NATIONAL COLLEGE OF ART AND DESIGN

FACULTY OF DESIGN

Department of Industrial Design

NATIVE CLAY USE IN THE IRISH CERAMIC INDUSTRY 1750 - 1990

by

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INTRODUCTION

> **The English take away our clay from Carrickfergus for the Liverpool earthenware and the Dutch procure it from Waterford for the manufacture of their Delft and Rouen ware. So valuable is this article to them which is brought on horses from the Devil's Bit mountain in County Tipperary to Clonmel and from thence transported in small boats to Waterford, that our correspondent has known a Dutch vessel of 200 tons remain nine months in the river for a cargo. (42,p.31)**

This quotation from the Dublin Evening Post of 1785 highlights the regard in which Irish clay was held during the eighteenth century, particularly by the non-Irish. So much so that the Dublin Chronicle of Sep. 6th, 1787, stated that it was a well known fact that Wedgwood obtained clay from Ireland for the most beautiful of his works. In fact the journalist of the Dublin Evening Post article calculated that the export of Irish clay to other countries and the reimportation of finished goods was costing Ireland some £15,000 a year. Contemporary entries in the London Custom House books suggest that between the years 1731 and 1776 the amount of Irish clay imported into England, with the exclusion of London, varied between 55 and 641 tons. (42,p.31).

The failure to establish viable home industries in the eighteenth century based on the local raw material has been attributed to a number of reasons. Attempts to establish fine pottery works, of which there were several around the country, failed because of lack of financing, high cost of clay, fuels and the increased competition from Staffordshire Potteries. But, most significantly, Irish ceramics, unlike glass, were not allowed access to the lucrative markets of the Plantations and Britain, and a fundamental failure on the Irish governments' part to pass legislation to allow a protected home market. (42, p.22).

The huge growth of the building industry in Ireland during the eighteenth century gave encouragement to the brick industry. At first, huge quantities of brick were imported from Britain, Holland, Flanders and France. Demand was such that the Dublin Society offered premiums for the invention of a brick making machine to improve the quality of Irish-made bricks. (17, p.25). The following century saw the establishment of numerous brick and tile factories around the country, notably in Dungannon, Dublin, Cork, Tipperary, Limerick and Belfast. The Belfast factories expanded to become the largest in the British Isles.

Resurgence of interest in Irish antiquities and culture, most notably under the antiquarian, George Petrie, and the success of the 1851 Great Exhibition of London led to a resurgence of interest in the possibilities of exploiting native clays for pottery. Irish clays were fired experimentally in Staffordshire throughout the nineteenth century. (17, p.32). At the Cork Exhibition of 1852, J. Deering of Middleton, Co. Cork, exhibited specimens of Staffordshire china and Rockingham ware made of clay from the estuarine deposit at Rostellan, Cork Harbour. Daniel Sheehan of Cork also exhibited dinner services of Rostellan clay and W.H. Porter exhibited earthenware from various Irish clays.

Interest continued throughout the nineteenth century. Belleek began production in 1857, based on a deposit found on the nearby Castle Cauldwell estate in Co. Fermanagh. At the Cork International Exhibition of 1883, several potters exhibited ware made of locally produced clays, including the fine art pottery of Fredrick Vodrey.

Experiments with native clay continued. The Earl of Rosse of Birr, Co. Tipperary, amongst other things, such as building the largest telescope in the world, carried out experiments with clay found on his estate and the cause of Irish clay along with other native materials, was taken up by notables of the day.

Enthusiasm remained high during the 1900s with the Cork Exhibition of 1902, marking its height. After Cork, interest declined as the energies of the people were channelled into more political causes and with the nightmarish chaos of the War of Independence (1921) and the resulting Civil War (1921-1923).

With the notable exception of Carrigaline in Co. Cork, founded in 1928, and Peter Brennan working from 1941, the interest shown in Irish clays in the twentieth century has remained only an echo of what it once was in the nineteenth. However, a new group of experimenters has arisen in the early 1990s. What remains to be done in this thesis is to examine the previous two centuries of clay use and its implications for the 1990s.

PART 1

CHAPTER I

Formation of clay - Types of clay - Geological Factors which affected the formation of Irish clay - Lough Neagh Clays - Types of clay used in Ireland.

Before describing the clay deposits as they exist in Ireland, it is necessary to understand something of the nature of clay, the types of clay and the geological factors which affected its formation in Ireland.

Clay is the product of the breakdown of igneous and some types of metamorphic rock over millions of years by weathering. The combined action of sun, ice and rain has broken down the original parent rock into a fine powder which is the basis of all clay. In its perfect form this powder is expressed as:

$$Al_2O_3 . 2SiO_2 . 2H_2O.$$

A combination of aluminium oxide, silica oxide and water, also known as kaolinite.

Kaolinite is the most important clay mineral. Kaolinite derived its name from 'Kaolin', a hill in North China where a very pure white-firing clay was first discovered. There are deposits of similar clays in other parts of the world, although they were discovered much later. In Britain this type of clay is known as "china clay"; in Ireland and elsewhere as "kaolin".

Clays can be broadly categorised into two types:

1. Primary Clays.
2. Secondary Clays.

PRIMARY CLAYS:

Primary clays or as they are sometimes known, residual clays are very pure clays of which kaolin is the best known example. These are clays which have remained at their site of formation, e.g. kaolin is always found overlying granite rock.

SECONDARY CLAYS:

Secondary clays are clays which have not remained at their site of formation. After formation they were further exposed to weathering. The clay was transported by water down the mountainside and eventually deposited in layers in river beds and delta mouths. Not surprisingly, secondary clays are also known as alluvial or estuarine clays. During transportation, the clay picked up many impurities including various metal oxides, other minerals and organic matter.

GEOLOGY:

An argument that has been levied against the formation of quality clay deposits in Ireland is the age of Irish mountains. Clay is principally derived from granite. Ireland's great granite masses were laid down during the very earliest of the geological ages, the Cambrian period. Geologically speaking, clay is very young - the process of decomposition (kaolinisation) is still taking place.

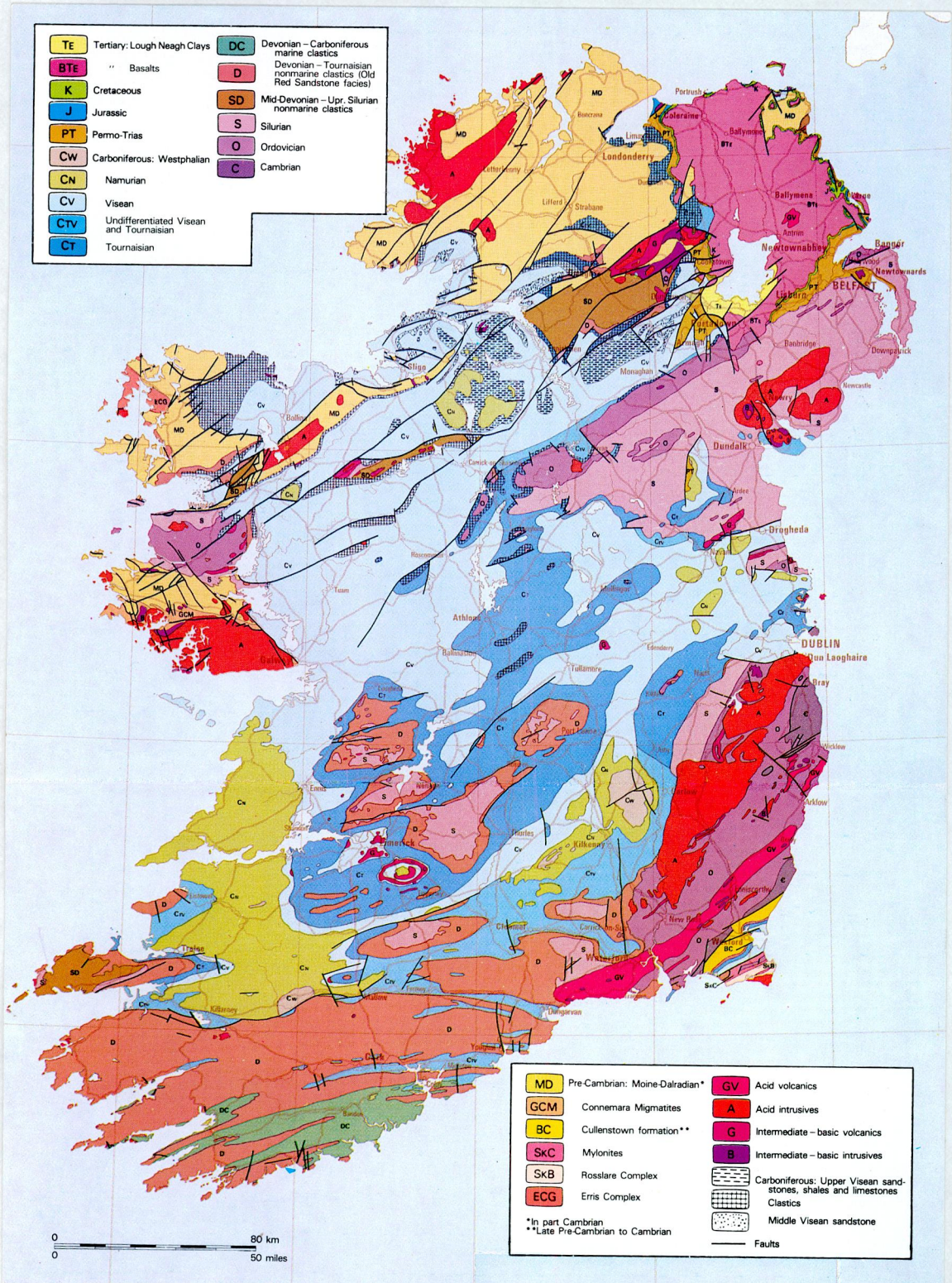
However in geology,things are rarely as certain as they seem. Ireland's principal granite masses, the mountains of Connaught, Donegal, South Down and Wicklow were formed some 600 million years ago during the Cambrian period, though there is some evidence to suggest that some of these rocks may date to an even earlier age.

Continuous erosion and weathering over this vast length of time has ground Irish mountains down to their present size and any deposits

of kaolin that would have existed have long been carried away by streams and riverlets. What followed the Cambrian period was a vast series of land rising, volcanic activity and long periods of time when the land submerged under early seas. All left their mark on the land, the huge limestone deposits of the Midlands and Munster, owe their origin to an ancient sea which filled most of the centre of Ireland. It is difficult to give an accurate picture of all the various stages that went to form the geology of Ireland but what is important is that by the Carboniferous period, some 350 - 270 million years ago, when the coal bearing seams of which the Leinster and Arigna coalfields are the last remains, Ireland's geological evolution except for a portion of N.E. Ulster, had come to an end.

The geology of N.E. Ulster dates to the Pliocene period some 10 million years ago. It was during this time that the Lough Neagh clays were formed (Illus. 1). The most famous result of this activity is the Giant's Causeway of Co. Antrim. Traces of pliocene formation similar to that around Lough Neagh have been found in Cahir, Co. Tipperary and seem to suggest much wider activity than previously thought but much has been eroded away. The granitic masses of Cornwall were formed during this period. The granite mass which kaolin is formed on is forced up through older rock formations by volcanic activity exposed to the elements and the kaolinisation process began.

