'IRISH ESTATE MAP DESIGN

OF THE SEVENTEENTH AND EIGHTEENTH CENTURIES'

FINAL YEAR DISSERTATION

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INTRODUCTION

Cartography began around 2,500 B.C. and has been an important element in civilization since then. Maps were used as a source not only of geographical but also of historical information. Ancient maps were often decorative but they also had the potential to give an insight into contemporary life and customs, and a view of primitive towns, forms, dwellings and natural geographic features.

'Map making is probably the oldest of the graphic arts, for it is common to all primitive peoples' (Chubb, 1927, pg 73). It is the graphic qualities of ancient maps which will be of particular interest in the following discussion. The aesthetic features of the maps and the artistic capabilities of their cartographers will be the main subjects under consideration.

The two main categories in map design between 1650 and 1800 in Ireland were private and public maps. The variation in each group was enormous. I became particularly interested in this stylistic variation in private estate maps during my course of study and have decided that it will be the main subject of discussion in my thesis. These Irish estate maps were more numerous and more ornate than any other maps of their time. Seven particular maps were selected from the vast amount of manuscript maps available in the libraries of Dublin. These maps will be discussed under three separate design headings; graphic design, functional design, and decorative design. This division will be in the form of three chapters and will assess the separate qualities involved in the cartographic design of the maps selected.

In the chapter on graphic design I will consider the seven maps under the headings colour, layout and lettering. Although these three features will be important for use as a discussion on their own merit, they will also be considered in the two following chapters in more specific details.

The second design chapter will describe the functional design elements of the Irish estate maps. The functional design elements upon maps are commonly known as topographical details; these are a description by the cartographer of the land conditions and features of the mapped area. I will discuss each of the topographical details separately under headings such as 'mountains', 'roads', 'towns' and 'rivers'. Sometimes these details took a symbolic form and other times a representational or written form within the survey, depending upon the maps main function. This interpretation of the land by the cartographer, will be considered in each of the seven chosen maps.

The decorative design elements of these maps will be the subject matter of the third chapter devoted to map design. Pictorial details, the cartouche, scale, compass indication and border are the main elements of this grouping. These features are highly ornate within this group of estate maps. During my study of the maps I was intrigued by these elements more than any other used on the seven estate maps, and will consider at length the aesthetic qualities of the maps and the artistic capabilities of their cartographers in this chapter.

Before entering into these various cartographic topics a brief description of early map making and an explanation of cartographic terms will be necessary. The first two chapters in this thesis will be devoted to this aim.

CHAPTER 1

WHAT IS A MAP ?

A map is a two dimensional visual source of geographical information. It uses both visual imagery, in either symbolic or representational form, and lettering, to express the area, shape and orientation of a given piece of land or sea. It is a visual, as opposed to written record of land, making each piece of information available concurrently. M. Woods tells us that 'unlike writing and speech, which are sequential, a whole map is visible at once, and there is no obvious order in its reading' in Visual Perception and Map Design.

WHAT DOES IT ATTEMPT TO ACHIEVE ?

Its main objective is to give a legible representation of the land, as the cartographer sees it, including its topographical and geographical details. Each map has its own purpose, be it to represent land formations on a small estate or a whole continent's, rivers and surrounding oceans, and as such each will attempt to illustrate different qualities through appropriate visual techniques.

WHAT DOES A CARTOGRAPHER DO ?

The cartographer is the person who surveys the prospective area, compiles his information and ultimately makes the finished map. His job acquires a knowledge of mathematics, science and art and he has been referred to in books and articles as 'surveyor', 'map-maker', 'designer', and 'cartographer'.

HOW DOES HE MEASURE LAND ?

The standard of map making relied greatly on the contemporary methods of land surveying used which varied considerably. During the seventeenth and eighteenth centuries various cartographic instruments were used, a chain of 66 inches, in conjunction with a large compass named 'circumferentor' were often used. Angles were measured later with a theodolite which used the same technique as the circumferentor though contained a telescope. A perambulating wheel or 'waywiser' as it was known was an instrument which clocked up distance on its shaft, containing the number revolutions it makes in any given distance. These instruments are depicted on many large scale and smaller scale maps usually within the cartouche, scale or border (illus. no. 1).

EARLY DEVELOPMENTS OF MAP-MAKING

The earliest original map surviving today is dated 3,000 years B.C. and found north of Babylon, depicts a river delta and some mountains. Other map-making populations were the North American Indians, who used animal skin or wood, the Eskimos who practised relief work on maps and also the Egyptians. The most geographically correct cartography began in Greece, however, where the Greeks created a simple scientific basis which later cartographers followed. Claudius Ptolemy, a Greek geographer, also influential, based his assumptions on the height and direction of the stars.

One of the earliest systems used in medieval maps was that known as T - O or T in O and was derived by the Romans at the time of Christianity, with Jerusaleum as the world centre. Once horizontal and one vertical stroke divided the circular map into three sections. The surrounding oceans made the letter O and the main rivers, made the letter T (illus. no. 2).

The Gough or Bodlein map of 1360 of Great Britain, by Richard Gough is an exception of its time, with its portrayal of churches with spires, roads marked into miles and village names included. The Portolan or Marine maps/charts covered largely the Atlantic, the Mediterranean and the Black Sea in perfect detail, by the Italians and the Portuguese to assist mariners on their chosen route.

Illus. no.1 Mathew Wren's printed map of Co.Louth
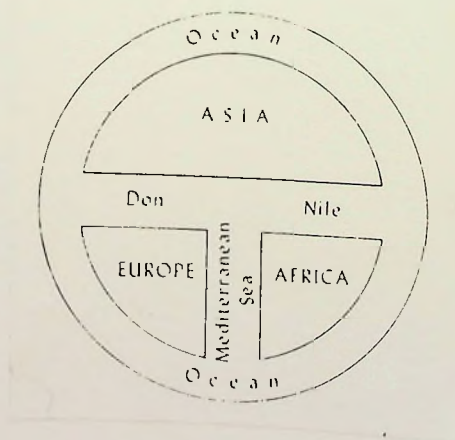
Illus. no.2 A diagram to illustrate the principal of a T in O map

CHAPTER 2

The seventeenth and eighteenth century cartographers, although possibly a little more sophisticated in style and cartographic methods had still many of the problems which earlier cartographers had faced. One of the problems, found by cartographers of all era's, countries, and map types that was similar to contemporary artists, was that they had to learn how to represent a three dimensional landscape onto a two dimensional velum or calf skin. Often the symbolic rather than representational technique was utilized by the cartographer. Simplicity in style was preferred due to the presumed ignorance of the early audience with the movement of time and education of the audience, the cartographer could in the late eighteenth and nineteenth centuries use many symbolic devices, such as, symbolic colouring, buildings in plan and contoured mountains. When Ordnance Survey was introduced in the mid nineteenth century things came full circle, when like at the beginning of map making, function and legibility again became the most important features of cartography (illus. no. 3).

