations, which have continued to diminish to the present day.

Demesnes and Garden Horticulture

The cultivation of vegetables, fruit and flowers was inevitably an important feature of demesne life from medieval times. The manor house always needed to be supplied with garden produce for culinary and medicinal purposes, while cut flowers were widely in demand from an early date to sweeten interiors. Ornamental plants played an increasingly important role as gardens were developed for pleasure purposes, and as they evolved, these gardens reflected their own generation's attitude to nature.

The documentary evidence for gardening activity in Ireland before the seventeenth century remains rather sparse (Nelson, 1990). It seems likely that Tudor and pre-Tudor manorial Irish gardens were broadly similar to those in England. They would have had formal grass or gravel paths, turf seats, raised flower and vegetable beds, and possibly trellised arbours or clipped knot hedging, all enclosed behind a sloping bank, surmounted by a wall, fence or hedge (Harvey, 1981). Garden areas were small; even the large Irish monastic gardens covered barely an acre when the inquisitions were

taken in the mid sixteenth century, and much of this was generally orchard (Pim, 1979). Orchards were a standard feature of medieval and postmedieval Irish gardens (Lamb, 1951). In the seventeenth century the practice of cultivating named varieties of fruit trees was well established and there are many references to their importation from Holland (MacLysaght, 1979; Nelson, 1990). The trees were generally staggered in a quincunx pattern to allow maximum light and air to reach the fruit.

The choice of plants available was largely restricted to varieties of European origin, though Jon Gardener's late fourteenth-century work on gardening, the first of its kind in the English language, lists a substantial number of plants, most of which were probably available in Ireland, for both surviving manuscripts have Irish connections (Zettersten, 1967). More than a hundred herbs and vegetables are mentioned: colewort, parsley, onion, saffron, sweet-smelling herbs such as rosemary, lavender, chamomile, and flowers such as gladwin, red and white roses, hollyhock, peony, violet, daffodil and primrose (Harvey, 1985). While the emphasis was primarily on 'useful' plants, the best gardens must have made a splendid display, especially in the medieval monasteries where there existed a flourishing exchange network of seeds and cuttings throughout Europe (Hobhouse, 1992).

The development of gardening greatly accelerated in the late sixteenth century when exotic plants began arriving back in large quantities from newly discovered areas of the world. The damask rose came from Persia, marigolds from Mexico and potatoes from South America, the latter introduced, as tradition says, by Sir Walter Raleigh, who is also credited with the introduction to Ireland of edible cherries and a sweetsmelling wallflower from the Azores (Walker, 1799; Pim, 1979). The new plants were written up in publications such as Gerard's *Herball* (1597) and Parkinson's *Sole Paradisus Terrestris* (1629), the latter being among the first books to treat herbal plants separately from those used for 'ornament and pleasure'.

Plant collecting and an increased interest in the natural world led to a more scientific approach to botany and horticulture, as expressed in an attempt to create a physic garden in Dublin in 1654 and in the successful establishment of a botanical garden in Trinity College, Dublin, in 1687 (Nelson, 1990; Wyse Jackson, 1987; Nelson 1982). A few years later Sir Arthur Rawdon erected a 'large stove' (glasshouse) on his demesne at Moira, Co. Down, to shelter an astonishing collection of over a thousand tropical plants that he had imported from Jamaica (Nelson, 1983). This collection had been gathered by James Harlow, a gardener in Rawdon's commission, and transported to Ireland in a ship 'almost laden with cases of trees, and herbs, planted and growing in earth', a remarkable achievement that remained unmatched until the mid nineteenth century (Nelson, 1983a'

It is worth noting that Rawdon managed to pursue his gardening activities even though a war raged in Ireland at the time. The unsettled political situation during the seventeenth century meant that most substantial Irish manorial gardens were protected within fortified enclosures, often with impressive walls, turrets and terracing as at Lismore, Co. Waterford, and Burton House, Co. Cork. Sometimes they covered large areas: at Lemaneagh Castle, Co. Clare, over ten acres were enclosed (Westropp, 1900). Normally these gardens were designed in rectangles or squares with axially planned gravel paths, bordered with boxhedges or close walks of ashes (Loeber, 1973). Aside from fruit and vegetables, their walls often sheltered a wide range of trees and flowers, as Dowdall discovered when he visited Castle Forbes in 1682 to find 'lovely gardens of pleasure enclosed by high stone walls against which plenty of fruit of all sorts grow and in the said garden are all kinds of flowers and flower trees that grow in the kingdom as the Lelaps, Liburnum and many more, with Philarea hedges, Lawrel &c, and the Tubirosa beareth here which is not to be raised but with ve assistance of glasses' (Sherrard and Fitzpatrick, 1945). Plenty of flowerpots, no doubt, featured in this garden, probably of Irish manufacture (Loeber, 1973), while the term 'glasses' apparently denotes bell glasses, much used from 1650 onwards for rearing and forcing delicate plants.