The vast covering of clay in Ireland is due, not to volcanic activity but the period of glaciation known as the Ice Age which began some 2 million years ago. A vast ice sheet covered most of Ireland and Britain except for a small section of Southern England. The vast glaciers grinding down the mountains covered the land with vast quantities of boulder clay, so named because of the huge boulders carried by the ice sheet and left by the glacier in its wake. There seems to have been periods where the ice sheet receded as layers of alluvial clay have been found in stratified layers between the great boulder clay masses (boulder clay was not



Geological Map of Ireland

(Illustration, 1)

THE GEOLOGICAL SURVEY OF IRELAND

Geological map of Ireland compiled by the Geological Survey of Ireland. Published in the *Atlas of Ireland* (Royal Irish Academy, 1979).

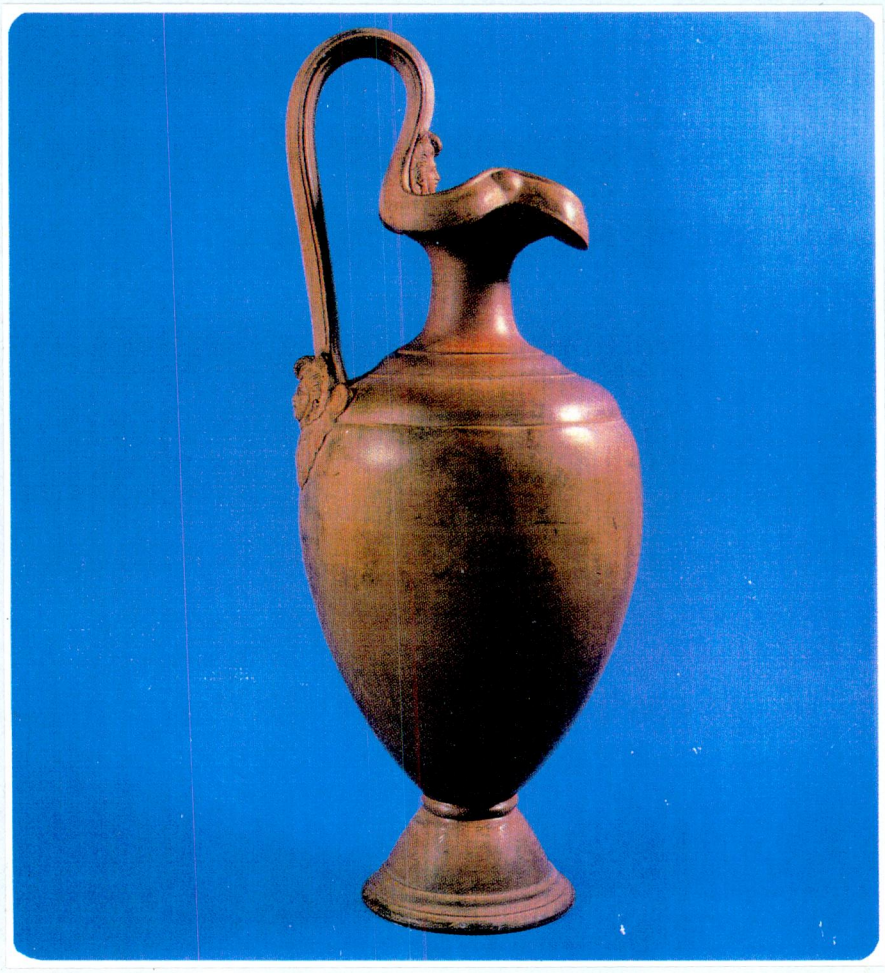
laid down in layers). The glaciers also ground into the landscape, leaving hollows in the earth covered with clay by later glaciers. As the weather warmed up, these hollows filled with dead organic matter from the plants that grew in these lakes and fills and formed Ireland's great peat bogs; that is why clay is almost certainly always found under peat.

TYPES OF CLAY USED IN IRELAND

The vast majority of clays found in Ireland are secondary clays of which the famous Irish "red clay" is the most well known. A classical terracotta ewer made at the Florence Court Tile Works, Co. Fermanagh is shown in Illustration 2. The red colour is a result of the high non-oxide content of the clay. This type of clay is also known as "Marl" in Ireland, though technically marls are natural mixtures of clay and chalk.

Pipe clay, as the name suggests, was used for the production of clay pipes for which there was a massive industry in Ireland in the last century. Pipe clay is a form of ball clay (a name first given to these clays as they were mined by cutting into 30 - 35lb balls). Ball clay is very similar to kaolin but has an extra mineral, montmorillonite, in its formation. To achieve the kind of whiteness usually associated with clay pipes; the iron content of the clay is low. Pipe clays occur in Ireland on Aran Island, off the coast of Donegal and there are small deposits at Knockcroghery in Co. Roscommon. A more detailed discussion on pottery clay sites occurs in Part 3, Chapter II.

Fireclay is derived from metamorphic rock, mostly shales. Shales are consolidated clays, clays, which over a vast period of time, have assumed the hardness and characteristics of rock. They have to be crushed before any use can be made of them. Because of their hardness they are seldom used in pottery. They contain low



Classical terracotta ewer made at the Florence Court Tile Works, County Fermanagh, made from native Clay.

(Illustration, 2)

amounts of fluxing impurities, such as alkalis and alkaline earth and are therefore more refractory than other sedimentary clays. Because of this hardness fireclays are naturally suited to the production of brick.

The discovery of kaolin on the estate of John Caldwell Bloomfield in Belleek, Co. Fermanagh, led to the foundation of the world famous Belleek Pottery during the last century. Kaolin was reportedly found in Howth, Co. Dublin, in the mid nineteenth century where it was used for the manufacture of crucibles.

Decomposed carboniferous shales were used for manufacture in Carrigaline, Co. Cork. Estuarine clays are used for the manufacture of pottery at Enniscorthy, Co. Wexford. Other estuarine and glacial clays are used locally in the craft pottery industry.

Josiah Wedgwood

(Illustration, 3)

Medieval polychrome Delft, popular before the Chinese fashion for tin and blue ware which became synonymous with Delft.

(Illustration, 4)

CHAPTER II

Clay use in Ireland during the 17th Century - The Fine Ware Potteries of Dublin of the 17th Century - Country Potteries of the 17th Century.

Perhaps the name most synonymous with pottery and its development into a major industry was the Staffordshire potter, Josiah Wedgwood. Wedgwood (Illus, 3) had been summoned in 1785 to give evidence at a commission into commercial relations between the two countries of England and Ireland. He stated at the commission that large quantities of flint and pipe clay from Ireland were imported to Staffordshire for making fine pottery (42, p.30).

Considering Wedgwood's experimental nature (he was constantly on the search for new and better materials to improve his ware), it is not surprising to find Irish clays being used for his pottery. What is not in the commission is where he got his Irish clay from but an assumption can be made.

M.S.D. Westropp, in his book, The General Guide to the Art Collection, Pottery and Porcelain of the National Museum, mentions clay sources:

> **Carrickfergus: there used to be considerable quantities of a bluish white clay exported from this town to England for the purpose of making Delftware which was reimported into Ireland.** (42, p.30).
>
> Note: Delftware is a type of pottery first produced in the Dutch town of Delft, characterised by its opaque tin-based glaze and blue decoration. (Illus, 4).

There seems to have been strong interest shown in Irish deposits as a large deposit of workable pipeclay found in Clonmel induced many Staffordshire potters to set up in Dublin. This can be substantiated by the numerous petitions made to the Dublin Parliament and Dublin Society, later to be known as the Royal

Dublin Society, for financial assistance. (42, p.30).

An advertisement for John Chambers appears in the Dublin Daily Advertiser for February 5th, 1737:

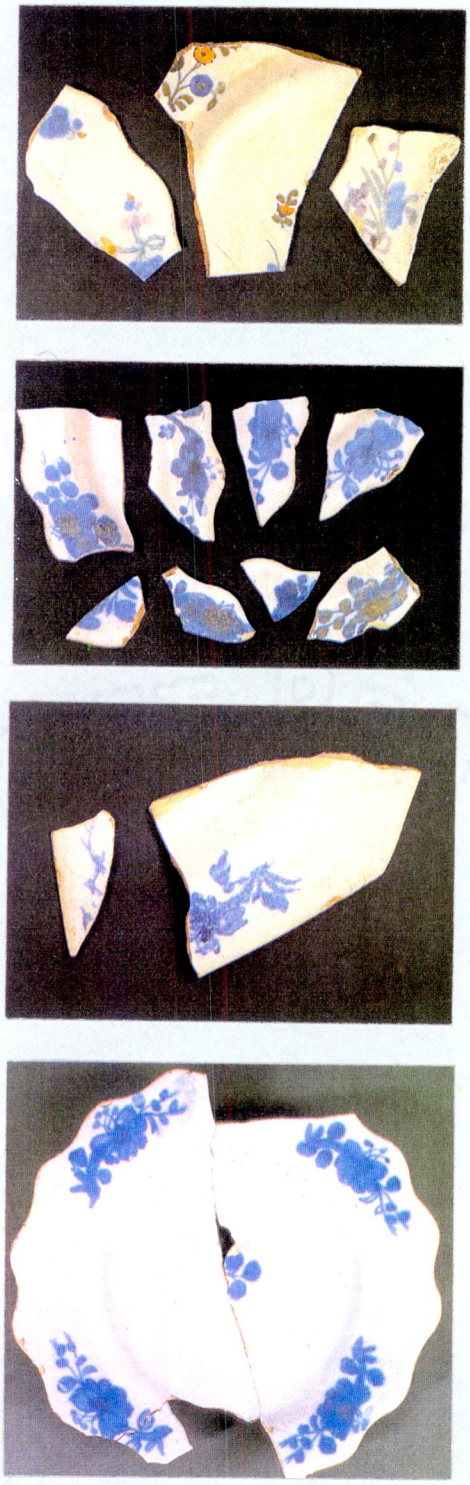
> **At the World's End, near the ship buildings on the North Strand, is a white pothouse erected where all manner of blue and white earthenware is made, equal in goodness in every respect to any imported from Delft or England and will be sold 25% cheaper than any can be imported from abroad; as the goods are no way inferior to any foreign goods, it's humbly hoped the proprietors of said work will meet with encouragement to wholesale dealers and apothecaries will be supplied with all manner of pots for their use by directing to Mr. John Chambers at said Pot House.** (42, p.10).

The blue and white earthenware referred to in the quotation was in imitation of Chinese pottery which had achieved popularity in Europe (see Illus, 4). This pottery was known as the "White Pot House on the Strand", and existed well into the early part of the nineteenth century, being taken over by a succession of new owners.

John Chambers' company was taken over by a firm called John Crisp and Co., for in 1747, this firm was awarded a premium of £10 for "the best dishes and plates of earthenware", (42, p.11). Crisp and Co. were probably taken over by David Davis in 1749 as Davis was awarded £8 of a premium for "earthenware dishes, plates and fruit baskets which were said to excel any of the like imported in the blue and white colour and beauty of the work and cheapness". (42, p.12).

That they were using Irish clay at the time, especially Carrickfergus clay, is highly probable as Carrickfergus clay was being used and exported to British sea ports, especially Glasgow and Liverpool.

The pottery at World's End is important as its final owner was Captain Henry Delamain. Delamain's World's End Factory is unique



Delamain pottery found at Dublin Castle during the 1985 - 87 excavations.