A concise background of the history of cartography in Ireland will attempt to provide a simple context for the study of Irish Estate Cartography. Only a small number of surveyors will be discussed shortly, hopefully helping to create an understanding of the basis of estate cartography design.
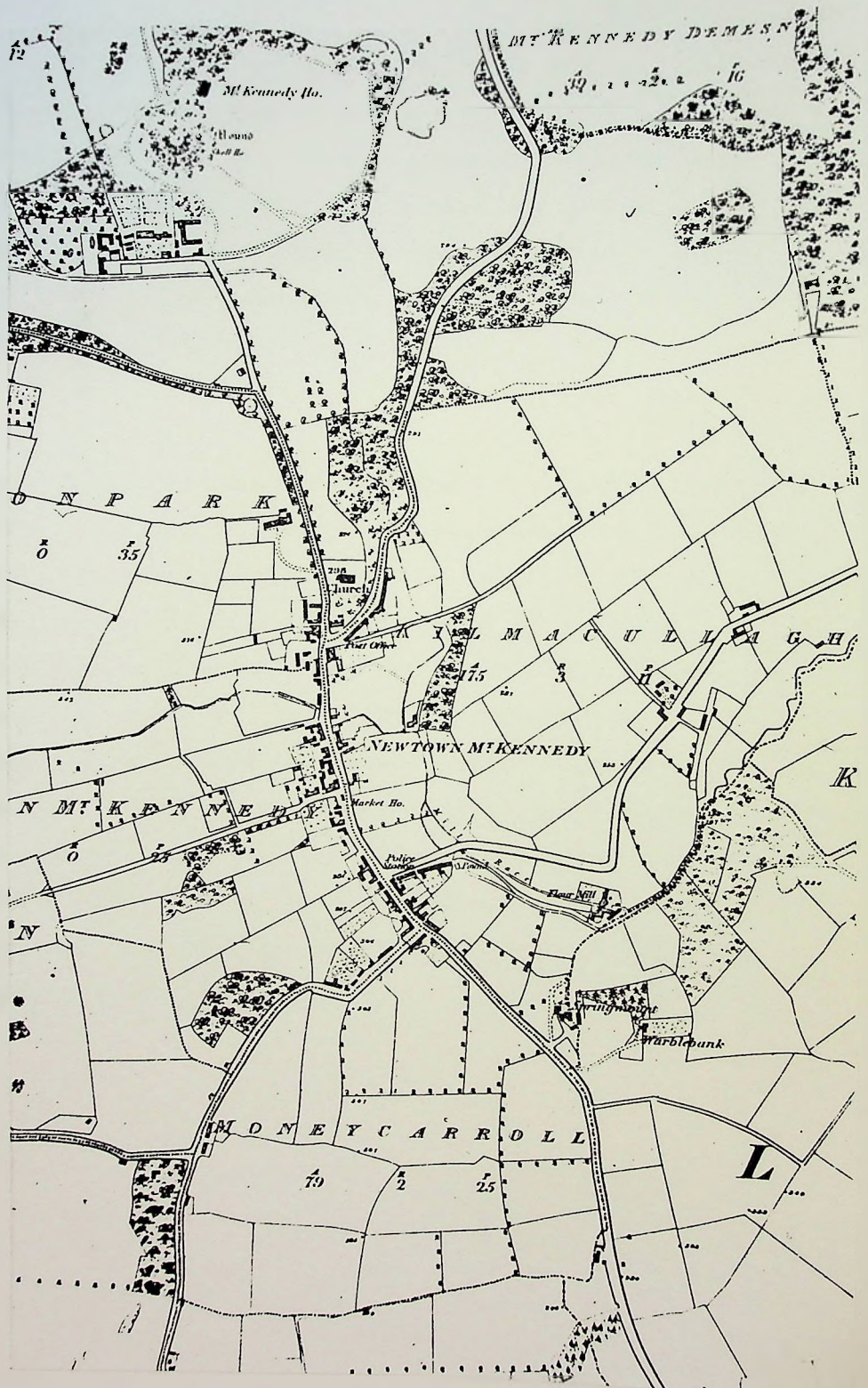
Illus. no.3 Six - inch Ordinance Survey map, 1839.

The earliest known maps of Ireland were by the Greek geographer Claudius Potolemy from Alexandria in 150 A.D. (National Library of Ireland, 1980, pg. 2). The original manuscripts are now lost, but in 1477 they were fortunately recorded and printed while still available. The nine islands, fifteen rivers and eleven towns listed in their original longitude and latitude were extremely detailed for their time (illus. no. 4).

John Speed's 'Kingdom of Ireland' from 1610 was the second important large scale map of Ireland. He did not partake in the survey himself but compiled his information in map form (illus. no. 5). The information was based on surveys by two often forgotten cartographers, Francis Jobson and Robert Lythe, by commission of Queen Elizabeth of England in the late sixteenth century. (Andrews, 1978, pg. 3). Since every area of Ireland was not covered in these earlier surveys, Speed might have carried out the necessary further work. However, instead he merely places lakes and towns ad-lib on the map in order to fill the blank spaces. (Andrews, 1965, pg.22). Decoration and beautiful ornamentation were the lasting features of Speed's 'Kingdom of Ireland'.

Illus. no.4 Claudius Ptolemy's 'Map of Ireland', 150 A.D.

Illus. no. 5 John Speed's 'Kingdom of Ireland',1610.

In 1656 Sir William Petty with 1,000 men from the Cromwellian army undertook the job of surveying half of the country of Ireland in great detail. It became popularly known as the 'Downe Survey'. Petty was also commissioned to make a full survey of Ireland and in 1685 his 'Hiberniae Delineatio' was completed. This was the last full scale survey made until the late 1770's. Not until this time was there a need to update the precision of Petty's maps. In the 1820's the Irish army began mapping the whole country in Ordnance Survey. Since this date Ireland can claim to be one of the most widely mapped countries in the world. (Andrews, 1965, pg. 22).

These large scale surveys were not the only type commissioned in Ireland; maps of estates and farms commissioned by private owners make up the largest number of maps made in Ireland. Private property was surveyed more consistently than Government Estates for several reasons. Firstly, as there were a lot of these estates, being smaller in size than public property more surveys were required. Also, they changed hands regularly, tenants moved house and farmlands often merged. New surveys were required almost with each major change in property ownership, as disagreements and court cases were often held due to discrepancies of percentages as small as one or two percent in land sizes. (Andrews, 1967, pg. 276). Thirdly, the estate map was often a proudly held status symbol, embellishment, frequently made to improve and flatter the owner's property and buildings by the cartographers (illus. no. 17).

Estate maps were also largely noted for the fact that the majority of them were 'Irish' in the true sense, in comparison with the larger surveys which would mostly have been English or European in origin, with the surveyor often never even having set foot on the land. Speed's 'Map of Ireland' is one such example. Another reason for the numerous 'Irish' maps made would be attributed to the populations contempt for European cartographers, often hindering their work and several times killing cartographers like Richard Barthlett in their line of duty. (O'Donochain, 1969, pg. 92).

Decorative flourishes and topographical details were stronger and more varied in the private estate map sector. The cartographer John Raven had a career as both a private and public cartographer and, as John H Andrews informs us in Irish Maps, Raven's work illustrates the contrast between the two approaches. In the early seventeenth century John Raven contributed to Government estate maps. One of his clients was the Ulster Plantation and for them in 1609 he completed 'rather sketchy official maps'. Later, in the 1620's and 1630's he gained an interest in private estate surveys, where his cartographic skills were better utilized. On most of these private maps the 'scale is larger in size and the detail more abundant', Raven found that on private estate maps specific detail could be attached to settlement portrayal and topographical symbols. His artistic ability rather than cartographic skill became a major issue.

Unfortunately, topographical details were mostly forgotten and ornamentation often was in estate maps restricted to the non-functional design elements. Maps earlier than the 1750's were particularly affected. Information given was limited on both the topographical and symbolic; quite often only the written word was used for distinction between divisions of land. Cartographic notes and references took the place of artistic decoration in a number of estate maps, generally because they were made by ordinary farmers, not specifically trained in cartography and artistry. Elegance in technique was omitted, only crude representations of a cartouche, scale or frame added as a token decorative gesture. The 1682 map of Co. Navan contains these shoddy decorative details (illus. no. 6). One may blame the primitive cartographic techniques used by Irish surveyors of the seventeenth century on their ignorance of contemporary European maps.

Two European cartographers who came to work in Ireland were Bernard Scale and John Rocque. When they arrived in 1750 they began to change and influence the use of new estate map illustrative devices. John Rocque had previously worked in England for about twenty years as a public surveyor. When in Ireland he drew the 'patronage' and 'support' of aristocracy with 'the most remarkable manuscript estate surveys ever made in Ireland' according to A Horner in his article on John Rocque. His style was reminiscent of European contemporary map design and the Rococco art movement. Variety in subject matter ranged from cherubic winged figures, and floristry to heraldic symbols.