The arrangement of Irish gardens started changing towards the end of the seventeenth century, especially following the Williamite wars, when the French use of long perspectives inspired the planting of rows of trees along radiating avenues and vistas. Pleasure grounds around the house, with axially planned geometric layouts, replaced the old fortified garden enclosures, and typically incorporated bowling greens, parterres, *bosquets*, flower yards, orchards and melon grounds, as at Castle Coole, Co. Fermanagh (McErlean, 1984). Features of such gardens may have included trees in vases, statues ind topiary, the latter often framing parterres and grass *plats*. Normally the parterre 'possessed' the ground immediately below the main reception rooms ind in some cases may have comprised intricate schemes of dwarf scrollwork set in coloured gravels, though most parterres probably contained flowers and box hedges, as at Thomastown, Co. Tipperary (Campbell, 1778), and Powerscourt, Co. Wicklow.

Popular flowers of the time, some of which were grown in parterres, included improved Dutch strains of tulips, pinks, carnations, ranunculus hyacinths, auriculas and polyantha. At Kilruddery, Co. Wicklow, there are payments for seeds by the sixth earl of Meath in 1731 for thirty-one species of carnation from a Mr Bacon and seventeen from a Mr Chamney, while other lists of carnations include twenty kinds in one, nearly seventy in another and forty-two in a third. In 1731 there are lists of forty-two auriculas and another list in 1736 mentions seventy-four Irish and sixty-nine English varieties. The lists also include ranunculas and tulips from Holland in 1739 and tulips from Lille and Brussels in 1739 (Knight of Glin and Cornforth, 1977).

This intimate relationship between garden and house, so striking a feature of the late seventeenth and early eighteenth centuries, disappeared with the advent of the landscape park, whose lawns now swept up to the windows of the mansion. The growing of flowers, fruits and vegetables now had to be confined to enclosures, usually walled, located out of sight of the house. Sometimes the distance between these enclosures and the mansion was considerable, though most owners preferred to keep them as conveniently close as the new parkland aesthetics would permit - usually on the edge of the pleasure grounds and often adjacent to the stable vard where a ready supply of manure was at hand. They ranged from about half an acre to several acres in extent and usually had perimeter and cross paths, a pond, glasshouses and potting sheds. Rectangular plans were standard in the nineteenth century, but during the previous century walled gardens tended to the more experimental and usually adopted irregular plans in attempts to provide as much sheltered and south-facing walling as possible. Their bounding walls, generally between ten and thirteen feet high, were principally intended to support fruit trees and were often lined with brick to absorb and retain the warmth of the sun. Shelter belts outside the walls provided essential protection against the winds; normally conifers were planted to give protection throughout the year, usually being mixed with hardwoods to blend into the parkland (Davies, 1987).

The walled gardens in some of the great demesnes were subdivided into separate areas for fruit, vegetables and flowers, as at Castle Coole, Co. Fermanagh, where early records of the garden from 1778 to 1795 mention the presence of two graperies, two peacheries, a melon house, a cherry house, an orangery, a greenhouse and list a wide range of vegetables and herbs (McErlean, 1984). Most Irish walled gardens of the late eighteenth and nineteenth centuries lacked any rigid subdivision and were characterized by a mixture of flowers, fruit and vegetables in a potager layout, in which rows of vegetables were discreetly hidden from view behind long flower or shrub borders. The popularity of this practical way of combining pleasure and utility may have owed much to the frequent employment of head gardeners from Scotland, where such layouts had a long tradition. One such garden still existed at Florence Court, Co. Fermanagh, until the 1930s; here the gravel paths were flanked by long beds of roses with dwarf box edgings, long iris and herbaceous borders and magnificent beds of begonias and large flowering gladioli, all backed by lines of espalier fruit trees, fuchsia or laurel hedges, screening the currant bushes and vegetables behind (Reeves-Smyth, 1990). The Florence Court layout also incorporated a herb garden, a long

Victorian and Edwardian era, though not in any large number. At Killarney House, Co. Kerry, John D. Sedding laid out extensive gardens in the early Renaissance style (Malins and Bowe, 1980); Edwin Lutyens created a handful of gardens, notably at Heywood, Co. Leix (Nelson, 1985); and a number of Japanese gardens were also made, as at Tully, Co. Kildare. However, the desire to create or indeed maintain formal gardens declined in Ireland after the effects of the Land Acts began to be felt in the 1880s and especially after the post-1903 period. The comparatively less labour-intensive 'wild' Robinsonian themes were often preferred, not least because the temperate Irish climate is so suited to this form of gardening. After the Second World War, when virtually all the remaining walled kitchen gardens and formal display gardens disappeared from Ireland's demesnes, the Robinsonian legacy remained, as at Annes Grove, Co. Cork, Mount Usher, Co. Wicklow, and other places. Perhaps the most famous of these gardens was created by Sir John Ross of Bladensburg at Rostrevor, Co. Down, but it no longer exists. Some notable examples that survive include Rowallane, Co. Down; Altamont, Co. Carlow; Fernhill, Co. Dublin; and Derreen, Co. Kerry. Invariably, they were the creations of the owners themselves - often fine plantsmen - rather than garden designers or head gardeners, and although few in number, they still bear witness to the continuing role of demesnes in Ireland's horticultural development.

Demesnes and Fauna

The keeping of animals has always played an important role in the development of demesnes. Aside from cattle, sheep, pigs and horses, a variety of other animals were bred to ensure diversity in the demesne's economic resources. Deer, rabbits and pigeons were kept mainly to provide fresh winter meat, though such food also assumed a high status value, as did freshwater pond fish. A supply of wild birds came from decoys; some birds, such as pheasants, were bred for sport as well as food, while other fowl were retained for ornamental purposes only.