(Illustration, 5)

in Irish terms for its size (over three hundred people employed) and its method of production, coal firing instead of wood for the kilns, which Delamain claimed to have developed. He experimented with many Irish clays, finally settling on Carrickfergus clay. His experiments with clay taken from Wicklow were notable. The clay was discovered by a worker at his firm, George Mirly. Mirly discovered two different types of clay in the Wicklow Hills, one "great for taking grease out of cloths," and the other "excellent for making crucibles," (42, p.20). The clay used in the making of crucibles must have been a type of feldspar (highly heat resistant) as it was used in earthenware presented to the Dublin Society on October 25th, 1753. The minutes record:

> **We have examined several specimens of earthenware made of different clays of this kingdom produced to us by Mr. Delamain of the City of Dublin, made in his manufactory on the strand and think most of them as good and some of them better than any imported to Ireland.** (42, p.14)

Due to the combination of clays, the earthenware withstood being boiled by the members of the society. This may have been illegal as Delamain informed his factory manager, a Mr. Stringfellow, who left Dublin soon afterwards.

Delamain died in 1757 and his business was carried on by his wife and relatives until 1770 when the factory was taken over by a group of factory workers. It seems to have been in financial difficulty judging by the number of petitions received from parliament, i.e. Delamain's wife, Mary, petitioned parliament in 1759 for assistance because of falling sales due to the war with France. After her death in 1760, her brothers William and Samuel, petitioned parliament in 1761, 1763 and 1765, where they received £150 from the Dublin Society. After 1771, with a petition from the workers at the strand, no more is heard from the factory at World's End. (Illus, 5).

Majolica: originally from the Island of Majorca in the Mediterranean.

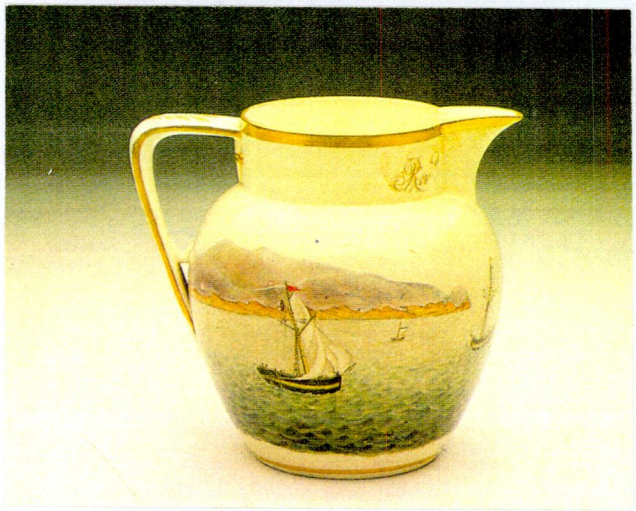
(Illustration, 6)

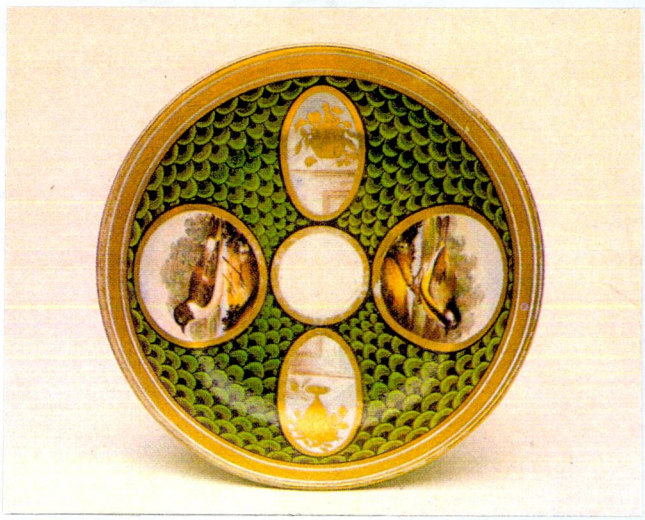
A few more potteries appeared in Dublin. In 1773, £200 was awarded, presumably by parliament, to Edward Stacey, Edward Ackins and Thomas Shelly for Queensware (a type of earthenware developed by Josiah Wedgwood and presented to Queen Charlotte of England - hence "Queensware"), for a factory set up in December 12th, 1771. (42, p.29). The last mention of a pottery in Dublin occurs in 1791 (42, p.30), when advertisements appeared in the Dublin Journal looking for two people to carry on a manufacture which had been started fourteen years earlier; no further details about this pottery are known (42, p.30).

It would be a mistake to assume that Dublin was the centre of the clay and pottery trade as there are numerous mentions of other firms, most notably in and around Belfast, where access to the clay sources at Carrickfergus was easier.

At this point, a distinction must be made between the type of pottery being produced in the country. The potteries of Dublin concentrated on the production of fine pottery, notably Delft and Majolica (Illus, 6), (Majolica: a type of pottery developed on the Island of Majorca during the late Middle Ages, and similar to Delft in that it is tin-glazed). These fine wares were produced for an upper market. There were several other potteries producing wares for common use, e.g. storage of foodstuffs. These wares are called country pottery. Differences are made between the two manufactures even though both were made from a common clay source: fine ware being delicate and glazed, coarse ware usually robust and unglazed.

Country potteries existed in the North of Ireland, in Waterford, Limerick and in Cork, all utilizing clay sources. A Delft factory existed in Limerick in 1762, founded by Messrs. John Stritch and Christopher Bridson. That this factory produced its own wares is disputed by Mairead Dunlevy in her book, Ceramics in Ireland (17.). Ms. Dunlevy states that the Limerick Delft factory decorated ready-made ware, a trade that was pursued most notably by





Hand Painted James Donovan Pottery

(Illustration, 7)

John Donovan of Dublin (Illus, 7). Similar decoration would have been used for locally produced ware as well as foreign imported blanks.

Fine ware production had, by the turn of the century, gone into rapid decline. The value of imported ware rose from £17,401 in 1783 to £90,423 in 1808 (42, p.33). This startling growth can be traced directly to the Industrialisation of the Staffordshire potteries. Irish clay, closely linked with both national industries declined as an economically viable enterprise, English potteries searching for and finding ceramic material closer to home.

CHAPTER III

Wedgwood's use of Irish Clay - The Foundation of the Belleek Pottery - The Industrial Exhibitions of the 19th Century - Fredrick Vodrey.

In 1782, Wedgwood formed the first Cornish clay company with a local man, John Carthrew. Wedgwood and Carthrew agreed "to become joint adventurers and traders in the getting and raising of clay and stone called Crowan clay and Crowan stone". (41, p.36). The exploitation of local materials and Wedgwood's organisational ability meant that he could supply centres such as Liverpool and Glasgow which had used Irish clay with a highly competitive alternative. Interest in the new Cornish finds is expressed in a letter from James Watt, the inventor, to Wedgwood:

> **Since last I had the pleasure of seeing you here, you were so kind as to promise to inform me of the prices at which you sold china, stone and clay at the mine at Falmouth and at Liverpool...once satisfied in these particulars they will send a vessel to take on board what they want. In the meantime, if you have any at Liverpool, they requested you send them two tons of Crowan clay and one ton of Crowan stone for the Delft-field Co., Glasgow.** (41,p.36).

The result of this is that by 1800, the use of Irish clay on a large commercial scale with the exception of coarse or country pottery, had ceased and interest in Irish clay ceased until the discovery of a deposit of feldspar and kaolin on the estate of John Caldwell Bloomfield at Belleek in Co. Fermanagh during the earlier half of the nineteenth century.

Bloomfield had inherited the estate in 1849 and due to the great poverty and suffering which he saw around him, sought to establish some form of industry to help his tenants. His imagination was fired by the Great London Exhibition of 1851, where he saw the possibilities for ceramics. Clay found on the estate had been exported to the potteries of Worcester in England. The discovery of the deposit is a subject of much discussion. According to Belleek

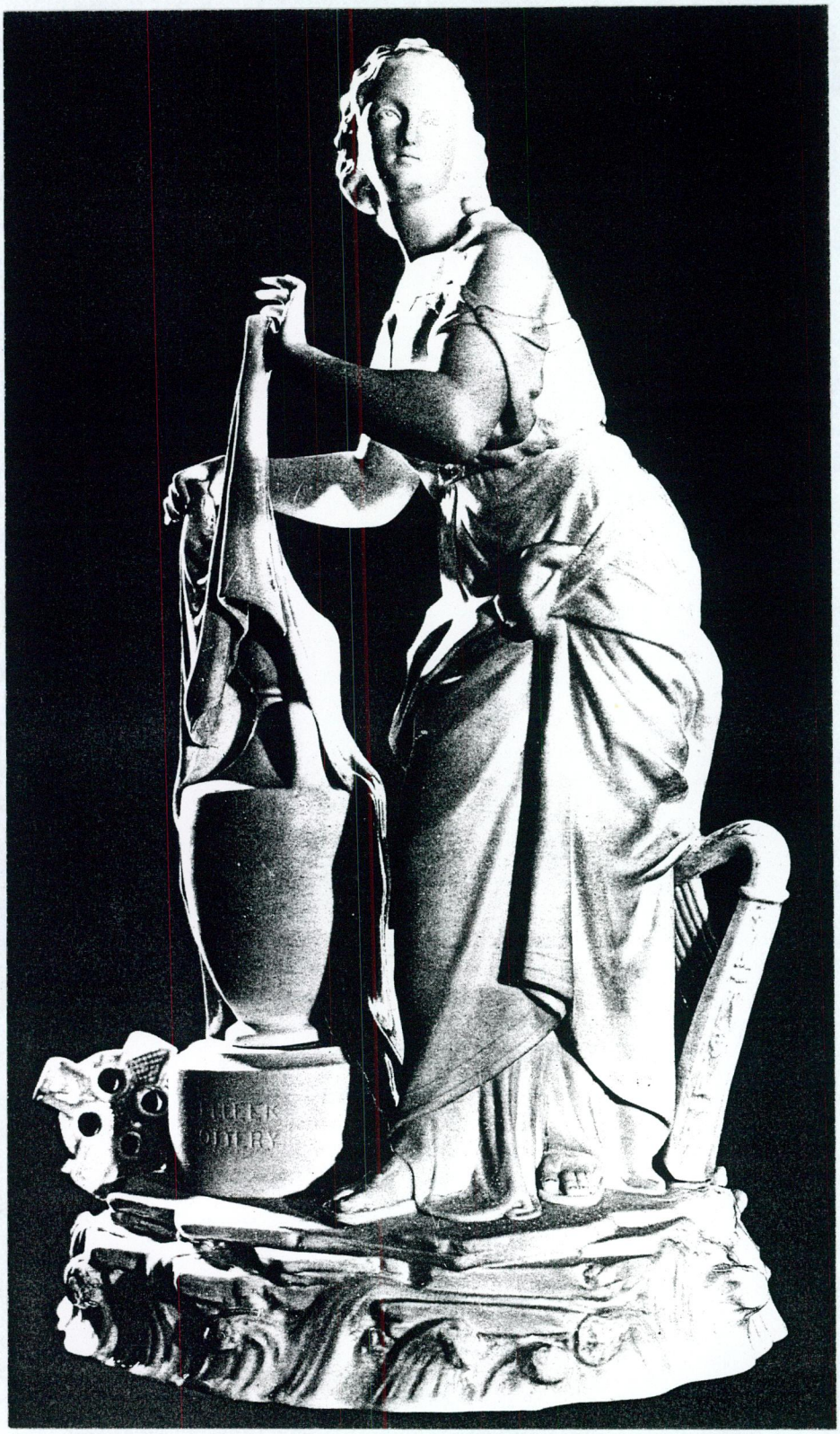
folklore, Bloomfield had been out visiting his estate when he noticed the brilliant white finish of the labourers' cottages. This white finish turned out to be kaolin, one of the primary ingredients for high grade porcelain, the other ingredient, feldspar, was also discovered on the estate. Considering the reputation and fame which Belleek later gained, it is not surprising that others claim credit for the discovery of the Belleek deposits. Sir Charles A. Cameron's memoirs contain the following extract:

> **One day when out shooting along with my host, I noticed a white patch of clay and took a portion of it to the castle. I heated it to redness and on removing it from the fire and allowing it to cool, I found that it had not lost its white colour, this showed the presence of iron oxide. I then said to Mr. Bloomfield that I believed he had a good porcelain body on his estate. I subsequently made an analysis of it.** (7, p.27).