Country-side or farm images were other trademarks (illus. no. 23). His interest in non-functional decorative elements such as the cartouche, scale, orientation or frame were exceptionally superior to contemporary Irish cartographer's work and consequently influenced them. The attention to countryside images was also one of Scales more memorable features. His cartouches and north points contain landscapes, wooden farm implements, bales of hay, buds and animals. Although his main work was in manuscript form, the 'Hibernian Atlas' 1776, being his best known. In examining Irish Estate Cartography, due to the large amount of work available it was necessary to select several maps of various dates, cartographers and standards to help outline an overall estimation of map-making of the late seventeenth and eighteenth centuries. The maps could in effect be divided into two sections; those pre-Rocque and Scale and those apres-Rocque and Scale, who as we will discover, largely changed cartographic design from 1750 onwards.

1   The   earliest   map   under   consideration   was   that   by
Rodger Elkerfley in 1682 of the 'Barony of Navan' and measured
approximately 20 x 25 inches and is in poor physical condition.
It is stored in the National Library of Ireland (illus. no. 6).

2   The   1697 map of the Adams Estate in Co. Westmeath by Shewing is a
smaller book of maps approximately 6 x 12 inches, lacking in any
colour but in good condition in the manuscript department of the
National Library (illus. no. 7).

3   Two Co. Dublin maps also in the manuscript library are compared
because they are both of Ballymun but differ in dates, one of
1705   by   Alex   Stuart   and   a   1713   map by Peter Duffe
(illus. no. 8).

4   John Wilson surveyed an estate of Co. Monaghan in three maps of
1730.   Quite   unusual in shape and size they are circa
6 x 15 inches and also available in the Manuscript Library
(illus. no. 9).

The later maps were more probably influenced by Baroque and Rococo art and architecture, characteristics of which both Rocque and Scale were renowned.

5   A Co. Sligo estate map of 1768 by the Costellos, James and Edmund, of the land of Killamy owned by Roberd Longfield is quite large at 27 x 27 inches and is stored in the Royal Irish Academy Library (illus. no. 10).

6   Maps tended to get larger in size in accordance with date: The 1770 John Travers map of Mehanah in the Co. Roscommon, Leitrim and Westmeath book of maps is approximately A2 size and was recommissioned by 'Chas Henry Earl of Montr, h'. It is stored at the Manuscript Library in Kildare Street (illus. no. 11).

7   The largest and latest book contains 24 maps by Sherards and Brafsington in 1805 of Co. Donegal, the map of interest being that of Grange. It is almost A1 in size and is in the National Library of Ireland (illus. no. 12).

This selection of maps will be mentioned time and time again in the following chapters, being used in the ongoing discussion to illustrate each of the relevant arguments being made.
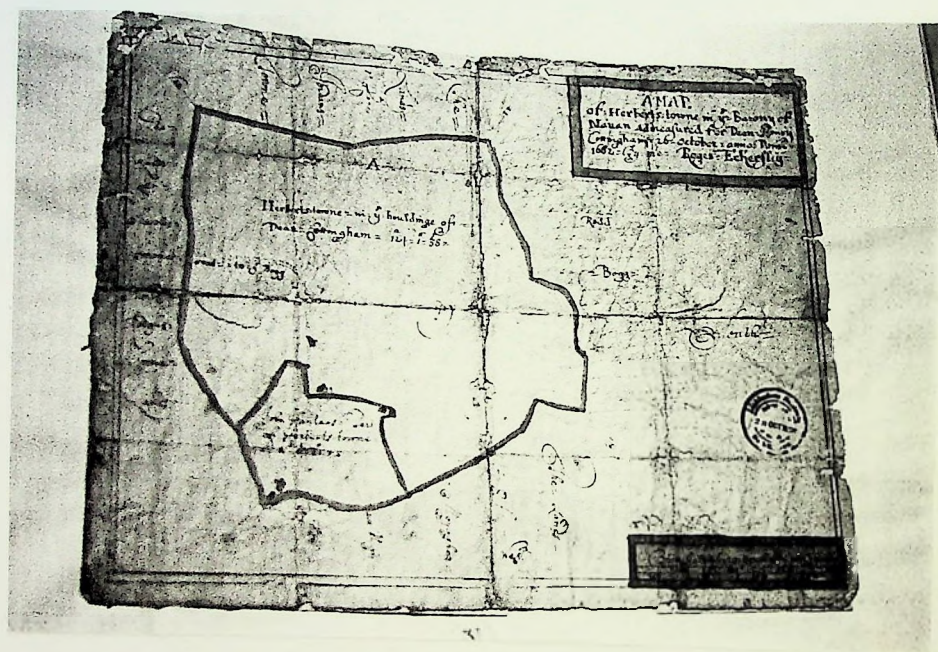
Illus. no. 6 Rodger Elkerfley's map of Co. Navan, 1682

Illus. no. 10 Costello's map of Co. Sligo, 1768

Illus. no. 12 Sherrards and Brafsington's map of Co.Donegal, 1805

C H A P T E R   3

A map like many graphic forms contains two main elements, content and interpretation of content, or technique. The cartographer uses many techniques and interpretations on the map face, the content being however, similar. The title, geographical information, scale and orientation always appear; the form they take being the point of interest. The graphic features layout, colour and technique are intrinsic elements in any piece of design, including map design, and the cartographers interpretation will be discussed in this chapter.

The form or shape a map takes is usually reliant on the size and scale of the survey. If it is rather a large estate, the cartographer might divide it into several smaller surveys which will fit into a book of maps, such as the 'Adam's Estate Book'. If it is smaller, possibly one large map will suffice. Although, the Co. Sligo estate map of 1768 is quite large in size, its cartographer, however, did not utilize his page economically (illus. no. 10). A large section of the map is used for decorative detail, rather than increasing the scale of the surveyed area. Other maps such as those from Co. Dublin utilized all of the page area for their surveys, leaving little room for decorative ornamentation. Other elements such as colour and type have a large effect on the overall 'look' of the map. They may even control whether the map holds together as a graphic identity.

Early manuscript maps were most often in black and white; their colour would have, up until the nineteenth century, been hand painted. Application of colour upon a map would have frequently been done by a professional colour illuminator, or for less important maps by the cartographer or his assistants themselves. In the seventeenth century colouring was usually added only to the decorative elements, such as the frame or cartouche, the mapped area having only its basic outline in colour for definition (illus. no. 6). Topographical details were drawn in black ink until, in the eighteenth century colour was used for textured ground detail in large watercolour washes covering the survey.   Obvious colour conventions were practised by the eighteenth century illuminators; rivers and seas were blue or turquoise, trees and scrubby areas were in green, mountains brown, and buildings were red or bright pink.

The 1682 map of Co. Navan is a good example of contemporary colouring by the cartographers.   Rodger Elkerfley uses bright, luminous spot colour on the cartouche, scale and outline of the survey. However, not much importance was being placed on colour presentation, sloppy application is quite obvious (illus. no. 6). It may be said that a colourless map is quite superior to a badly painted map. The Adams 'Grange' estate map can claim no praise for its colour (illus. no. 7). Sophistication of presentation is preserved though, and had colour been applied it would need to have been very delicate so as not to upset the balance of the design. Colour is best used when kept inside of the context of overall map appearance.

Colour often plays a functional role as well as a decorative one, emphasising topographical or typographical areas of land upon the survey. Quite simply a three colour system was utilized on the map of Co. Dublin, by Peter Duffe in 1713 to separate three fields in a strong, legible fashion. Each field holds within its border a different outline of colour, separating each field from the other visually. Colour is used on the map of 'Mehanah' in the Roscommon, Leitrim and Westmeath book to illuminate topographical details. The fields are distinctive in colour; a bog is red, an arable field green and a lake blue. The cartographer attempting to give an honest representation of the land used colour as his main representational element. Texture is created by adding splashes of brighter colours upon the duller, flat ground defining land areas by colour, be they mountain or grass (illus. no. 11).