A dominant feature of the demesne landscape from an early period has been the deer park. Typically, a deer park consisted of an area of open country enclosed (in medieval times) by fences or banks or (from the seventeenth century) by walls. More than a hundred deer parks are listed as townlands, while there are records relating to more than three hundred across the country. The earliest were established in the early thirteenth century by the Normans, who were partial to venison and introduced the fallow deer, a gregarious breed native to southern Europe that needs little attention, breeds readily, fattens up well on indifferent land and produces excellent venison (Bond, 1993). Some medieval parks must have been quite large, for many also held red deer for hunting, an extremely popular activity that was normally conducted on horseback with helpers and packs of hounds (Prendergast, 1852). The Royal Park at Glencree, Co. Wicklow, had large stocks of red deer imported from Chester in 1246 (Le Fanu, 1893), while other parks no doubt had stocks of native red deer, a breed so noted for their large size that Giraldus Cambrensis, in his *Topographia Hiberniae* (1183-5), spoke of the stags as being too fat to run fast.

It is apparent from the scattered documentary records available that medieval manors had their own deer parks; indeed, the fashion seems to have been copied by native Gaelic lords beyond the Pale (Weir, 1986). The importance of these parks to their owners is underlined by the considerable expense, skill and care needed in their maintenance. Restocking had to take place regularly, and the deer often had to be fed in winter to avoid starvation, while park boundaries had to be constantly repaired (Birrell, 1992). Deer were frequently also poached; for example in 1305 Richard de Burgo, owner of a deer park at Ballydonegan in Co. Carlow, brought a case against one William Waspayl, accusing him of poaching deer with greyhounds and spears, breaking down some of the park's perimeter paling, stealing timber, digging a pit inside the park, threatening the parker and stealing a spear from the parker's son*.

There was a decline in the number of deer parks in Ireland after the mid fourteenth century, but during the seventeenth and early eighteenth centuries they became very popular again; indeed, by 1740, virtually every large house had its own walled deer park, usually located on the demesne's perimeter or as a detached unit half a mile or more distant. Some of these parks had medieval origins, for example, that at Ballydonegan mentioned above, lying on the fringe of the demesne at Oak Park, Co. Carlow. Like their medieval predecessors, these parks were stocked with fallow deer, some red deer and occasionally also swine cattle: at Portmore, Co. Antrim, Highland swine were imported for the deer park in 1680 (Loeber, 1973). Most deer parks ranged in size from fifty to two hundred acres and usually included areas of tree cover, access to water and a lot of grazing land, for deer are voracious feeders all year round (Whitehead, 1950).

The importance of deer parks declined in the late eighteenth century, with the advent of the turnip and other root vegetables for winter feeding. Many were absorbed into the new landscape parks, as at Tullymore, Co. Down, while others were contracted in size, as at Florence Court, where the old portion is typically labelled 'The Old Deer Park' (Reeves-Smyth, 1990). Feral deer that had escaped from the parks also suffered a decline during

^{*} Gibbons (1989) from the Calendar of Justiciary Rolls, Ireland, 1295-1314 (Dublin: HMSO, 1904-5).

this period due to the invention of the breech-loading shotgun, the lack of tree cover and the very high human population levels (Delap, 1936).

During the Victorian era there was a determined attempt by landowners to reintroduce deer into Ireland; these were obtained for the purpose from many forests and parks in Britain, as well as native stocks in Kerry. Small enclosures with wire fencing were often created close to the house, so that the fallow deer could be admired from the windows, as at Crom, Co. Fermanagh, and Ballyfin, Co. Leix. Larger enclosures were created for red deer, as at Caledon, Co. Tyrone, where the herd was later crossed with a wapiti cow from Canada. The park at Colebrooke, Co. Fermanagh, contained both red and fallow deer and a variety of exotic species, notably sambur and sika deer, the latter having been imported from Powerscourt in 1870, where sika were first introduced from Japan in 1860. Sika deer were distributed widely over Ireland and still survive in large numbers, notably at Muckross, where they live alongside the native red deer. Attempts to introduce the roe deer, which has never been native to Ireland, were less successful, though a herd established in the 1870s at Lissadell, Co. Sligo, survived for about thirty years (Whitehead, 1964).

Most Irish deer parks were abandoned in the decade following the outbreak of war in 1914. During the war and especially during the Troubles of 1919-23, park walls were often breached, or as at Charleville, Co. Offaly, the park gates were opened deliberately to prevent the deer from being slaughtered by Republicans (Whitehead, 1964). As a result deer escaped to form the nuclei of small feral herds all over the country.