Sir Charles later explains the dispute that arose over the clay. Many doubted that a clay of fine enough quality existed in Ireland for porcelain manufacture but Sir Charles was proved right, as history revealed.

Bloomfield exported these clays to Worcester and the other British potteries until a chance meeting with R.W. Armstrong in Dublin. Armstrong was an architect employed by the Royal Porcelain Works with a strong interest in ceramics. They were joined by W.H. Kerr who was at that stage co-owner of the Kerr and Binns Pottery at Worcester. A Dublin businessman, David McBirney provided the finance for the venture and together with Armstrong, remained the pottery's owner and financial controller until his death. The factory began production about 1857.

From the beginning, the company stressed its nationalistic tendencies. The pottery claimed, "it would produce first class ceramic goods composed of Irish material, made by Irish labour, on Irish soil and to the standards of the best English potteries", (36, p.24). In her article on "Early Belleek Wares" (36.),



Belleek: Hibernia awakening from her slumbers

(Illustration, 8)

Mairead Reynolds stresses the strong nationalist influence of early Belleek, influence that was due in large part to W.H. Kerr. This nationalistic approach may be seen even before his involvement with Belleek.

W.H. Kerr was born in Dublin and joined the Chamberlain Pottery Company at Worcester in 1850. The company was at the time experiencing financial difficulties. Kerr invited R.W. Binns to join him to become Art Director. The Chamberlain Company eventually became Kerr and Binns. Kerr took control of the Royal Worcester and worked "to enhance the reputation of Worcester", (36, p.25). His good business sense is shown in that he employed young artists in every department and experimented and developed ceramic bodies. By so doing, he improved the technical and artistic quality of prestige ware and also standard utilitarian ranges.

Kerr's commitment to Ireland (and the potential of its resources) was seen at the first display of Kerr and Binns ware which emphasised parian production "made of materials principally the produce of Ireland", (36, p.25). Kerr even went so far as that he and Armstrong spent holidays in Ireland looking for good porcelain clays. Kerr was present with Armstrong and McBirney on a preliminary investigation of the feldspar deposit on Bloomfield's estate.

In time Belleek became internationally renowned for the high quality of their work (Illus, 8), receiving prestige orders for tea and dessert services from Queen Victoria and Edward, Prince of Wales. The clay around which the factory was initially founded, in time became exhausted as no other Irish feldspar was offered up and Belleek turned to imported clays.

Interest in Irish clays as regards fine ware remained low for most of the early and middle period of the nineteenth century with Belleek, of course, as the notable exception. However, local clay

was still being used in coarse ware, being the lifeblood of the country pottery. At the Dublin Exhibition of 1853, a Mr. J. Walker from Larne exhibited a wide range of products including bricks, crucibles, teapots, baking dishes, breakfast and tea services and wine coolers, some of which were made from local clay. He appears as well in the Cork Exhibition of the previous year, exhibiting tiles.

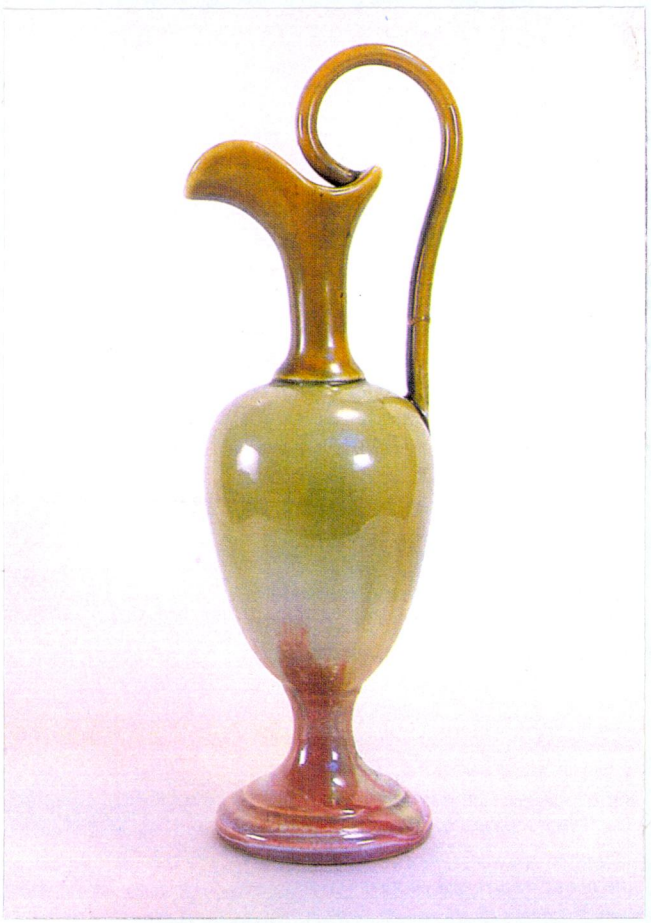
At the Dublin Exhibition of 1882, which was held in the grounds of the Rotunda Hospital, several clays appear as samples in the raw materials section. Included were pottery clays from Menlo, Galway, pottery clays from Cork and a specimen of pottery clay sent by the Clonmel town commissioners, possibly from the same source that attracted Staffordshire potters to Clonmel almost a century before. In the manufactured goods, a Mr. William McCormack from Kingstown exhibited pottery of various kinds. B. O'Brien from Knockcroghery in Co. Roscommon exhibited clay pipes made from clay taken from the banks of the Shannon. A previous exhibition in Dublin in 1872, held in Earlsfort Terrace, failed to attract any clay or pottery exhibitors.

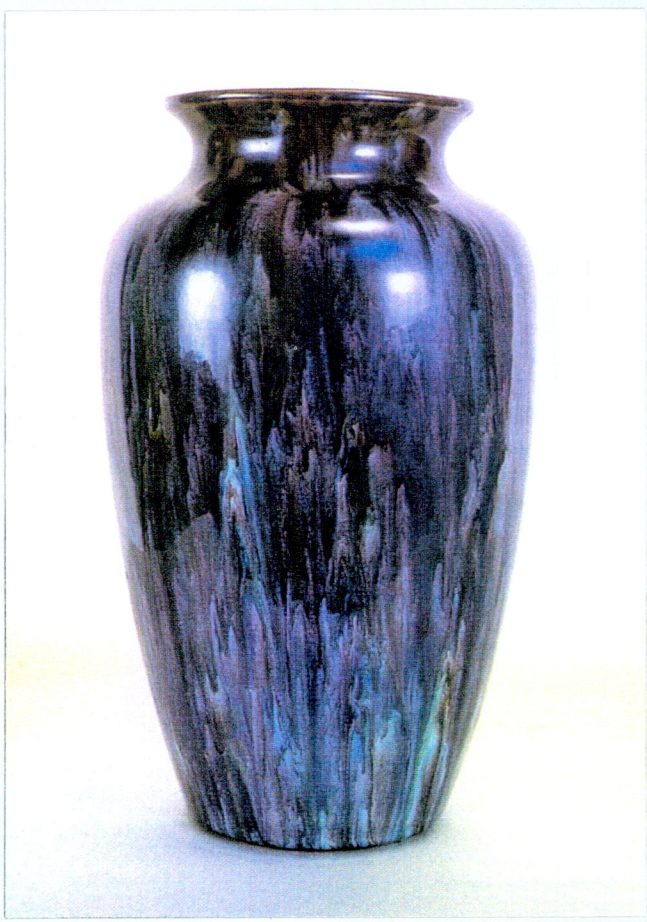
The Cork Exhibition of 1883 presents a healthier picture of Irish clay use. In the report of the executive committee which was published three years later, there is a lengthy discussion of Irish clay. The committee expressed dismay that Irish clay resources were so unexploited:

> **It seems strange that no use should be made of the fireclays of the Munster and Leinster coal fields, where a great deal of anthracite slack can be had.** (10, p.74).

The committee then goes on to cite examples of Irish clay deposits:

> **Considerable quantities of white clay and sand are found in dyke-like masses in limestone as at Rostellan in Cork Harbour where at one time a washing works for china clay and glass sand was carried on.** (10, p.74).





Fredrick Vodrey Art Pottery, circa 1884.

(Illustration, 9)

In general though, the committee regarded the utilisation of Irish clay as not necessarily being such an important constituent in the making of Irish pottery, citing the example of the English potteries, many of whom in the production of their typically English wares used many imported clays.

At the same time, there were quite a few good samples of clay present, which drew praise from the committee. Pottery clays from Galway were worthy of attention and samples of clay from the town commissioners of Cashel were "remarkable as regards quality and abundance and are deemed worthy of certificate of mention", (10, p.307). However, it is in the manufactured section that our attention lies with a certain F. Vodrey, who received a medal for his faience (ornamental pottery).

Fredrick Vodrey drew comment in the exhibition both for his pioneering attempt to introduce and manufacture art pottery in Ireland, examples of which are shown in Illustration 9, but also his use of Irish clays in its manufacture. His work was a reflection of the time with art nouveau and Celtic motifs appearing side by side, reflecting popular tastes and the resurgence of interest in the Celtic past.

Vodrey was born in the Staffordshire Potteries and moved with his mother to Ireland in 1861 after the death of his father, William. His mother started doing business in Dublin. In 1863 and 1864, Agnes Vodrey (his mother) is listed at 40 South Great Georges Street as a "glass and china dealer", (35, p.33). This business was taken over in 1865 by the 20 year old Fredrick who expanded the business.

Around 1873, it appears Vodrey began to experiment with pottery, having a pottery works at the rear of his warehouse at 19 Moore Street. He collaborated with Herbert Cooper, who was the then

Professor of Ceramics at the Queen's Institute in Molesworth Street.

Their experiments with Irish clays involved material from Belleek and Knockcroghery, Co. Roscommon, and a contemporary writer describes the creamy colour of the unglazed ware which resulted from these experiments.

Vodrey and Cooper were to part company after only twelve months and later, Cooper was to dispute Vodrey's claim to the use of Irish clays, claiming that Vodrey used English clay from Shelton in Staffordshire. However, many of the clays used in Vodrey's pottery were left unidentified and there is difficulty in proving which clays were actually used (35, p.34). According to Ashling Molloy (35.), though, the use of native Irish clays in Vodrey's pottery at a trial stage is never in doubt. Vodrey in 1884 presented a collection to the National Museum of Ireland which reflected the various styles popular at the time. Vodrey was not a potter though, relying on English potters and his staff while he himself acted as a designer. In this regard, Vodrey deserves credit as Ashling Molloy states his wares "compared favourably to those produced in Britain at Wemyss and Linthorpe and in France at Vallery", and as a designer, "Vodrey should be compared to Christopher Dresser", (35, p.36).