In contrast, John Wilson, the cartographer of the Monaghan scroll of maps, prefers to use an ornate, non-functional line of colour (illus. no. 9). Primary colours are applied rather loosely to the frame, cartouche, scale and dividers. Colour choice here exaggerates the importance of the design elements, possibly to the point of deterring the viewer away from the real subject matter; the survey, colour becoming more a hindrance to the legibility of the map.

The most expertly illuminated map from the group would be that of 'Grange' in Co. Donegal, the map almost representing a landscape in plan (illus. no. 12). The colours applied in washes are blue, green, brown with pink and yellow used for spot definition. The hand painted watercolour technique used is strong yet subtle enough not to detract any attention from the type used or the information being shown. Colour is using its full potential as both decorative and functional element.

In the Co. Sligo estate survey by the Costello brothers colour is used as a type of visual glue, binding each of the features into a strong overall concept (illus. no. 10). Only linear colour adorns the features neither distracting the eye from the typography or the topography.

LETTERING

> Lettering is one of the most baffling problems of cartography. The essential trouble is that lettering is not a part of the picture of the earth's pattern, but it is a necessary addition for the identification of features. The names by their bulk cover up many of the important elements of the real landscape and prevent the reader from seeing the map as a picture of the earth. Raisz, <u>Map Design and Typography</u> in Monotype Recorder, 1964.

Cartographers of the seventeenth and eighteenth centuries have used lettering in conjunction with pictorial symbols, and in various informative roles within the map's framework, such as on the reference table, the title, the scale, the compass points, place names and other topographical details typeface design, and their placement upon a map should create a balanced effect, harmonizing with the other features. There are several conventions used by map calligraphers when designing typefaces. Firstly, legibility and clarity of type is paramount. It must be considered that lettering on a map is not like that in a printed book. Here words are used in isolation, so each word and even each letter must be scrutinized by the cartographer for legibility. It should secondly, combine harmoniously with each of the other decorative and geographical details, no element being too strong or too weak in the design. Thirdly, type size and decoration should be variable with the degree of importance of words or sentences used. For example, the place name should be dominant in type style over the road or field names.

Illus. no. 13 'Gothic' typeface of the Sixteenth Century

The typefaces and media used throughout cartographic history changed with comtemporary fashions, the calligraphic abilities of the cartographer, and the particular map making process used. In ancient map making legibility of type was the only importance, and not until the fifteenth century with the introduction of the Gothic or 'Charlemange hand' did decoration play any role (illus. no. 13).

Old roman lettering with its serifs and bold vertical letters became popular with map makers of the late fifteenth and early sixteenth centuries, often being modified by calligraphers. The most important version was the hand-written script which became known as the 'cursive Chancery hand'. (Lynam, 1965, pg. 366). These early roman capitals and lower case print were featured in all cartographic lettering up until the early nineteenth century in various forms and usually complemented comtemporary manuscript hands. The Italians being leaders in cartography up until 1570, created such a script. It was lower case and based upon the early cursive charcery hand, it became known as the 'Italic' script. There were, it seems, enormous calligraphic possibilities opened with the introduction of this script, various adjectives such as 'French', 'Set', or 'Bastard' were used depending on their origin, as Edward Lynam informs us in his article '<u>Period Ornaments, Symbols and Writing on Maps</u>'.

Once understanding that legibility, decoration and harmony are the important elements of lettering on maps, the use of type upon each of the Irish estate maps can be discussed knowing that lettering will serve a different purpose in each of its various roles, and its priorities will relate to this.

Within the title of the map frequently the most dominant and decorative piece of type is portrayed. Often being contained within a cartouche, its sense of importance is already increased. The functional information displayed, includes the estate owners name, the name of his estate, the county which it presides in, the name of the surveyor and the date. This framework allows the calligrapher to show off his artistic lettering capabilities to the fullest. Often up to six or seven typefaces are used within the title as in the map of 'Mehanah' where John Travers uses a range of typefaces; Gothic, as in 'Right Honourable Gentlemen' Roman capitals in 'John Travers' hand written scripts in italic such as 'Roscommon, Leitrim, and Westmeath', variations of these faces making up the remainder (illus. no. 14). Other techniques displayed were swashes and ligatures, to add to the decorative effect of the title. The cartouche and the lettering are equally balanced and work in harmonious elegance together, neither being particularly emphasised.

Fluidity was an important element in title design. In the late eighteenth century lettering and flourishes were used to accentuate decorative effect (illus. no. 15). The decoration was usually in keeping with that used upon the cartouche. Typography was both an important and ornate element in time and design.

> The subject of lettering is inseparable from that of general decoration, for writing is one of the chief factors which distinguish a fine map having distinct, aesthetic value from a mere diagram. Capt. Withycombe in <u>Lettering on Maps</u>.

The title cartouche of the Co. Donegal maps illustrates Capt. Withycombes message, not only in the image but also in the ornate lettering (illus. no. 16). Strong Charlemarge type is central to the titles design, as used in 'Barony', 'Ennishowen', 'County' and 'Donegal'. It is strongly positioned in the centre of the block of type and with its flowing swashes connects itself to the softer lines of type beneath and above it. The various Roman type faces and type sizes of the remaining lettering have strong qualities of their own, they are excellently presented and are even more legible to the comtemporary eye than the Gothic face. Roman type styles which the cartographer uses with excellence include, Roman Italic capitals, Roman Ornate capitals, Roman Script and Roman Italic script. Due to the variety in the lettering the cartographer utilized, he has captured an exciting element of eighteenth century cartography on one page.

Earlier eighteenth century estate maps used simplistic calligraphy in keeping with their rather simplistic cartouches. Legibility and function were the most important criteria which the cartographers followed. The decoration used in their typographic design was minimal, reflecting their lack of interest in decorative cartouches. Hand written italic script was used in both upper and lower case on almost all of the earlier estate map titles. How attractive the final cartouche design was, was often dependant on the level or ornateness in the map makers hand writing. Frequently the only emphasis used by map makers was placed upon the first letter of each line (illus. no. 17). Dots or hair line strokes were two devices used by cartographers of the early eighteenth century, to lead the viewers eye across the page. The title on the Adam's estate map cartouche is a perfect example.

Illus. no. 15 'Grange', gothic type used in 1805

Illus. no. 16 Title cartouche from Co. Donegal book of maps, 1805

Another area where lettering features strongly is with type used for place names, where function and context must be considered. Also, economical utilization of space is of interest when drawing the type onto a manuscript map. Overly large letters may not only hinder their own legibility but may well be detrimental to the other elements. On the estate map of Co. Monaghan from 1730 the cartographer splits up the place names 'Fermoyle' and 'Anagh' so that he may fit them onto the map. Separating the words to fit them into a small space is detrimental to their legibility; 'Fermoyle' being split for instance up into 'Fer =' and '= Moyle' against the border of the map. J Wilson did not practise sophisticated lettering in these maps, neither were they simple or relatively legible. His bad execution of type and confusing word spelling, such as map is written as 'map' and 'mapp' and bog can be either 'bogg' or 'bog', omit clarity from the map (illus. no. 6).

Elegant lettering fits unobtrusively into the map design of the 'Adam's' estate even though it may be thirty years earlier than that by J Wilson (illus. no. 7). Use of ornate italic script joins with the other decorative features in a delicate design. There is no confusion with type faces or sizes used by the map maker, because, only one clear face is used throughout.

Practise was that type would generally be written in horizontal form on the map, with the exception of river and road names which would follow their direction. The 1682 Co. Navan map is the only contradiction to this general rule, type following no particular format except, possibly, to fit into spaces left over by the survey (illus. no. 6).

The main graphic elements in map design are we have discovered, layout, colour and typography. Each of these features contain their own degree of decorative and functional design. Firstly, the shape and scale of the survey will effect the page size and number of pages used. Within a book of maps such as the Roscommon, Leitrim and Westmeath book, a unified approach is taken by the cartographer. The composition of the numerous pages will be similar and the use of the graphic elements will generally be similar also.