Deer parks invariably played host to other animals on the demesne, notably rabbits, which were bred in warrens to provide another source of fresh meat in winter. Like the deer, rabbits were introduced from southern Europe by the Normans, who regarded their meat as a great delicacy and considered their fur a valuable commodity (Bettey, 1993). They were kept in large enclosures, fenced to keep out predators, and their former presence on or near demesnes is often indicated by such placenames as 'coneyburrow', 'coneygar', 'coneybank', or occasionally simply 'the warren'. On the basis of comparative English evidence, it can be assumed that most of these warrens contained a group of long, straight or slightly curved banks known as pillow mounds thrown up between parallel ditches, to provide loose soil for the rabbits to dig into. The animals were usually caught in long nets, placed parallel to the bank after they had gone out to feed and intercepting them as they returned to their burrows when chased by dogs (Tebbutt, 1968). Seventeenth-century maps and documents contain many references to warrens, but it is unlikely that they supplied the manor with meat after the mid eighteenth century. Many coastal warrens, however, continued to produce large numbers of rabbits until the early nineteenth century for the fur

market. Hares were also kept for food and sport until this period and lived entirely above ground within enclosures, the former presence of which is indicated by such placenames as 'hare warren' or 'hare park'.

Dovecotes or pigeon houses survive on numerous demesnes across Ireland, and their former presence is also frequently attested to by field names and documentary evidence. Aside from eggs and guano, these structures provided yet another supply of fresh meat during the winter months. The birds featured regularly in the menu of the great house from medieval times, and there were numerous recipes available for the cook. Most dishes used the young flightless birds, the squabs or squeakers, which were considered especially delectable (Buxbaum, 1987). The squabs were culled at about four weeks when the flesh was still tender, juicy and fat, without any trace of the toughness brought about by flying (Hansell, 1988 and 1988). The fact that pigeons are highly prolific, producing two chicks about nine or ten times a year, meant that there was a constant supply of food, especially from the seventeenth- and early eighteenth-century dovecotes, which generally had between three hundred and six hundred nesting pairs. By the late eighteenth century the keeping of pigeons for food had declined, but they continued to be kept, particularly for ornament, throughout the nineteenth century. Doves remained a decorative feature of Irish parks and gardens into the present century and were often depicted in contemporary garden paintings, for example, those of Mildred Anne Butler (1858-1941) of Kilmurry, Co. Kilkenny.

Freshwater fish were another important ready supply of food for the manorial table and remained a high-status food until the eighteenth century. In the medieval period there were fisheries all over Ireland, many in the control of monasteries, but most of these were for salmon and eels and only a small number supplied trout and possibly coarse fish (Went, 1955). For the most part, freshwater fish, mainly carp, pike and tench, appear to have been supplied by fish-ponds. These are often mentioned in medieval documents and were common during the seventeenth and eighteenth centuries. At Lismore during the 1630s, for example, there were no fewer than ten ponds in the deer park; these often suffered from flooding and had to be frequently repaired and restocked with tench and carp, some of the latter on one occasion being imported from the Netherlands (Grosart, 1886). Most of the many hundreds of ornamental canals that decorated the formal demesnes of the early eighteenth century served as fish-ponds and are usually labelled as such on maps.

A fish-pond normally comprised a vivarium or breeding pond and a *ser-vatorium* or holding pond. The former was a large dammed area where the fish were allowed to grow fat on the underwater feeding available, while the latter contained the fish ready for eating (Currie, 1990). The fish were

caught for the holding pond either by nets or by draining the *vivarium*; the latter method was a large operation, but had to be undertaken regularly to clean the pond. At Castle Ward the large canal known as the Temple Water had a problem with eels, as Michael Ward told his son in a letter dated October 1757: 'Vexed at ye tench being so destroyed but knew before ye eels destroyed ye spawn, if possible more ye pike, I thought I had destroyed all ye eels but find it impossible without draining ye pond every 5 or 7 years, which indeed ought to be done and which ye could now after preserving as many tench as ye can' (McErlean and Reeves-Smyth, 1990).

Fish were also stocked in the artificial lakes that graced many hundred of landscape parks in the eighteenth and nineteenth centuries. Indeed, one of these lakes – at Montalto in Co. Down – was shaped in the outline of a fish. To improve the ornamental appearance of these lakes, a variety of fowl could be introduced. The mute swan, for example, was desired for its graceful beauty. As early as the 1820s a correspondent to the *Gardener's Magazine* noted the presence of the Australian black swan on the lake at Castle Martyr, near Youghal, together with a variety of what were called 'American geese'. The pinkfooted, Egyptian and Canada geese all arrived in Ireland as ornamental lake introductions.

An important source of food and profit for many demesnes were decoy ponds, devices that originated in Holland in the sixteenth century for catching migratory wildfowl, principally mallard, teal and wigeon (Tarrant, 1990). Evidence from maps, documentary records and aerial photography has to date revealed more than seventy decoy ponds in Ireland, mostly in the east and north of the country. They were located in remote areas, invariably in the deer park or outside the demesne boundary, and comprised a shallow pool, not more than two acres in extent, surrounded by woodland - normally a dense growth of hazel, willow and evergreens - so the wild ducks would not be disturbed by the sights and sounds of the surrounding countryside. A flock of semi-resident mallard ducks were often kept to encourage the wildfowl to use the pond as a daytime refuge; the mallards were usually white in colour so they could be distinguished from those to be slaughtered. Once resident, the birds were enticed into one of the curved channels or pipes that radiated from the pond; each of these had a covering of netting over circular hoops and were lined on one side with high overlapping hurdles to hide the decoyman from view. Bait was sometimes used, but usually the ducks followed or 'mobbed' a specially trained dog as it walked briskly in and out of the hurdles along the steep banks of the pipe, until most of the birds were drawn into the pipe's narrow end and caught (Payne-Gallwey, 1882).