The Vodrey Pottery ceased at Vodrey's death in 1897 and with him went Ireland's one true example of art pottery during the late nineteenth century. Ireland would have to wait nearly thirty years until Carrigaline, Co. Cork was founded in 1928 before a serious attempt was again made at art pottery and longer again, for the experiments of Peter Brennan to highlight the use of Irish clays in this type of pottery.

PART 2

Top: The Crescent, Limerick City

Bottom: Harcourt Street, Dublin City

(Illustration, 10)

CHAPTER I

The Irish Brickworks of the 19th Century - Dublin and Ulster Brickworks - Munster Brickworks - The effect of railways on the Irish Ceramic Industry

How to build a brick house is described by Paul Brink of Henry County, Iowa:

> **...you dug a hole in the ground as close to the location as convenient, down through the topsoil, and then you would scoop out yellow clay, it had to be yellow clay. Black soil wouldn't make bricks. With the next rain you'd have a pond and a mould of clay to use for bricks. You made moulds, a set of wooden boxes a little larger than a brick, packed the clay tightly in the moulds and then let them stand in the sun to dry. When dry the bricks were knocked out of the frames (moulds) and piled in loose heaps. You piled wood round the bricks and built a fire hot enough to burn the bricks but not so hot they would crack. When the bricks looked the right colour of red, you doused the fire and there were your bricks ready to build your house.** (23, p.141).

The other great traditional user of Irish clay has to be the Irish building trade, especially the brick trade. Unlike pottery, the building trade has a continuous usage of specifically Irish clay, mainly because, like the country potteries, brick and tile works were founded around the clay source.

Use of bricks in Ireland did not begin until the early part of the seventeenth century and Irish bricks did not become widely available until the latter half. One of the first houses built of red brick in Ireland was Jigginstown House in Co. Kildare. This 380 foot long mansion was begun in 1636 - 7 by Thomas Wentworth, Earl of Strafford, Lord Deputy of Ireland from 1633 to 1640. It was never finished because Strafford was called to London and beheaded in 1641. Tradition has it (22, p.122) that the bricks were of Dutch manufacture and that a human chain was formed stretching from Dublin to Jigginstown, so that each brick passed

from hand to hand from Dublin until it reached Jigginstown.

By the start of the eighteenth century bricks were beginning to be used on a much larger scale, much of this has survived in the wide streets of Limerick and Dublin (Illus, 10). References to native Irish Brick companies are almost non-existent for this time; one factor most certainly was the fact that builders used to make and burn (fire) their own bricks on site. According to local folklore, the Georgian City of Limerick is traditionally supposed to have been built in this way, the clay, of course used being local. Evidence for this practice is provided by a letter to the Irish Builder dated June 1, 1887, from the geologist, G. Henry Kinahan. Mr. Kinahan in his letter protests at the very relevant substitution of native Irish clays and bricks by foreign products.

> **A large portion of Dublin was built of clay raised on the sites of the present houses such as Merrion and Fitzwilliam Squares and neighbouring streets. I remember the builders of Waterloo and Wellington Roads burning the bricks on their lots. These clays occur extensively in the country; yet instead of being utilized, foreign bricks are principally used. The Youghal bricks were once famous and no better record of them can be given than the tunnel of the Great Southern Railway near Cork, where millions of them were used, they were imported into Dublin far cheaper than the foreign article, now they are quite unknown.**
> (16, p.157).

Documentary evidence for early brickworks is sadly lacking not so much because brickworks did not exist but simply any information about them was never written down. In his article on Bricks and Brickmaking in Ulster in the 1830s (15.), R.A. Gailey explains that bricks were widely used in Ulster in the early part of the nineteenth century. From Ordnance Survey memoirs, Dr. Gailey notes that apart from Brickworks in the Lagan Valley and in the Coalisland district of East Tyrone, brickmaking was generally on a very small scale, large scale brickmaking was to come later. Transportation, of which more will be said later in the chapter, was difficult for bulky materials like brick except where water transport was possible, as it was at Lough Neagh across to Antrim.

In the South there seems to have been much less activity. In 1853, the same Mr. Walker who exhibited pottery at the Dublin Exhibition also displayed a range of bricks which had been produced at his firm.

Documentation of brick and tile forms only really begins as the century progressed. At the 1882 Dublin Exhibition, William McCormack of Kingstown, exhibited bricks made at his pottery. Like Walker in the 1853 Exhibition, McCormack displayed pottery ware side by side with his brick products. From this it could be assumed that many of the country potters could have been making bricks as well as their own pottery, both products being made of the same local clay.

In the 1880s, several advertisements appear in the Irish Builder for local Dublin brickworks. The Dublin Brick and Tile Company which was based in Mount Argus in Harold's Cross appears on a regular basis. Several other firms existed at this time. Flood Brick and Lime based in Clondalkin and the Dolphin Barn Brick and Tile Company, based in Crumlin. That these firms used local clay is proved in J.R. Kilroe's book concerning the Soil Geology of Ireland, published in 1908:

> **A thick, highly argillaceous deposit (boulder clay) occurs at Kill O'the Grange which is utilized for brickmaking and coarse pottery. Similar clays are to be met with along the Dodder river near Rathfarnham and at Harold's Cross.** (7, p.225).

It seems strange now that brickworks could have been carried on in places like Crumlin and Harold's Cross which have become city suburbs. In the late nineteenth century these areas were still countryside, (I am told that an ancestor of mine owned a farm in Crumlin in 1900), but both my ancestors' farm and the outlying areas had soon been concreted over in the name of progress by the 1920s.

However, these Dublin brickworks appear to have been rather small

affairs compared with their Northern counterparts where production was on a much larger and highly organised basis. An article from the Irish Builder dated 27 March, 1902 offers a glimpse of these Northern brickworks.

The majority of Ulster brickworks seem to have been based predominately around the city of Belfast. This is not surprising as an important clay deposit extends along the Lagan Valley right up to Belfast, a city which was expanding rapidly at this time and provided a wide market for brick and tile manufacturers. The Annadale Brick Company stood in fifty acres of its own clay soil and manufactured a wide range of building products other than bricks and even had its own pottery and terracotta works. The Skeigonal Brick Company, which was on the city outskirts, produced 7 - 8 million bricks per annum which, we are told, were a beautiful cherry red and finally, a certain S. McGladdery and Sons were in operation on the Springfield Road in Belfast.

Moving down the country, the article praises the work of the Kingscourt Brick and Terracotta Works in Co. Cavan, which is of course still in existence. The works had been founded in 1877 and had begun to assume the status of a company devoted to quality, holding a government contract to provide bricks for British War Office barracks in Ireland. The barracks at Portobello, Islandbridge and the Royal Barracks (all of which achieved fame in the 1916 Rising) were built from Kingscourt bricks. The Works also supplied the bricks for Jacobs Factory and Bewley's Oriental Cafe on Fleet Street, shown in Illustration, 11.

The third major documented centre for brick production was Cork, both county and city. Workable clay deposits certainly existed in Cork; the committee report of the 1883 Exhibition mentions the use of Cork clay (See Chapter II). J. R. Kilroe also mentions Cork clays:

Bewley's, Fleet Street, Dublin

(Illustration, 11)

> **Brick clay occurs near Youghal, Ballinhassig and Douglas; and at Ballyshee near Kinsale.** ((27, p.239).

Works which existed at this time include the Youghal Brick Company, Charleville Brick and Tile Company Ltd. and the Cork Brick Manufacturing Company.

One of the things which isn't immediately obvious and which in fact determines the success or failure of a business based around the very heavy and bulky material of clay was and still is the availability of transport.

Carrickfergus clay was, as we have seen, in common use in Ireland during the eighteenth century. This doesn't mean that the only good clay deposit which existed in Ireland was at Carrickfergus but rather Carrickfergus was situated on Lough Neagh, which gave access to the town of Antrim. Almost a full century later, Belleek was to rely on the completion of a railway in 1866, the Enniskillen, Bundoran and Sligo Railway, which linked the factory to the wider Irish network and the main ports (33, p.17). This factor had as great a role to play in the eventual success of the pottery as the quality and excellence of the wares themselves. An article reproduced from the St. James Gazette series of articles on "Industrial Ireland" in the Irish Builder of Feb 1st, 1887, lays the blame squarely on the railways and their high charges:

> **..whether it be the brick clay of Kingscourt and Courtown or the fine porcelain of Belleek. The railway companies of course say that their rates are not high.. However that may be, every attempt to establish brickworks and potteries where beds of clay were found, every attempt to bring Irish stone and Irish slate into use for the building of Irish houses has failed; that the cause alleged in every case is the prohibitive railway charges. We do not make that statement with a controversial purpose, but in order to record the allegation in its proper place.** (5, p.44).

On June 1 of the same year, a notice appeared in the Irish Builder from the Dundalk Demesne Brick Company, complaining of excessive

railway charges. The edition noted that the great Northern Railway Company of Ireland did indeed charge 8d/ton more for the carriage of bricks than its English counterparts and that this meant a serious difference in profit to the Irish manufacturer.

We shall leave the last words on the subject of Irish railways and Irish clay to our friends on the 1883 Cork Committee:

> **The fact that an article worth only 10s. a ton at the mines could be conveyed from a seaport to the interior of England, where potteries exist, at remunerative rates ought to encouragement Irish railways to do something for the encouragement of similar traffic in Ireland. It is also important to remember that the port of Cork is very conveniently situated as regards Poole and the other ports whence the clays of the Southwest of England are shipped - more so than the majority of the ports to which the clays are sent.** (10, p.76)

CHAPTER II

The Cork International Exhibition of 1902 - The Arts and Crafts Exhibitions - Foundation of Carrigaline Pottery during the 1930s.

Much has been written about the Celtic Revival, that period of time when Ireland's Gaelic past was gradually rediscovered and appreciated. The great national showpiece, which was the literary revival, most of whose writers, are still being celebrated on Dublin pub walls and on banknotes. The revival as it affected the arts and crafts movement in Ireland has been described by Jeanne Sheehy in her book, The Rediscovery of Ireland's Past: The Celtic Revival 1830 - 1930, published by Thames and Hudson in 1980 and more recently by Paul Larmour in The Arts and Crafts Movement in Ireland, published by the Friars Bush Press, Belfast in 1992. The movement reached its height at the turn of the century, the last great showpiece of which was the Cork International Exhibition of 1902.

Nationalist enthusiasm is apparent from the opening ode which was delivered in Irish by Osborne J. Bergin, the then professor of Celtic at Queen's College, Cork. The doorways to the main exhibition hall were suitably Celtic, both based on the design of Cormac's Chapel on the Rock of Cashel. Interest in Irish materials and more importantly clay had risen noticeably from the preceding exhibition of 1883. In fact the committee stated:

> **Considerable importance is attached to the pottery and glass working exhibits for which raw materials of fine qualities exist in Ireland.** (10, p.32)

A demonstration of the possibilities of using Irish clay was performed by a potter from the Staffordshire firm of E. Hughes and Co. Specimens of clay material were exhibited by Major R. Galbraith of Loughrea, Co. Galway, with manufactured clay items on

Della Robbia Pottery, 1904

(Illustration, 12)

Platter, pottery, made by Grattan Freyer, Ferrybank, Co. Mayo, *circa* 1765

Marine motifs in sgraffito through green glaze; scratched with [illegible] initials

show from the Cork Brick Manufacturing Co. Ltd.