Colour has been used in the seven estate maps discussed, in both a decorative and functional role. The earlier cartographers of the seventeenth century were not particularily able illuminators, colour leading a rather menial role in the map's design. In the later eighteenth century the cartographers used colour conventions to emphasise topographical details or to add decorative ornamentation to the cartouche, frame or compass indicator.

The main typefaces used in ancient map design were Gothic, Roman, Italic and Script. This is still true of seventeenth and eighteenth century calligraphy on maps. Very few new typefaces were invented but variations of the old ones were popular. The late eighteenth century calligraphers were far superior to their predecessors; elegance, fluidity and strength in lettering were the common features on these maps.

Although colour and lettering were two important elements on the map face, they had little influence on each other and were never combined in the seventeenth or eighteenth centuries for decorative effect. Lettering was always drawn in black ink.

C H A P T E R   4

TOPOGRAPHICAL DETAILS

The natural features of the land are intrinsic elements depicted on the map design; so too, are the man made features which become part of the landscape. Once the outline of the estate has been represented on the map the cartographers must portray each of the relevant topographical details within. Often, if the survey is made to assess only the size and shape of the estate, little or no topographical information will be supplied. Sometimes, the owner will commission the whole estate to be surveyed under scrutiny, decisions being made by the cartographer as to the farming potential or otherwise, of each area of land. They will in turn, note these within the framework of the map, either in symbolic form or written in a reference table or key along the map's border. The symbolic details will be discussed shortly, while the pictorial innovation and artistry of Irish estate map cartographers will be considered under each of the main topographical headings. Topographical details of particular interest include settlement, mountains, rivers and seas, forestry, and land conditions. They are portrayed upon each of the estate maps which are under consideration.

SETTLEMENT

Perspective was not used on early manuscript maps in settlement portrayal, houses are shown in elevation, scale and proximity was unimportant (illus. no. 18). Later, sixteenth century cartographers practised a more informative representation, the 'birds eye' view; a partial view of the gable, roof and elevation was shown simultaneously in one drawing (illus. no. 20). In this technique both decorative value and representational correctness were combined. The technical utilization of settlement drawn in plan, such as on the 1805 map of Grange, came into use in Irish estate maps of the late eighteenth century, a technique which has been used up to this day for representing any architectural forms on Ordnance Survey maps.

Several of the Irish estate maps under consideration have buildings from a 'birds eye' view drawn upon them, in a symbolic, rather than representational manner. On the 'Mehanah' map from the Roscommon, Leitrim, Westmeath collection, the cartographer has obviously used a common symbol for a dwelling and another for cornmills. Two houses of equal size, shape and direction, are drawn in approximately 60 degree perspective. Both houses also used similar artistic techniques in their portrayal; they were drawn loosely, light coming from the north and also both in perspective. For each of the three cornmills the cartographer used an elevated view, being equally small in size they are almost lost among the other topographical details (illus. no. 11).

Since scale is most often incorrect on estate maps when representing buildings, one may surmise that the size of a dwelling may, in fact, not be real, but arbitrary on the cartographers part. Possibly, this is his personal evaluation of the owner's importance, rather than that of his home. On the Costello brothers survey of the Longfield estate of Co. Sligo, one house is two or three hundred times larger than the others represented, though equal in shape in architectural detail (illus. no. 18). This house in Knocknatober belongs to a gentleman of excellent contemporary repute. Of note, too, is the church of Knocknatober which is larger in size and greater in detail than those of Killamy.

In the 1713 map of Co. Dublin the cartographer Peter Duffe represents the five houses on the estate in elevation, perspective obviously being a problem to him. Instead he employs an unusual and innovative technique of facing the houses in separate directions, to illustrate which way they face in relation to each other (illus. no. 8). This notion is supported by his treatment of the forested areas surrounding the houses; they follow the direction, be it east, west or south, of the houses to which they are closest.

In Shewing's representation of houses on the Adams estate of 1697, he has not quite grasped the principal theories of perspective. A house is portrayed in almost a cubist manner, all sides shown at once, creating a jumbled effect.

Buildings in the Grange map of Donegal have all been represented in plan and also unlike the other representations, in scale (illus. no. 12). They are painted in an unusual bright pink, to draw attention to their otherwise unobvious forms. Detail and decoration of the elevations has not been shown at all, one of the unfortunate losses in the change in the early nineteenth century, towards Ordnance Survey maps.
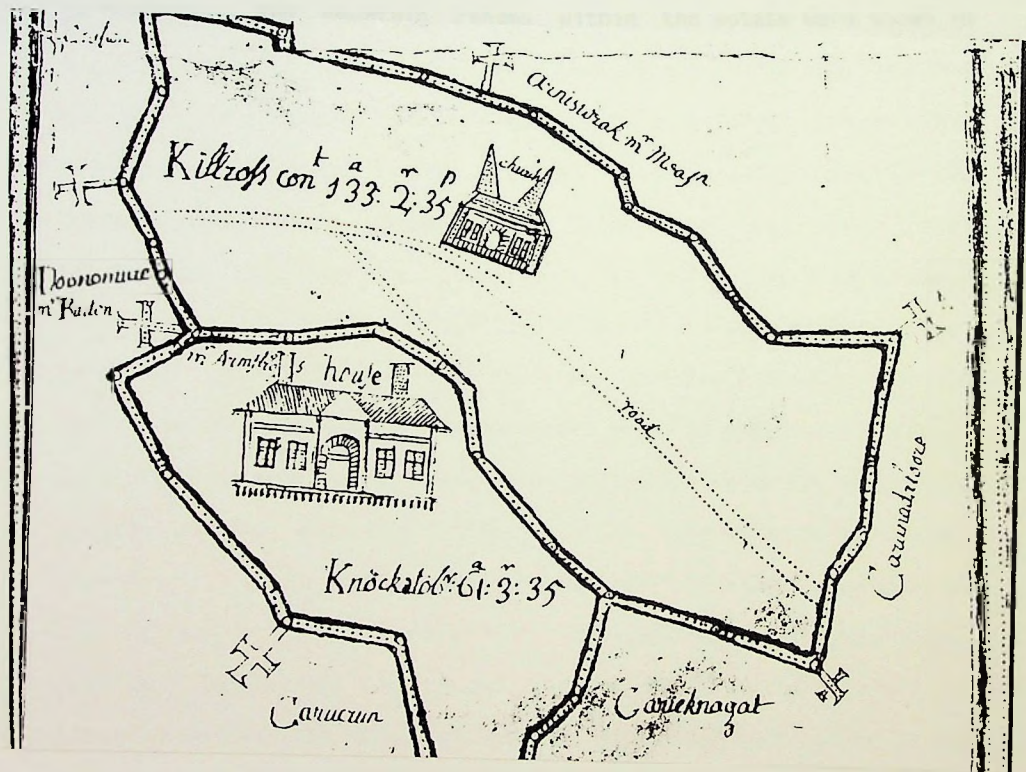
Illus. no. 18 A house at Knocknatober, Co. Sligo, 1758

MOUNTAINS

The mountain proved to be one of the most difficult topographical elements for the cartographer to portray realistically, showing length, breadth, height and gradient concurrently. Depending upon the date of the map and also the artistic capabilities of the cartographer, the mountain ranges within the estate were shown in various symbolic forms. Sixteenth century manuscript maps depicted mountains in a 'shady sugarloaf' fashion or with large rocks or slabs of stone placed upon the map. (Lynam, 1964, pg. 324). None of the actual dimensions would be illustrated on these maps (illus. no. 19). Any other topographically interesting details which were behind the mountains would have been obscured , or even worse, moved by the cartographer so they they could be portrayed upon the map. Seventeenth century cartographers began to practise 'vertical' or 'hill shading' which gave some indication as to the length and breadth of the mountains (illus. no. 12). A textured technique was employed by some cartographers to portray long mountain ranges, it was called 'hairy caterpillar'. The most successful technique, however, 'hatchuring' introduced in the late eighteenth century, which allowed the cartographer to note the spot height of the mountain also.