The earliest decoys were built in Ireland during the 1660s (Loeber, 1973), but most belong to the period from 1680 to 1780, after which time

1 HE NATURAL HISTORY OF DEMESNES

there was a dramatic decline in their usage. A number continued operating into the nineteenth century; one at Kilcooley, Co. Tipperary, was discontinued in 1860 and another at Longueville, Co. Cork, survived until the 1920s, the last Irish example to remain in use. There were four pipes in the decov at Longueville, but after 1865 it was reduced to two and by the 1920s only had one; a typical annual catch in the post-1870 period seems to have been two hundred to four hundred birds per annum (Fox, 1982). Four pipes was the norm for nearly all Irish decoys, the only real exceptions being two elaborate nineteenth-century examples - at Caledon, Co. Tyrone, and Kellyville, Co. Kildare, both built in the mid-1840s. The Caledon decoy had eight pipes and during the thirty years of its use netted 2000 to 3000 ducks a season. The Kellyville decoy had an annual catch of about 1400 ducks from 1872 to 1880, but after the number of pipes was increased from four to six, the wildfowl catch rose to 2500 per season. Most of these were teal and mallard, with no wigeon and only the occasional pintail and shoveller (Payne-Gallwey, 1887).

It may be no coincidence that the decline of the decoy in Ireland was paralleled in the late eighteenth century by the increased popularity of shooting, which was brought about by the introduction of the breech-loading shotgun with which game could be shot in flight. The rise of shooting saw pheasant hatcheries being established on numerous Irish demesnes during the early nineteenth century to meet the increasing demand for larger 'bags'. As the sport became organized, game books were kept and the expenditure on game preservation rose rapidly (Thompson, 1963). Winter feed had to be provided and a staff of gamekeepers employed to rear the birds and protect them from 'vermin', a term that covered foxes, badgers, pine martens, cats and even otters, all of which were ruthlessly trapped or shot. Gun dogs were kept and trained - mostly pointers and retrievers - usually in kennels close to the keeper's house, while the woods, which were planted with laurel and rhododendron to provide cover for the game, had to be intensively managed. Woodland strips were often specially planted for driven shoots and a number of new landscape parks were laid out with shooting rather than picturesque ideals in mind, for example Lisnavagh, Co. Carlow, and Shaen, Co. Leix.

Pheasants dominated the driven game shoots during the nineteenth century, while partridges never figured so prominently as in Great Britain. Some red grouse were shot on the uplands and bogs, but ptarmigan and black grouse seem to have been completely absent. The snipe population never fully recovered from the severe winter of 1854-5 (Payne-Gallwey, 1882), but Ireland had large wintering populations of woodcock and many demesnes maintained shoots specially for them, particularly in the mild western counties of Sligo, Mayo and Galway (McKelvie, 1984).

While gamekeepers waged war with the fox, landowners encouraged them to live and breed outside the demesne walls by creating coverts, usually small areas of trees and undergrowth, which provided shelter, seclusion and ready access by hounds. The fox replaced the stag as the fashionable object of pursuit around the mid eighteenth century, though it was not until the nineteenth century that fox-hunting was systematically organized and the countryside quartered out among regular hunts (Lewis, 1975). The sport absorbed much of the time of the Irish landed classes during the winter months and served as an enormously important social bond among its members during the eighteenth and nineteenth centuries. Many demesnes had their own kennels for hounds, usually located at some distance from the house, while considerable sums were directed towards breeding high-class hunters and bloodstock (Lewis, 1979).

The passion for hunting led to the emergence in eighteenth-century Ireland of 'steeple-chasing', where hunt members would race each other across country. By the early nineteenth century quite a few demesnes had developed their own racecourses. It should not be forgotten that steeplechasing, like hunting, was a sport 'for the benefit of the participants rather than the spectators. The riders counted first, then the horses, while the onlookers, often literally, also ran' (Watson, 1969). This outlook reflected the wide social divisions between the gentry in their well-kept demesnes and the peasants outside the gates.

Conclusion

In Ireland, demesnes were not just delightful scenery around country houses; for many centuries they dominated developments in the Irish landscape. Their social and economic role has now gone, following the collapse of the estate system early this century, but despite the wholesale destruction that has so often followed their subdivision and sale over the past century, they remain the most significant man-made feature of the landscape.

The surviving residual features of the demesne's former arboricultural, horticultural and agricultural activities contribute to their high scientific and conservation value in the modern landscape. Their mature broad-leaved woodlands, wood pastures, parklands and lakes support rich communities of fauna and flora that are rarely found elsewhere in Ireland. This is perhaps best demonstrated by the detailed biological surveys carried out by the National Trust of its Northern Ireland properties, most notably that of the 1500-acre demesne of Crom, Co. Fermanagh. This survey revealed the presence of 146 lichen species in the demesne woods and parkland; eighteen species of bryophytes; nearly four hundred plant species, including many rare grasses and wild flowers; thirty-five species of *Diptera syrphidae* (hoverflies);

THE NATURAL HISTORY OF DEMESNES

eight species of *Hymenoptera*; sixty-six species of *Lepidoptera* (butterflies and moths); seventeen species of *Micro-lepidoptera*, eleven species of *Odonata* (dragons and damselflies); nineteen species of *Hemiptera-heteroptera*; a variety of mammals and amphibians; and ninety-one species of birds, including wild-fowl, breeding waders and woodland birds (Whatmough and Nelson, 1989).