Preceding the Cork Exhibition of 1902, were the first exhibitions of the influential Arts and Crafts Society of Ireland. The society had as its members some of the more prominent figures of the Arts and Crafts movement in Ireland. Members included Harry Clarke and the Yeats sisters, Lily and Elizabeth, referred to in Joyce's "Ulysses" as the "Weird sisters". The society was founded on the teachings of William Morris, the famous crafts revivalist and sought to promote Irish crafts through ancient Celtic influences and exposure to contemporary English craft.

Clay products, and more specifically, pottery are poorly represented at all the Society's exhibitions. In the first exhibition of 1895, it was once again J. Walker who was the sole Irish representative, (Walker had also exhibited in the 1853 Dublin Exhibition). His exhibit consisted of terracotta and garden vases with a few flower pots. Incidentally, the display of English ware contained the lustre pottery of W. De Morgan, a pioneer of Art Nouveau in Britain, but Mr. De Morgan's example was lost on the Irish potters so much so that at Cork in 1902, the Department of Agriculture and Technical Instruction requested an English company, the Della Robbia Pottery of Birkenhead to make ware from Irish clays from County Waterford and County Cork, (Illus, 12). The second exhibition of 1899 contained the work of the Lagan Vale Brick and Terracotta Works from Belfast. The works displayed specimens of terracotta and carved brick. The exhibitions of 1904, 1910 and 1917 contained work from the students and staff of the Belfast and Dublin Schools of Art but this work consisted of solely plate design and not clay items.

By then, Ireland was experiencing the chaos of the aftermath of the 1916 Rebellion and the struggle for Independence. It is against this background that the sixth Art and Crafts Exhibition took place. The Celtic revival was drawing to a close by the time of the sixth exhibition and it is with echoes of former times that

Carrigaline Pottery

(Illustration, 13)

Colonel Johnson Pasha exhibited (30, p.203).

Colonel Johnson was only one of two exhibitors of pottery at the sixth exhibition. Colonel Johnson had been carrying out experiments for some years and had, in fact, written them down in a booklet published in 1918. The Colonel had tried to show the potential for a native type of pottery decorated in the Celtic manner and produced from Irish clays. The second exhibitor was Gertrude McGraw, who together with Eva McKee, exhibited at the last Arts and Crafts Exhibition in 1925.

Following the establishment of the Free State in 1921, the government under William Cosgrave embarked on an ambitious industrialisation programme. This involved the founding of ceramic companies. Carrigaline was founded by a local businessman, Hodder Roberts, specifically to make use of good local clay sources in 1928. The factory produced tableware and ornaments and later art deco ornaments, (Illus, 13). A more in-depth discussion of Carrigaline will take place in Chapter III.

It is ironic that the foundation of Carrigaline could also have marked an end. With a few notable exceptions the next forty years would be a time where very little interest was shown in Irish clay or in fact ceramics in Ireland as a whole. Ireland would have to wait until the Seventies and the emergence of the studio potter for interest to revive.

CHAPTER III

The Native Irish Clay experiments of Peter Brennan during the 1940s - KDW experiments during the 1960s - Economic Development of the 1960s.

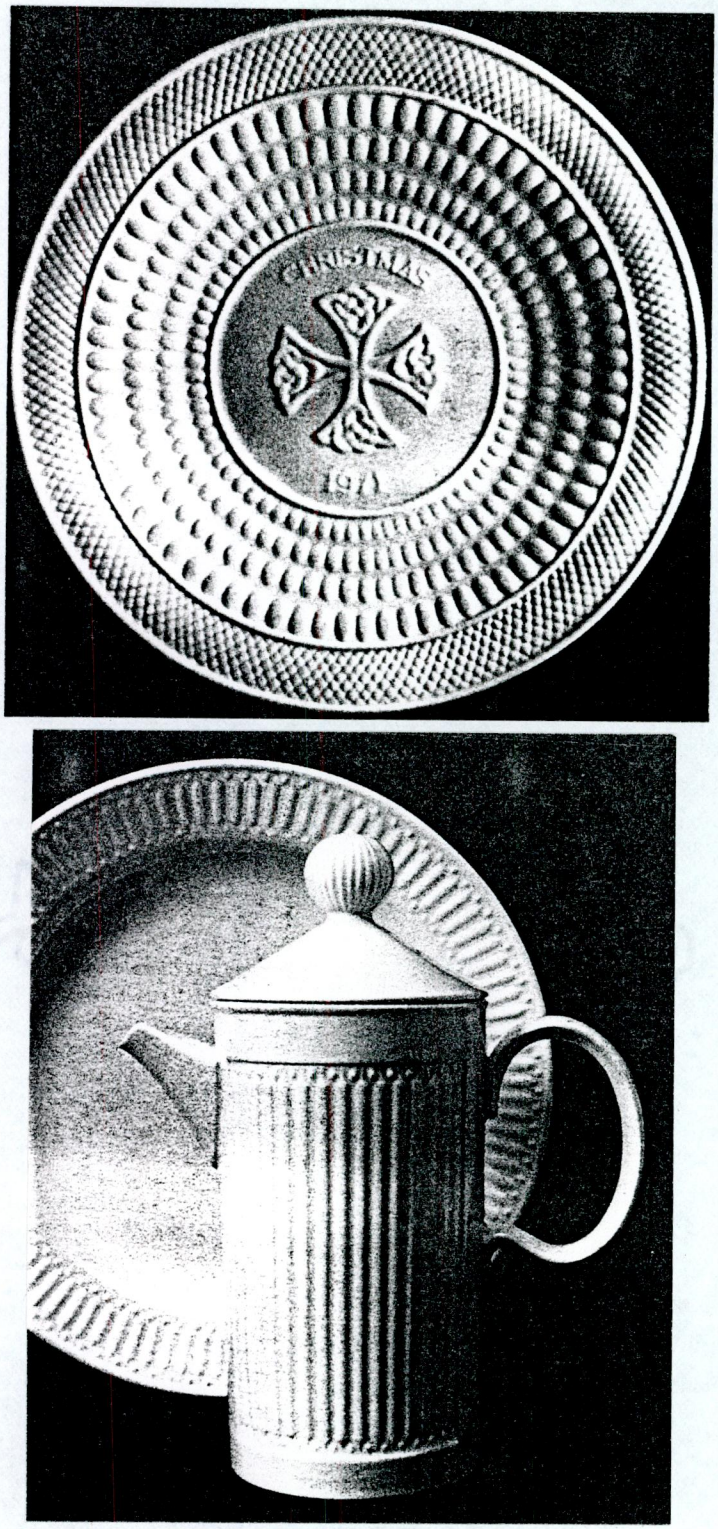
The end to the Celtic Revival and the Great Exhibitions, coupled with the embryonic beginnings of the new state, saw the decline of ceramic activity in Ireland. So much so that by the 1940s it was almost non-existent. Yet it was at this time that one man began to look seriously again into the possibilities that Irish clays could afford the potter.

When Peter Brennan began experimenting with Irish clay in 1941, he was practically working on his own. The last remnant of the once thriving country pottery industry was reduced to a few small potteries operating in Ulster at Coalisland and in County Wexford at Carley's Bridge.

Mr. Brennan had been trained initially as a sculptor, so when he approached pottery, he was free from any preconceptions that he may have gained had he been a potter in the first place. For him, using Irish clays was important if one was to try and make Irish pottery.

In the early Forties, Mr. Brennan was based in Kilkenny and from there he began his search. He looked specifically for a pure white clay body that would take decoration well. A great deal of research had been done in the previous century on clay sites, most notably by the Geological Survey of Ireland, who between 1897 and 1901 carried out a comprehensive survey of Irish soils and where they occurred, the economic uses of these local clays.

Using these and other sources, Peter Brennan was able to find and test several local clays. A deposit from Cahir, Co. Tipperary, was found to be of a very high quality. It fired to porcelain



Kilkenny Design Workshop Designs for
Belleek and Carrigaline

(Illustration, 14)

temperatures and produced a pure white porcelain body. This deposit of clay could possibly be the same one of which the town commissioners of Cashel sent samples to the 1883 Cork Exhibition and which drew so much praise from the Exhibition Committee.

The actual physical task of extracting and processing clay dug from the ground was backbreaking. All clays contain impurities and these must first be removed from the clay before any shaping can be done. The clays which Peter Brennan experimented with were relatively impurity free and easily worked, possessing good "green strength", (ability to hold its shape). Mr. Brennan used native clays in his workshop in Kilkenny and later when he moved to Dun Laoghaire in the early Fifties. Eventually the cost and the effort of working the clay, coupled with the availability of processed cheap clays from Cornwall, led Mr. Brennan to cease his experimentation at a commercial level with native clays.

KDW (Kilkenny Design Workshops) as part of their effort to promote craft industry in Ireland during the early Sixties, encouraged ceramic production which was seen as a major part of industrial development. Several well known studio potters including Sonja Landweer, were employed by KDW during the Sixties when the craft was almost unknown in Ireland. There were experiments with native clays which were not in commercial use but for the most part, KDW designed for the ceramic industry producing designs for the Belleek and Carrigaline Potteries (Illus, 14).

Economic planning of the nineteen sixties, masterminded by the influential Department of Finance Secretary, T.K. Whitaker, stressed the need for foreign investment to boost the Irish economy, a move away from the self-sufficiency of the De Valera regime of the Thirties and Emergency Years. In 1958, the Programme for Economic Development had been drafted. From 1960 to 1969, 350 new foreign companies were established in Ireland but what is relevant to us is that whether native industry had been genuinely encouraged, it appears now, considering the lack of Irish

ceramic companies established in that period from 1950 to 1970, to be questionable.

In retrospect, this period seems to be, if anything, a period of continuity rather than change. Any Irish ceramic company which existed, had its foundation pre-1940 and mostly in the nineteenth century. The next chapter is perhaps the most representative as it shows the effects and influences of two hundred years of ceramic production, clay use in the 1990s.