The only estate map in which mountains play any great topographical importance is the map of 'Grange' by the cartographers Sherrard's and Brafsington, where they are quite dominant features (illus.no.12). The mountains are represented in plan with the natural lighting from the northwest creating a shaded slope on the southeast of each mountain. The height of the mountain though not measured, is symbolised by light textural strokes stemming from the top of the mountain, gradient also only being symbolised. Length and breadth can be judged from the drawing by using the scale provided.

Illus. no. 19 detail from Boazio's 'Map of Ireland', 1599

TREES/FORESTRY

Woods are conventionally symbolic in representation. Several trees
together would create the illusion of a forest. Little change
occurred in style during the seventeenth and eighteenth centuries,
the only noticeable difference being that towards the end of the
eighteenth century, trees were portrayed in perspective rather than
in elevation.

Within the boundaries of the two Dublin maps of 1703 and 1713 appears
to be the only eighteenth century interest in tree representation on
any of the estate maps under discussion. The 1705 map, although
eight years earlier, is superior in topographical representation.
A clump of trees portrayed in perspective, lie beside one of the main
dwellings. Sophistication and realism in technique are evident,
considering the date of the map. Rather simplistic tree symbols are
used on the later 1713 Co. Dublin estate maps where no attempt is
made by the cartographer to create a realistic illusion
(illus. no. 8).

LAND

On the estate maps of the eighteenth century the land was generally divided into areas of similar geographical conditions, marked either by word or symbol. Usability and value of each field were assessed, by the cartographer. The land is it seems, quite accurately portrayed in the 'Grange' map of 1805. This part of the estate has been divided, by the cartographer into 34 different fields, each with its unique land conditions noted in both the reference table and symbolically on the map itself. The topographical conditions of, for example, no. 16 are 'wet boggy pasture' and as such is represented by layers of splattered colour across the field to create a boggy look to the land (illus. no. 12). The arable field of no. 30 in comparison boasts a rich green field, clear of mountains, rocks or shrubs. Other areas include 'rocky pastures', 'healthy pasture' and 'burial ground', each symbolised in relevant topographical symbols. Private garden areas are denoted by stripped green flat land, reminiscent of a mowed garden in plan.

The map of 'Mehanah' has much of the same qualities of land representation, except they are more inclined towards symbolic than realistic portrayal. Repeat patterns are used in the various fields in an attempt to portray 'boggy', 'arable' or 'grassy' lands (illus. no. 11). Colour plays a large role in differentiating these fields, the grassy areas being pale green, the bogs mainly red and shrubs brown. Simplistic use of colour increases the maps legibility and also adds sophisticated decoration.
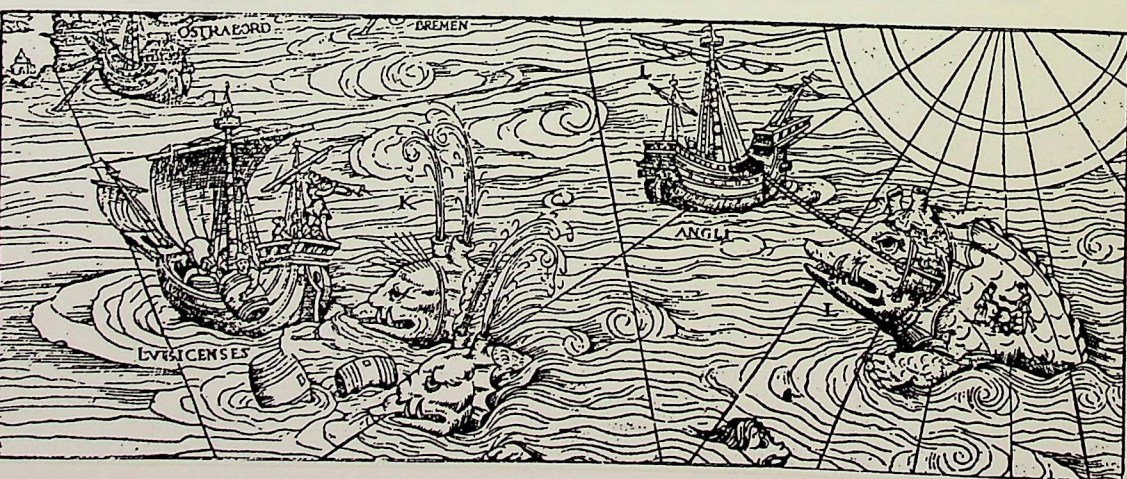
RIVERS AND LAKES

Lakes and rivers generally were simple and quiet in representation during the sixteenth and seventeenth centuries, particularly upon estate maps, the symbolic sea monsters, vessels and ships not appearing much upon estate maps at all (illus. no. 21). A band of colour usually sufficed for the rivers and possibly a flat wash of blue for the lakes.

One of the notable features of the 'Grange' survey be Sherrards and Brafsington is the large 'Lough Swilly' to the northeast of the map, meeting on three sides of the boundary. The land obviously meets the water here with quite a large drop in height. Large looming cliffs hang obtrusively over the lake from the 'Grange' estate. Deep vertical strokes, reminiscent of those used on the mountain ranges of William Pettys, 'Kingdom of Ireland' (illus. no. 12), plunge energetically towards the water. Although there are no monsters or fish in the lakes, there is a piece of rock protruding from the water just off the coast of Moress. The rock, shown in elevation is seemingly slipping deeper into the water.

Illus. no. 20 Settlement portrayal in map of Menanah, 1770

Illus. no. 21 Swedish map of Venice, 1539

Topographical details have been treated in various ways by the cartographers of the seventeenth and eighteenth centuries. 'Once the early draughtsman of manuscript maps had plotted his essential framework of directions and distances, he drew in the features'. (Lynam, 1964, pg. 323). Symbolic or representational forms were used in an illustrative manner. Sometimes, topographical information is only supplied in a reference key. The main topographical details which were considered included settlement, mountains, forestry, rivers and lakes, and land conditions. The use of perspective, or not, was a main element of the different topographical details. Although, perspective was being used on maps in Europe since the sixteenth century only a few of the relevant cartographers used this technique. Elevation or plan drawings were utilised instead, by the remaining cartographers.

Colour was another feature of topographical details which proved to be either a large help or a hindrance to their clarity and legibility. On the late eighteenth century estate maps, colour was used in a representational manner upon the topographical studies. The clearest and simplest of treatments used in portrayal of topographical details were without a doubt, the most successful.

C H A P T E R   5

The third group of elements within the design of a map do not supply a great degree of cartographic information as they have primarily a decorative function. The cartouche, frame, pictorial detail, compass indicator and scale rule are all features of this grouping. It is within this sphere that the cartographer may display his artistic capabilities, be it through subtlety or extravagance.

CARTOUCHE

The Cartouche is one of these non-informative elements within the framework of the map whose role is to hold within it the title, dedication, date and/or author. Artistic trends in the world of fine art had a major influence on the history of cartouche design and they, in turn, on Irish cartography Before referring to specific estate maps in Ireland an explanation of the various eras of cartouche design will provide a concise background.

The title was inscribed upon a scroll by the earliest map designers of France and Germany in the 1500's. It was not until 1550 that a title 'cartouche' was first used. The Italians invented a drawing of a rectangular wood carved frame in the map into which the title was inserted; corners, curves, nuts and bolts added ornamentation to this otherwise simple design. The influence of Renaissance art and architecture became evident in European cartouche design in the 1570's. Lavish decoration with classical figures, animals, and fish, all portrayed in splendid colours became popular. The early seventeenth century saw the arrival of Baroque art, with its sensuous, rich design which incorporated elements from each of the previous eras in a, nevertheless, disciplinary mode. Proportion and balance were the compositional elements which supported images of putti, architectural details, flowers, fruit and wild animals (illus. no. 22).