Had Crom demesne been sold to the Forest Service as originally envisaged in the late 1940s, this great wealth of wildlife would have completely vanished under a monoculture of spruce (Reeves-Smyth, 1989). Although not every demesne boasted such diverse wildlife habitats, it is perhaps sohering to contemplate how much the Irish landscape has lost with the devastation of over 400,000 acres of parkland during the present century. Sadly, the process still continues, for demesnes are seen as attractive locations for such environmentally sterile developments as golf courses and housing estates. Even Carton, Co. Kildare - historically the most important demesne park in Ireland - has recently been granted planning permission for hundreds of houses, two major golf courses and a hotel, while other important but lesser demesnes, such as Rockingham, Co. Roscommon, and Powerscourt, Co. Wicklow, have received permission for similar complexes. Such developments will continue into the foreseeable future, unless there is a greater awareness of the demesne's historical, archaeological and biological importance in the Irish landscape.

References

- Anderson, M.L. 1943. 'Items of Forestry Interest from the Statutes Prior to 1800 AD.' Irish Forestry 1: 6-26.
- Bettey, J.H. 1993. Estates and the English Countryside. Landscape Series. London: Batsford.
- Birrell, J. 1992. 'Deer and Deer Farming in Medieval England.' Agricultural History Review 40: 112-26. Boate, G., T. Molyneaux, et al. [1726] 1755. A Natural History of Ireland in Three Parts. Dublin: Ewing.

Bond, J. 1993. 'The Management of Medieval Deer Parks in England.' Historic Garden 6: 27-9.

Bowe, P. 1977. 'Mr Sutherland's Elegant Taste.' Country Life 162 (4176): 118-19.

Bowe, P. 1980. 'Some Irish Landscape Gardeners,' in G. Jackson-Stops (ed.), National Trust Studies. London: Sotheby Parke Bernet Publications.

Brewer, J.N. 1826. The Beauties of Ireland: Being Original Delineations, Topographical, Historical and Biographical, of each County, vol. II (2 vols). London: Sherwood, Gilbert and Piper.

Buxbaum, T. 1987. Scottish Doocots. Aylesbury: Shire Publications.

Camblin, G. [1951] 1967. The Town in Ulster. Belfast: W.M. Mullan.

Campbell, T (Rev.). [1777] 1778. A Philosophical Survey of the South of Ireland in a Series of Letters to John Watkinson, M.D. Dublin: W. Whitestone.

Carter, T. 1984. The Victorian Garden. London: Bracken Books.

Currie, C.K. 1990. 'Fishponds as garden features c.1550-1750.' Garden History 18: 22-46.

Davies, J. 1987. The Victorian Kitchen Garden. London: BBC Books.

Delap, P. 1936. 'Deer in Wicklow.' The Irish Naturalists' Journal 6: 828.

Desmond, R. 1994. Dictionary of British and Irish Botanists and Horticulturalists. Rev. ed. London: The Natural History Museum.

Diestelkamp, E.J. 1981. 'Richard Turner (c.1798-1881) and his Glasshouses.' Glasra 5: 51-3.

Down, K. 1987. 'Colonial Society and Economy in the High Middle Ages,' in A. Cosgrove (ed.), Medieval Ireland II. Oxford: Clarendon Press.

Durand, J.F. 1979. 'The History of Forestry in Ireland,' in E.C. Nelson and A. Brady (eds), Irish Gardening and Horticulture. Dublin: Royal Horticultural Society of Ireland.

Dutton, H. 1824. A Statistical and Agricultural Survey of the County of Galway, with Observations on the Means of Improvement. Dublin: University Press.

Edwards, T.S. 1908. Irish Forestry Report. London: Departmental Committee on Irish Forestry: 4857-4961.

Elliott, B. 1986. Victorian Gardens. London: Batsford.

Fitzpatrick, H.M. 1933. 'The Trees of Ireland: Native and Introduced.' Scientific Proceedings of the Royal Dublin Society 20: 597-656.

Fitzpatrick, H.M. (ed.). 1966. The Forests of Ireland: An Account of the Forests of Ireland from Early Times Until the Present Day. Bray: Society of Irish Foresters.

Forbes, A.C. 1933. 'Tree Planting in Ireland During Four Centuries.' Proceedings of the Royal Irish. Academy 41C (6): 168-199.

Fox, J.B. 1982. 'Duck Decoys in Ireland.' Irish Wildbird Conservancy News, July 6.

Garner, W., and R. Webb. 1977. 'Survey of Carton.' A Report for Kildare County Council. Dublin An Foras Forbartha.

Gebbie, J.H. 1972. An Introduction to the Abercorn Letters As Relating to Ireland, 1736-1816. Omagh: Strule Press.

Gibbons, M. 1989 'Deers and Bunnies.' Bulletin of the Irish Association of Professional Archaeologists 10:14-16.

Glin, Knight of and J. Cornforth. 1977. 'Killruddery, Co. Wicklow I.' Country Life 162 (4176): 78-81.