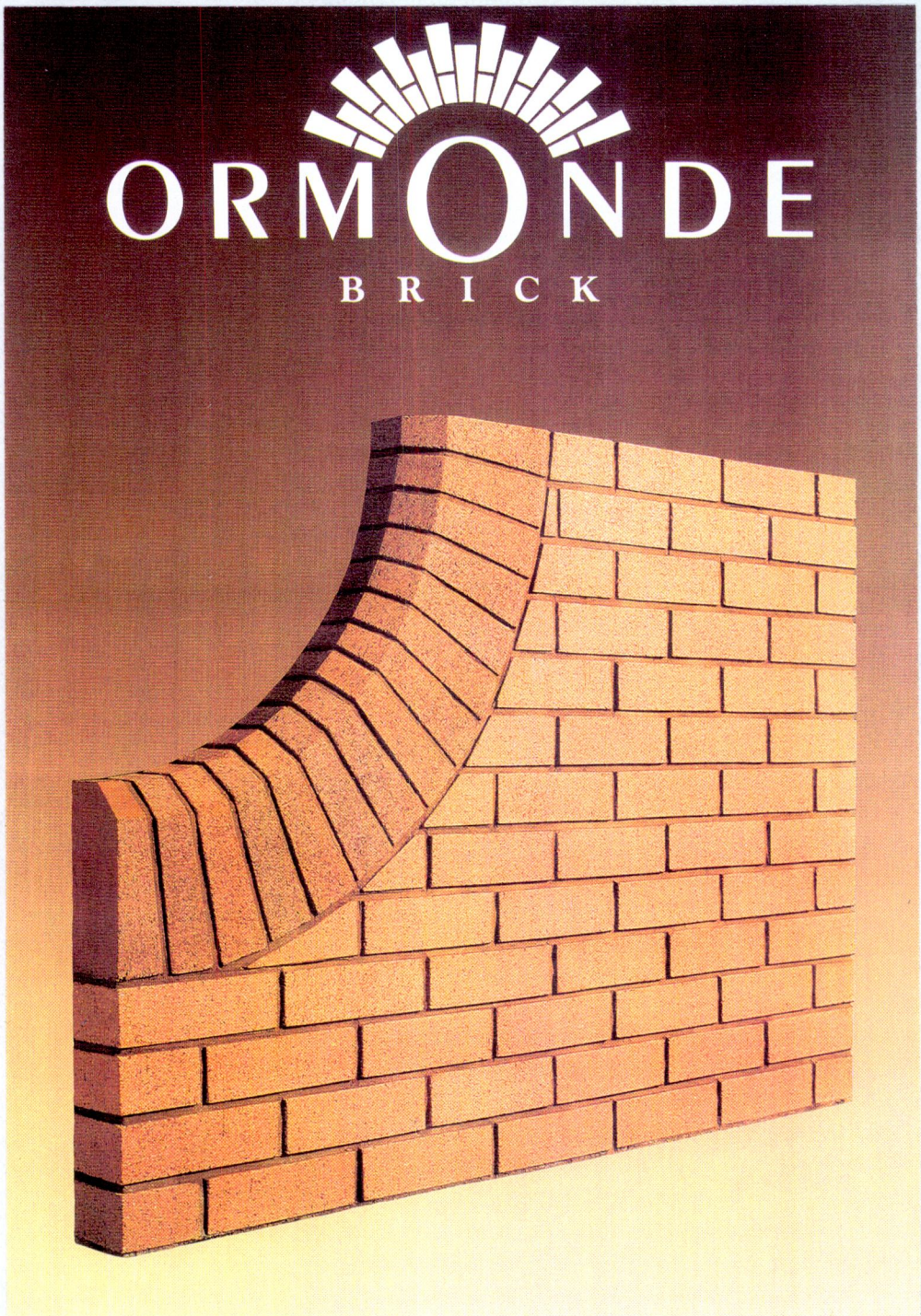
PART 3

INTRODUCTION

Native Clay Use in the Nineteen Nineties

Native clay use in Ireland today is still very limited. Competition from English clay mining companies being fiercely competitive, the traditional clay mining district of Cornwall providing most Irish potters' needs. In fact, the Cornwall area, principally the St. Austell clay mining area in South Cornwall provides 80% of all English clay exports.

However, over the past thirty years and more specifically the past decade, interest in Irish clay has reawakened. One major Irish user of native clay is Ormonde Brick Ltd., founded in 1969. Studio potters, the successors of the country potters are discovering Irish clay anew, some firmly basing their products on the material while others are incorporating it into other clays. The following chapter seeks to explore this clay use and what it means to the potters themselves.



Ormonde Brick Ltd.

(Illustration, 15)

CHAPTER I

Clay use during the 1990s - Brickworks - Selected Potteries using Irish Clay - Major Giftware Manufacturers' use of native clay

Ormonde Brick has its manufacturing works at Ardra, Castlecomer, Co. Kilkenny, in what is known as the Leinster Coalfield area. The coalfield encompasses parts of Counties Kilkenny, Laois and Carlow, the other major coal deposit in Ireland being located at Arigna, Co. Leitrim. Mining at Ardra during the 1930s was intense, employing at its height in the 1950s some 550 people, 400 of whom worked underground. The mines, known as Deerpark Collieries, supplied the E.S.B. Three train loads of 100 tons each were sent to the railway depot in Kilkenny City. The deposit eventually became depleted and in 1969 the collieries closed after 45 years of intensive mining.

The area was designated a special area of job creation by the I.D.A. (Industrial Development Authority) and it was found that the shales and fireclay underlying the old coal seams were suitable for brick production. Production began in 1969 as Irish Clay Industries,, the company was taken over in 1988 by C.R.H. Industries after financial difficulties arising from the downturn of the economy in the early Seventies. The company's name was changed to the Ormond Brick Ltd. and a 1992 forecast shows that the company expected a production target of 30 million bricks for 1992 with 45% going in export sales to the U.K. Some of Ormonde Brick's products are shown in Illustration, 15.

Kingscourt Brick of Cavan is still going strong after 113 years. Since 1885, the company has been part of the Belfast based Lagan Group. The company reported £1.5 million export sales in 1987 (29.) cracking the English market. Under managing director, Ciaran O'Reilly, the company has undergone a £2 million extension.

The company, which at present exports 50% of its products, is planning to increase this to 75%. All that remains of the thriving brick industry of the late nineteenth century in Ulster is the Ulster Fireclay Works in Co. Tyrone.

Potteries using local clay deposits are to be found principally in the South of Ireland. Enniscorthy, Co. Wexford, is a strongly traditional pottery area. The first recorded mention of a pottery in the area was in the year 1659. This pottery was founded by two brothers called 'Kerley', who came from the South of England. In time the name 'Kerley' became 'Carley' and at some time around 1748, the Carley family were joined by marriage to another, the Owens. The descendants of the Carley-Owens still have a farm and run the pottery today. It is not unusual then to learn that the only supplier of native clay is situated in Enniscorthy.

Kiltrea Bridge Pottery digs and processes its own clay from a source near the pottery. Clay is extracted in bulk. Paul Moloney of Kiltrea Bridge Pottery calculated the pottery, at the moment, has enough clay for at least another nine years before new clay has to be dug. With this obvious large supply, the pottery provides clay for other potteries, for which interest is growing. Rossa Pottery of Cashel, Co. Tipperary, has recently begun production, advertising its wares as "handmade from the clays of Tipperary. (13, p.51).

Potteries and ceramic works experimenting with Irish clay from Kiltrea include The Tile Works on the South Circular Road, Dublin. A work completed using Kiltrea clay is to be found at McLaughlin's Butchers in Sallynoggin. Nicholas Mosse Pottery of Bennettsbridge, Co. Kilkenny has aimed at a completely Irish ceramic product, advertising its wares at the recent Showcase Exhibition at the R.D.S. in Ballsbridge, Dublin, as a "cheerful and chic collection of Irish spongeware pottery, made with Irish clay, Irish waterpower and traditional Irish design inspiration". (13, p.47).

Ireland's prestige ceramic products are still those of porcelain/parian industry. Belleek, the pioneer of Irish fine porcelain has had its offshoots in this century in Melvin, Celtic Weave and most recently, Donegal Irish Parian formed in 1986.

The other major giftware manufacturers are Royal Tara, established in 1951 and Cre, established in 1987. Both companies are incidentally based in Galway. All these companies use china clay (kaolin) to a degree in their products. Parian, used by Belleek, is composed of 30% china clay with 70% feldspar. The clays used by the companies are all sourced out of Ireland, the majority being imported from Cornwall and other small amounts being sourced in Central Europe, Spain, Portugal, France, Germany, Georgia, U.S.A., China, India and finally North Africa. The common assumption among the companies, based in a letter I received from Royal Tara, is that there are no traces of china clay deposits in Ireland but that, as we have seen, is not as final as it may seem.

CHAPTER II

Pottery and Brick Clay Deposits in Ireland.

For this section, I am indebted to the work of the Geological Survey of Ireland. The Geological Survey of the United Kingdom was instituted in January 1845 and commenced work in May of that year. The survey's first priority was the production of small scale county maps on the scale of one inch to a mile. Work commenced in 1857 and was completed in 1890.

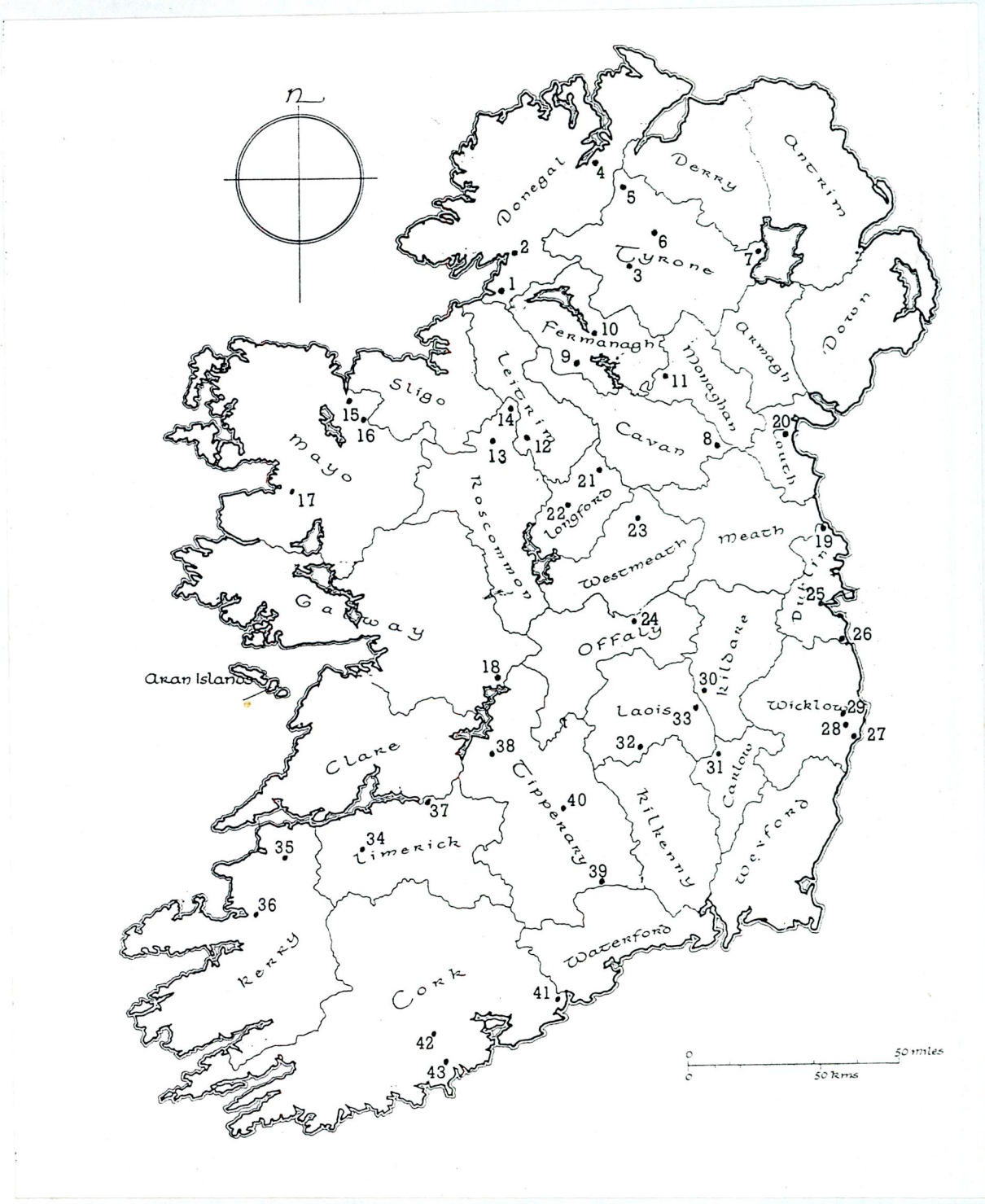
From 1890 to 1901, a small staff was employed to bring the existing maps into conformity with contemporary geological work. The examination of soil and subsoils and the identification of commercial clays formed an important part of the survey's work but due to the need for mapping , work was abandoned and not resumed until 1901. The publication in 1907 of J.R. Kilroe's book, A Description of the Soil Geology of Ireland, presented the work of the survey in this area to the public for the first time. J.R. Kilroe's work is still of relevance as a circular from the Geological Survey of Ireland in 1984 described clays which were then currently under examination, clays which Kilroe had mentioned almost 77 years before.