Baroque art influenced western European cartouche design for over forty years, until a refinement, namely Rococco became the basis for cartouche design until the late eighteenth century. Naturalism and elegance were now important. The portrayal of slender figures, trees and foliage and use of lightness and looseness in technique were the purifying elements in this new style (illus. no. 23).

Illus. no. 22 Baroque cartouche from Paris, 1695

Illus. no. 23 Cartouche by John Rocque, 1756

Nineteenth century cartographic design reflected the trend of romantic art, with its use of softer, perfected natural settings and idealistic representation of the female form, reminiscent of the contemporary landscape artist, Gainsborough. Excellence of overall map design was paramount in the nineteenth century. Specialists being preferred for the non-functional design elements on the maps, artists for the cartouche design and typographers for the inserted lettering.

Returning to Irish cartographers of the early eighteenth century, where much of the same influences were felt, two cartographers who played a large role in cartouche design in Irish estate maps were John Rocque and Bernard Scale, often a critic might refer to an early cartouche design, as 'pre-Roque', implying his eventual influence upon contemporaries and successors alike.

Only the two later cartouches from the maps previously discussed could, due to chronology be influenced by Rocque, firstly, that of Menagh, in the Westmeath, Leitrim and Roscommon book of maps dated 1770 and, secondly, the title cartouche of the Donegal estate maps of 1805 by Sherrards and Brafsington. The cartouche of the former shows certain characteristics reminiscent of Rocque's work, a crown symbol made of foliage sits at the top of the cartouche. The use of natural objects to represent a heraldic banner or crown, such as a shell or a string of ivy, was a convention often utilised by Rocque in his Irish estate maps. Other compositional elements such as the fusion of architectural and natural features were common to both cartographers. So too, was the Baroque landscape containing several symbols of both nature and contemporary country life (illus. no. 14).

Technique was the main component upon which the cartographers differed, simplicity and clarity of both form and symbol create in the Menagh cartouche a modest container for the varied and extravagant use of lettering in the title. Rocque tended to balance both lettering and cartouche, neither appearing subservient. The Menagh cartouche (illus. no. 14), portrays a landscape with a more European than 'Irish' look to it, due to its unusual colouring and symbolic representation. Banana shaped boats sail on the river, houses, a church, and even a windmill are placed almost nonchalantly into the landscape.

Quite different is the landscape portrayed in the cartouche of Sherrards and Brafsington with a typically romantic cartouche with several Rococco elements evident (illus. no. 16). One of the more essential features of Rococco, often employed by Bernard Scale, was the portrayal of cherubs within the boundary of the map, sometimes on the cartouche itself, other times on the northpoints, scale rule or border. The cherubs are often seen playing or working with the cartographic instruments, holding up the north point or in the case of Sherrards and Brafsington's map, carrying the heraldic arms of the Chichester family, the owner of this particular estate. Devices such as softly focused background, delicate, natural or architectural details, use of perpesctive and the representation of a ruin, countryfolk and animals combine to create within this cartouche a perfectly romantic setting closely connected with apres-Rocque design.

The pre 1750's, cartouches were less illustrative tending more towards geometry and simplicity of design. One of the more simple and graphic set of cartouches were those of the Monaghan estates, their strength were achieved by a balanced structural feel and their employment of strong primary colours to echo these assertive forms. Hexagonal, circular and rectangular shapes fuse to create strong visual images (illus. no. 9). Type becomes secondary to decoration within these frames. Context is important, particularly within this series as the cartouches are merely on element which contributes to the overall sense of the map.

The estate maps of Co. Dublin and that of Navan possess quiet, undistinguished cartouches, double lines unattractively surround the titles, the only decorative element applied being a single bar of colour within (illus. no. 6).

The Costello brothers in their estate map of Sligo employ a unique decorative quality, emphasis is here upon subtlety (illus. no. 24). Symbols of farm implements, vegetation and birds are merely suggested within the dotted technique used. The shape of the cartouche is based on the form of possibly a Rococco mirror or clock, or a Chippendale piece of furniture.

Another map, also a product of its era, is the Adams estate map of 1697 (illus. no. 17). The flowing banner, delicate use of cherubs and cross hatched shading are utilised in the title cartouche. The representation of the cherub has a strong vigorous quality, reminiscent of figurative drawings from the Renaissance. Shewing, the cartographer, however was not such an able figurature illustrator, his forms tending towards realism, but not coping adequately with perspective and structure. Aesthetically, however, the map's title is successful, integration of type into the cartouche creates a powerful title page.
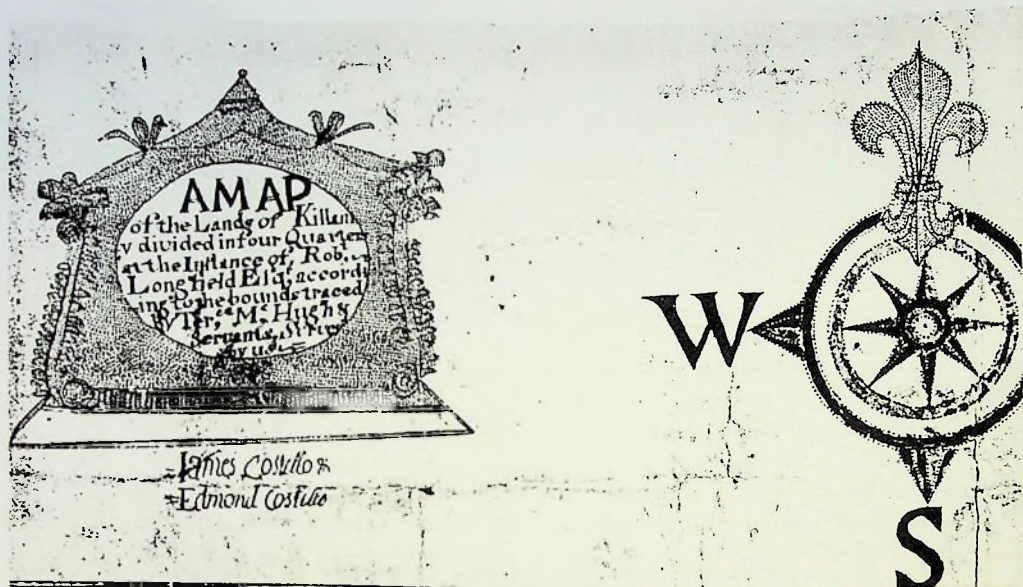
Illus. no. 24 Cartouche from map of Co. Sligo, 1768
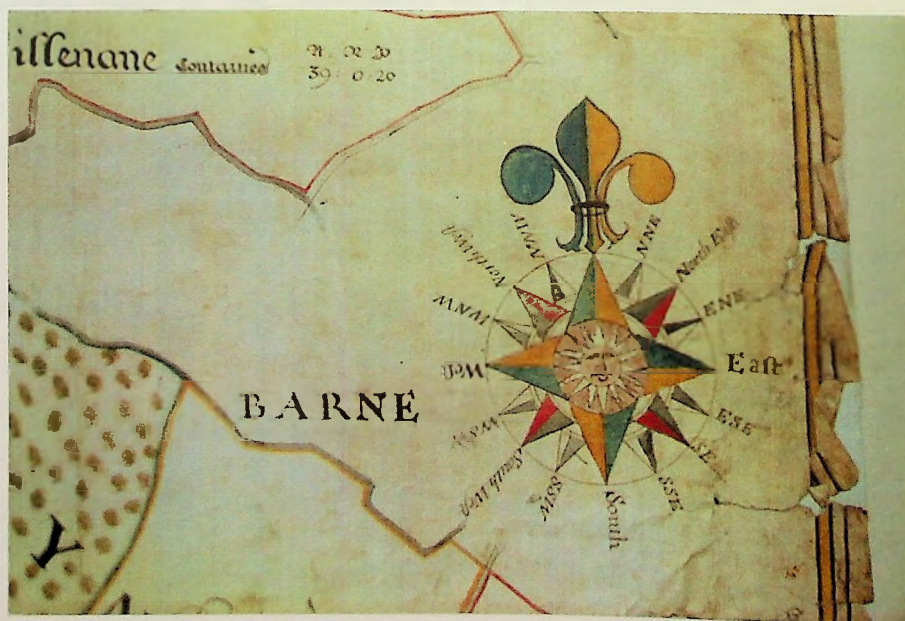
Illus. no.25 Detailed northpoint from Seventeenth Century Irish Estate map