Grosart, Rev. A.B. (ed.). 1886-8. The Lismore Papers. 10 vols. London: Author

Hall, V.A. 1992. 'The Woodlands of the Lower Bann Valley in the Seventeenth Century: The Documentary Evidence.' Ulster Folklife 38: 111.

Hansell, P. and J. 1988. Dovecotes. Aylesbury: Shire Publications.

Hansell, P. and J. 1988. Doves and Dovecotes. Bath: Millstream Books.

Harvey, J.H. 1981. Medieval Gardens. London: Batsford Ltd. Rev. ed. 1990.

Harvey, J.H. 1985. 'The First English Garden Book: Mayster Jon Gardener's Treatice and its Background.' *Garden History* 13: 83-101.

Hayes, S.H. 1794. A Practical Treatice on Planting and the Management of Woods and Coppices. Dublin: William Sleator. 3rd ed., 1822. Dublin: Samuel Jones.

Hobhouse, P. 1992. Plants in Garden History. London: Pavilion.

Hore, H.F. 1858. 'Woods and Fastnesses in Ancient Ireland.' Ulster Journal of Archaeology 6: 145-61.

Horner, A. 1975. Carton, Co. Kildare. 'A Case Study in the Making of an Irish Demesne.' Bulletin of the Irish Georgian Society 19: 1-45.

Jupp, B. 1993. 'Antrim Castle Gardens.' Moorea 10: 28-34.

Lamb, J.G.D. 1951. 'The Apple in Ireland; its History and Varieties'. The Economic Proceedings of the Royal Dublin Society 4(1): 1-61.

Le Fanu, T.P. 1893. 'The Royal Forest of Glencree.' Journal of the Royal Society of Antiquaries of Ireland 23: 268-80.

Lewis, C.A. 1975. Hunting in Ireland. London: J.A. Allen.

Lewis, C.A. 1979. Horses, Hounds and Hunting Horses. London: J.A. Allen.

Loeber, R. 1973. 'Irish Country Houses and Castles of the Late Caroline Period: An Unremembered Past Recaptured.' *Bulletin of the Irish Georgian Society 16*: 1-70.

Loudon, J.C. [1822] 1859. An Encyclopaedia of Gardening. Ed. Mrs [Jane] Loudon. London. Longman, Brown, Green and Longman.

Loveday, J. 1790. Diary of a Tour Through Ireland. London.

McCracken, E. 1971. The Irish Woods Since Tudor Times: Distribution and Exploitation. Newton Abbot: David and Charles.

- McCracken, E. 1979. 'Nurseries and Seedshops in Ireland,' in E.C. Nelson and A. Brady (eds), Irish Gardening and Horticulture. Dublin: Royal Horticultural Society of Ireland.
- McErlean, T. 1984. The Historical Development of the Park at Castle Coole. Unpublished: National Trust.
- McErlean, T. and T.J. Reeves-Smyth. 1990. *Castle Ward Demesne*. 2 vols. Unpublished: National Trust.
- McKelvie, C. 1984. 'Woodcock,' in Albert Titterington (ed.), Irish Fieldsports and Angling Handbook. Belfast: Appletree Press.
- MacLysaght, E. [1950] 1979. Irish Life in the Seventeenth Century. Cork: Cork University Press.
- Malins, E. and Knight of Glin. 1976. Lost Demesnes: Irish Landscape Gardening 1660-1845. London: Barrie and Jenkins.

Malins, E. and P. Bowe. 1980. Irish Gardens and Demesnes from 1830. London: Barrie and Jenkins.

Nelson, E.C. 1982. 'The Influence of Leiden on Botany in Eighteenth-Century Dublin.' Huntia 4: 133-45.

Nelson, E.C. 1983. 'Some Records (c.1690-1830) of Greenhouses in Irish Gardens.' Moorea 2: 2-28.

- Nelson, E.C. 1983a. 'Sir Arthur Rawdon (1662-1695) of Moira: His Life and Letters, Family and Friends, and his Jamaican Plants.' Proceedings of the Belfast Natural History and Philosophical Society 10 (Series 2): 30-52.
- Nelson, E.C. 1985. 'Three Centuries of Gardening at Heywood, Ballinakill, Country Laois.' Moorea 4: 45-52.
- Nelson, E.C. 1990. "This garden to adorn with all varietie": The Garden Plants of Ireland in the Centuries Before 1700.' Moorea 9: 37-54.
- Payne-Gallwey, Sir R. [1882] 1985. The Fowler in Ireland. Reprinted for the Field Library. Southampton: Ashford Press.
- Payne-Gallwey, Sir R. 1887. The Book of Duck Decoys. Their Construction, Management and History. London: John Van Voorst.
- Pim, S. 1979. 'The History of Gardening in Ireland,' in E.C. Nelson and A. Brady (eds), Irish Gardening and Horticulture. Dublin: Royal Horticultural Society of Ireland.

Pococke, R. 1891. Pococke's Tour in Ireland in 1752. Edited G.T. Stokes. Dublin: Hodges and Figgis.