This book and Geological Survey circulars form the basis for the following two maps, detailing brick and pottery clays for the island of Ireland.

Pottery Clay Sites
(Illustration, 16)

POTTERY CLAY SITES:

1. Aran Island
2. Fintona
3. Ballymoney
4. Belleek
5. Along the Bann River
6. Antrim
7. Belfast
8. Armagh
9. Castleblaney
10. Carrickmacross
11. Tedavnet
12. Glaslough
13. Bailieborough
14. Leitrim
15. Lough Gill
16. Galway Town
17. Knockcroghery
18. Creggs
19. An Uaimh (Navan)
20. Ballynamuck
21. Mountmellick
22. Shinrone
23. Cashel
24. Cahir/Ballymacadam
25. Carrigaline
26. Coalisland



Brick Clay Sites

(Illustration, 17)

BRICK CLAY SITES:

1. Ballyshannon
2. Donegal Town
3. Omagh
4. Borders of Lough Swilly
5. Strabane
6. Gortin
7. Lough Neagh
8. Kingscourt
9. Florence Court
10. Drumane
11. Clones
12. Carrick on Shannon
13. Boyle
14. Lough Allen
15. Ballina
16. Swinford
17. Westport
18. Portumna
19. Drogheda
20. Dundalk
21. Granard
22. Longford
23. Castlepollard
24. Tullamore
25. Kill O'The Grange
    Rathfarnham
    Harold's Cross
26. Bray
27. Arklow
28. Rathnew
29. Ashford
30. Athy
31. Carlow
32. Durrow
33. Luggacurren
34. Newcastle West
35. Listowel
36. Tralee
37. Limerick
38. Nenagh
39. Clonmel
40. Thurles
41. Youghal
42. Ballinhassig
43. Ballinlee near Kinsale

CHAPTER III

Case Study - The Potteries of Coalisland - Early History - Use of Local Clay and Materials - Products manufactured - Closure of the Potteries during the 1960s.

THE LOUGH NEAGH DEPOSITS AND THE POTTERIES OF COALISLAND

Ireland's longest continuing traditional native clay users are the country potters. Technically speaking, the earliest remains of pottery in Ireland, dating from the Neolithic period, 3800 - 3700 B.C., found in Ballynagilly, Co. Tyrone is country pottery. Country pottery was much more functional than fine ware, production consisting of items in which local people could store food. Pottery forms remained almost unchanged for hundreds of years, markets remaining traditional and undemanding. The potters of Youghal were producing medieval style pottery right into the nineteen thirties. It is this continuous tradition and the country potters' reliance on locally available materials that marks him out for special interest.

The potteries of Coalisland were centred in the traditionally clay-rich area of East Tyrone; brickworks were also well established in the area. Coalisland could boast of large scale brickmaking operations by the 1830s. To give an idea of large scale brickmaking of this time, brickworks at Ballygowan near Omagh in West Tyrone, produced up to 100,000 bricks a day. The earliest mention of a pottery, according to Megan McManus, in her article on Coalisland, occurs in the Belfast Newsletter of 4 September 1759. This gave notice of a partnership between Acheson Johnston of Tullyhoa and James Creer of Dungannon and Thomas Campbell of Brockavill, who formed a pottery to carry on the manufacture of earthenware at Port Tullhoa in Tyrone. This pottery produced "all kinds of black and brownware and country tiles". (34, p.67).

The pottery is mentioned again when McEvoy states:

> **The best pottery in the country and perhaps in the kingdom is within a mile of Coalisland on the road to Verners Ferry in the Barony of Dungannon. There are manufactured all sorts of rough crockeryware, fire bricks and tiles for malt and oat kilns, of as good a quality as are imported.** (34, p.67).

Twelve potteries are mentioned in the Ordnance Survey maps for Tyrone in 1834, nine of which centred on Coalisland. In 1833, at the Cork International Exhibition, Robert Burns of Ballynakelly Pottery, Coalisland, County Tyrone, was awarded a medal for his display of garden pots and saucers, common glazed pottery and art pottery. The committee commented that the forms appeared "too heavy" though of excellent quality. Some of the ware was painted to show the clay in its use as artistic ware but the committee again pronounces this as unsuccessful.

The potters relied mainly on local clay for their wares. This was predominately of a red colour, white clay being bought in. Slip clay (clay which is kept in a soluble state) was brought from Toome in Co. Antrim. Clay was dug from September and kept over the winter in barrels. The frost would break down the clay lumps into smaller pieces, a process still practised by the Kiltrea Pottery. (Peter Brennan kept his clay in beer barrels made at the local brewery). This practice was to facilitate easier working of the clay on the potters' wheel.

The potteries of the 1830s were relatively small scale operations, usually employing no more than ten people, a trend which continued right into the twentieth century. It would seem that four was the minimum needed to run a pottery, considering the potteries had to process their own clay. Processing clay involved digging out the raw clay, similar to Illustration, 18, freeing it from impurities and preparing a homogenous mass for throwing on the wheel. Output in the 1840s for one year in the Coalisland Potteries was calculated at 47,370 pieces, which had a value of £2,888.5s.

Digging clay (marl) at Enniscorthy

(Illustration, 18)

The potteries experienced mixed fortunes towards the end of the century: some went out of business, others expanded. The potteries at the time would have experienced stiff competition from British potteries, one of the founders of Belleek, Armstrong stating many preferred to buy cheap "Glasgow ware" rather than home produced goods.

One family that owned a pottery right into the twentieth century was the Burns family. In 1858, James Burns had a pottery in the townland of Creenagh near Coalisland, with a valuation of £2.5s. His brother, Robert, the exhibitor of 1883, owned potteries in Annaghmore and Ballynakelly, neighbouring townlands. In 1864, Samuel Burns replaced James at Creenagh. James and Robert ceased their operations in 1904 and 1903 respectively. In 1906, a new pottery was built on land leased by Samuel and the new pottery was called "Burnbrae" an example of whose work reached the National Museum of Ireland. This pottery was taken over in 1940 by S. Burns and Co. of Creenagh.

The wares produced at the Burns' potteries were for the most part functional, fulfilling the demands of the local agricultural community. Tall, flared pots for storage or preserving eggs were called crocks. They were produced in a number of sizes and colours which varied usually between black and brown, depending on the type of glazing oxide used. Wider, shallower pans were produced, almost all a variation on the standard crock or pan. One of the more interesting special orders made by the firm were coarse slipware chamberpots for poor houses.

Processing of the clay was done at the pottery. The weathered clay, left out all winter to the elements, was first "pugged" or squeezed and compacted for throwing; this was done by a horse-turned churning mill.

The pugged clay was then mixed with some fine sand and kneaded by the potter's assistant, much like mixing dough. Wedging removes

Terracotta Flowerpots

(Illustration, 19)

air bubbles and impurities. The clay was then made into appropriate-sized balls sometimes judged by hand or against special weights.

Throwing or forming the pot was done on a potter's wheel. The wheels were at first hand-cranked, the actual labour being supplied by the potter's assistant. Tools used were simple: a stick stuck in a lump of clay acted as a size gauge; a small sponge was used to remove excess water from the interior of the pots and a simple metal rib was used to smooth down the outside of the finished pot.

After the pot was thrown, a wire was used to cut the pot from the clay base and placed on a board. Pots were left to dry until they were leather hard. In this state the pots were given to the dresser to decorate. Detail of decoration depended very much on how many pots the dresser had to do in the clay. The dried pots were then fired. If a glaze was applied the pots would be fired twice, the first initial firing becoming known as a glost firing. Firing the pots was a highly skilled process in itself, the firemen relying on his own two eyes alone to judge the kiln temperature. Staffordshire potters could after years of experience judge the kiln temperature to within 20°C (earthenware is fired at 1000°C). After firing, the kiln was left to cool down for two days and the fired ware remained.

The wares were sold by hucksters (salesmen) at local fairs while others were packed in straw to send to the larger towns.

In the nineteen forties the potteries ceased making pots and concentrated on drain pipes and flower pots similar to those shown in Illustration, 19. The potteries were closed in the nineteen sixties due to competition from plastics. The end of the Coalisland potteries also signalled the end of an era, an era which saw traditional rural values transformed in the name of progress.

CONCLUSION

FIG. 2.8. Overview of a china clay pit in Cornwall. By courtesy of English China Clays Group.

Extracting clay in Cornwall

(Illustration, 20)

CONCLUSION

After thus examining the Irish clay industry, what immediately becomes clear is the extremely primitive and under-developed condition which exists. Irish clay extraction still very much relies on hand tools or JCB extraction in stark contrast to the Cornish clay industry which has developed its industry for nearly two hundred years (Illus, 20).

Processing of Irish clay is still very rudimentary. Foreign clays are always accompanied with a detailed chemical breakdown of the clay, a necessity in today's world of high standards. The clay itself is not necessarily to blame but more the practices of the businesses who handle them. According to Michael Jackson of Stoneware Jackson Pottery of Bennettsbridge, Co. Kilkenny, (25.) clay cost some £5/600 per ton; the bulk of this money, some £4/500 would be spent on processing alone, clay in itself having a very low, intrinsic value. Even if Irish clay could be dug more cheaply, the cost of processing by the Irish potter would make this apparent advantage negligible.

Of course, the reasons why Irish clay has not achieved widespread use could be deeper, reflecting on an apparent national inferiority complex:

> **The disbelief of Irishmen that anything good can come out of Ireland. Irish architects cannot be persuaded to use Irish building materials. They specify for Bath or Caen stone, for Belgian marble, for Welsh slates, for Bridgewater bricks and so on, although they should know that better and cheaper bricks are made at Kingscourt, that just as good slates can be made at Killaloe and Valentia, that more beautiful marble can be brought from Armagh or Lough Corrib.** (5, p.44)

The Irish clay experiments themselves, while exciting in their own right, seem never to have caught the public imagination. A contemporary magazine report from the 1902 Cork International Exhibition, where the Della Robbia Pottery had pots on display

made from Irish clay, completely ignored the stand, reporting that nothing existing at the show promised anything for the future of Irish industry. (40, p.1256).

The failure of the eighteenth century fine ware potteries while for the most part financial and political, the high cost of clay was still one of the militating factors. This cost could be attributed to the relative primitiveness of the Irish transport system with few canals, even less good roads and non-existent railways. The major brickworks of the nineteenth century such as those of Dublin, Belfast and Cork were situated right on the outskirts of their market.

Very simply, the problem lies in the lack of investment. An article from the Irish Builder on the Brick, Tile and Earthenware Industry in Ireland, is as relevant today as when it was published:

> **In every part of Ireland, the raw material necessary for carrying on these particular industries in all their branches, may be said to be lying ready to hand, all that is required to make profitable use of it being the application of a little capital, skill and labour.** (4, p.1085).

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