- Prendergast, J.P. 1852. 'Of Hawks and Hounds in Ireland.' Transactions of the Kilkenny Archaeological Society 2: 144-54.
- Reeves-Smyth, T.J. 1989. Crom Castle Demesne. 2 vols. Unpublished: National Trust.
- Reeves-Smyth, T.J. 1990. Florence Court Demesne. 3 vols. Unpublished: National Trust.
- Reeves-Smyth, T.J. 1991. Downhill Demesne. 2 vols. Unpublished: National Trust.
- Robinson, W. [1870] 1881. The Wild Garden, Or, Our Groves and Gardens Made Beautiful by the Naturalisation of Hardy Exotic Plants. London: The Garden Office.
- Robinson, W. [1883] 1906. The English Flower Garden and Home Grounds. London: J. Murray.
- Sherrard, G.O. and H.M. Fitzpatrick. 1945. 'Early tree planting in Ireland.' Bulletin of the Royal Horticultural and Arboricultural Society of Ireland 1 (22): 346-58.
- Tarrant, A. 1990. 'The Duck Decoy.' Wildlife and Wetlands Trust 102: 20-5.
- Tebbutt, C.F. 1968. 'Rabbit warrens on Ashdown Forest.' Sussex Notes and Queries 17: 52-4.
- Thompson, F.M.L. 1963. English Landed Society in the Nineteenth Century. London: Routledge & Kegan Paul.
- Wakefield, E. 1812. An Account of Ireland Statistical and Political. 2 vols. London: Longman.
- Walker, J.C. 1799. 'Essay on the Rise and Progress of Gardening in Ireland.' Transactions of the Royal Irish Academy 4 (Antiquities): 3-19.
- Watson, S.J. 1969. Between the Flags: A History of Irish Steeplechasing. Dublin: Allen Figgis.

Weir, W.L. 1986. 'Deerparks of Clare.' The Other Clare 10: 54-5.

- Went, A.E.J. 1955. 'Irish Monastic Fisheries.' Journal of the Cork Historical and Archaeological Society 60 (191): 47-56.
- Westropp, T.J. 1900. 'Excursions of the Royal Society of Antiquaries of Ireland, Summer Meeting, 1900, Third Excursion.' Journal of the Royal Society of Antiquaries of Ireland 30: 392-445.

- Whatmough, J.A. and B. Nelson. 1989. Biological Survey for Crom Estate, Co. Fermanagh. Unpublished: National Trust.
- Whitehead, G.K. 1950. Deer and their Management in the Deer Parks of Great Britain and Ireland. London: Country Life.
- Whitehead, G.K. 1964. The Deer of Great Britain and Ireland: An Account of their History, Status and Distribution. London: Routledge and Kegan Paul.
- Wyse Jackson, P.S. 1987. 'The Botanic Garden of Trinity College, Dublin 1687 to 1987.' Botanical Journal of the Linnean Society 10: 3052.
- Zettersten, A. 1967. 'The Virtues of Herbs in the Loscombe manuscript.' Acta Universitatis Lundensis: Sectio 1, 5.

NATURE IN IRELAND A Scientific and Cultural History

SENIOR EDITOR John Wilson Foster

ASSOCIATE EDITOR Helena C.G. Chesney

THE LILLIPUT PRESS DUBLIN Copyright © 1997 The Lilliput Press and individual contributors

All rights reserved. No part of this publication may be reproduced in any form or by any means without the prior permission of the publisher.

> First published in November 1997 by THE LILLIPUT PRESS LTD 62-63 Sitric Road, Arbour Hill, Dublin 7, Ireland. E-MAIL: lilliput@indigo.ie

> > A CIP record for this title is available from The British Library.

ISBN I 874675 29 5 (cased) ISBN I 874675 89 9 (paper)

The Lilliput Press gratefully acknowledges the Heritage Council of Ireland (Dublin), the Esme Mitchell Trust (Belfast), the Belfast Natural History and Phitosophical Society, the Arts Council of Northern Ireland, and the Department of the Marine (Dublin), for their support of this publication.

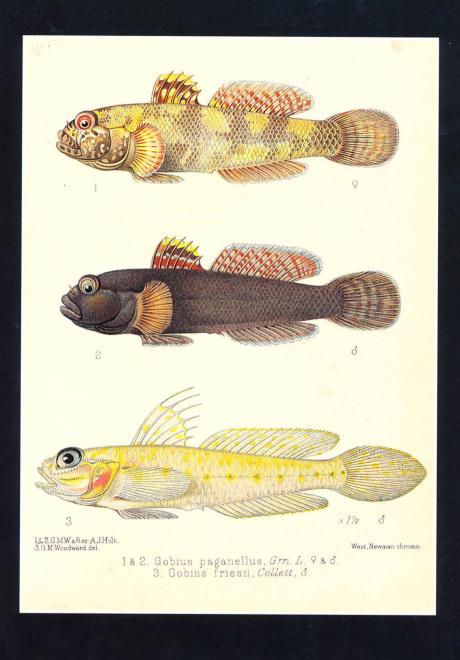
Endpapers (cased edition only): Animals and people in north County Antrim, from an anonymous and undated (probably early Elizabethan) manuscript map. Orientation is south-south-west. [Public Record Office, London, MPF 88]

> Set in 10.5 on 13 Ehrhardt by Sheila Stephenson Jacket design by Jarlath Hayes Printed in England by Redwood Books

Nature in Ireland

A Scientific and Cultural History

EDITED BY JOHN WILSON FOSTER





THE LILLIPUT PRESS 62-63 SITRIC ROAD, ARBOUR HILL, DUBLIN 7, IRELAND