FRAME/BORDER

Often a map is framed to create a closed space into which the surveyed area and other elements could be filled. Unlike cartouche design the artistic style used within the border did not necessarily follow the artistic trends of its era. Unpredictability was the essence of the frames design. Most often a sixteenth century border was plain, based upon a wood picture frame. Later Renaissance motifs, with their vividness in colour and representation were applied. The border took the appearance of many forms, the lines of longitude and latitude were used consistently. Heraldic frames became popular in the late eighteenth century, and often a border did not appear upon the map at all.

The latter, unfortunately, was the case with a large amount of Irish estate maps of the seventeenth and eighteenth centuries, with only the Sligo and the Monaghan estate maps, out of the collection, framed with anything more than a coloured or plain double line. Even still, neither of these frames contain the abundant images of fruit, flowers or animals, that one may desire. On the contrary, they are simple, clear and in keeping with the colouring and style of their overall map design.

The Sligo estate map incorporates each of the design techniques employed in the other decorative elements to create a plain but attractive border (illus. no. 10). Stripes of colour, dotted and double lines surround and hold together the map design.

On the Monaghan maps thick coloured bars, 5 millimetres thick, meet at the corner of the page creating an effective functional border and divider. One of the estate maps contains a decorative element other than application of colour; a geometric zig-zag shape incorporated conforming with the simplistic and almost Celtic cartouche design (illus. no. 9).

COMPASS INDICATOR

Orientation in map design differed greatly over the centuries, north was generally placed to the top of the page. The term orientation originated from 'medieval map makers' who 'set east to the top in deference to the holy place of the orient' says Hodgkiss in Discovering Antique Maps. In the sixteenth century the Italians created a convention whereby north should stand always facing to the top, consistency and legibility being the obvious reasons. However, even into the early nineteenth century, particularly upon estate maps, this convention was abandoned for the convenience of the cartographer. Often facing a map in a different direction helped it to fit more adequately into the page.

In Irish estate maps of the seventeenth century the compass indicator was almost always more a functional element of the design, than decorative. It was not until the eighteenth century that it began to get recognition from the cartographers for its endless artistic possibilities, and in the late eighteenth and nineteenth centuries pictorial use of the north point became prevalent through cartographers such as John Rocque and his contemporaries.

This progression is quite obvious in the collective estate maps of Ireland. The Waller and Adams compass indicators being instrumental to function, not ornament (illus. no. 6). The words 'North' and 'South' were merely placed within the former map to indicate orientations and, on the latter, a symbolic representation of the compass with the Illyes de Fleures, or northpoint, indicating orientation. No lettering is used, or needed.

For approximately the next fifty years geometric patterns and optical illusions created by shape or colour took the form of compass indicators upon estate maps. Often, the cross or star shaped compasses were popular, several triangles met on a circular axis, each end point representing a point on the compass. Either the Illyes de Fleures, as in the Co. Dublin estate map or the letter 'N', used in the Monaghan estate map will indicate the direction 'North'.

Colour is applied to add definition to the shape; stronger colour adding emphasis to certain directions. Not only the direction north, south, east and west were used upon a map, frequently those in between such as, northwest or southwest were inserted. Occasionally, the north northwest or south northwest point, for example, were used to embellish the design, not in word but in pattern (illus. no. 25).

Just as the other decorative features were influenced by Rococco or romantic images, equally were the late eighteenth century compass indicators, upon which pictorial detail began to be applied. Colour was eventually lost, detail and representation became paramount. Both the maps of Menagh and Donegal contain an excellent example of this change of design in the orientation devices (illus. no. 16).

An elegant, fluid design is used for the compass indicator on the map of Menagh (illus. no. 11). A delicate hand holds an arrow which leads to a decorative Illyes de Fleures, pointing north. Romantic treatment of the flowing cuff and graceful Illys de Fleures add elegance. Perspective and shading are used to add realism to the treatment of the hand. The arrow and north point, however, appear to be flat, merely symbolic.

North is defined on the Grange map from the Donegal book, by a Rococco arrow containing farmland images, such as a bale of corn, a sickle, a spade and a plough, among others, within it (illus. no. 12). The cartographer would usually have drawn these images in a sketch book from the various farms and estates which he surveyed.

The scale rule usually takes the form of a ruler, with twelve equal measurements representing the division of an inch. Underneath or above the design the scale used by the cartographer on the map will be written. On Irish estate maps the scale was often set at 'forty perches to an inch' or for smaller pieces of land 'twenty perches to an inch', a perch being a seventeenth and eighteenth century dimension for measurement. In the late eighteenth and nineteenth centuries with the introduction of Ordnance Survey maps there was a change to square miles.

Since the scale used is always written on the map it is logical to assume that the scale rule and dividers or protractor which sit above it are non-functional cartographically, but elaborate aesthetically. As with the Co. Dublin estate map the inch divisions are omitted from the ruler. Blocks of equal size, coloured for definition make the scale rule upon which the dividers sit, in this instance. The design is straightforward, scale and measurement are simply symbolised (illus. no. 8).

An almost identical device is used in the Monaghan estate maps except for one unusual element. The cartographer has used a clever space saving formula which also contains many attractive features; one of them is that of containing the compass indicator with the legs of the dividers (illus. no. 9). The cartographer exploits here the four most basic geometric symbols, the triangle, circle, rectangle and square. These shapes are juxtaposed in a successful configuration, primary colour applied to the forms to intensify the primitive in the design. Another compositional component utilised is the equal balance in size and strength of each of the separate geometric forms.

Usually the dividers are smaller in size and ultimately strength to the scale rule. In the Co. Sligo estate maps they are decidedly secondary decorations to that of the scale rule and protractor. Colour and size exaggerate the cartographers reliance on his cartographic tools (illus. no. 26). Detailed divisions upon both the scale rule and protractor dignify the tools, possibly to emphasise this cartographers surveying capabilities. They are also both coloured bright gold, another device to add prestige to the cartographic profession.
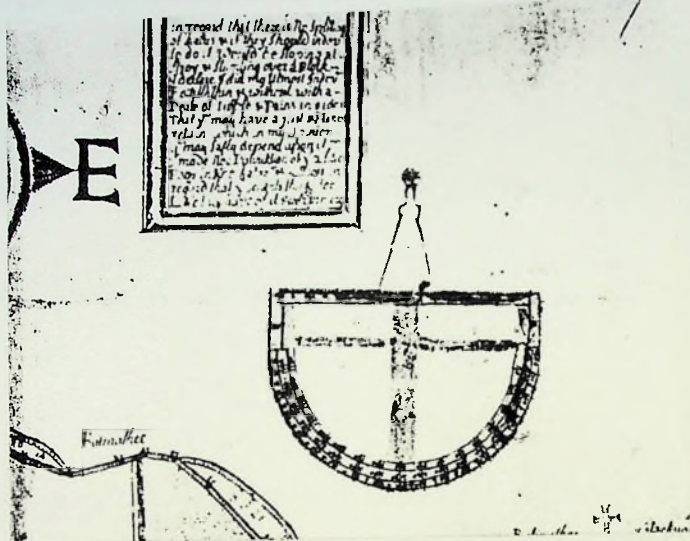
Illus. no. 26 Scale and dividers from Co. Sligo map, 1768
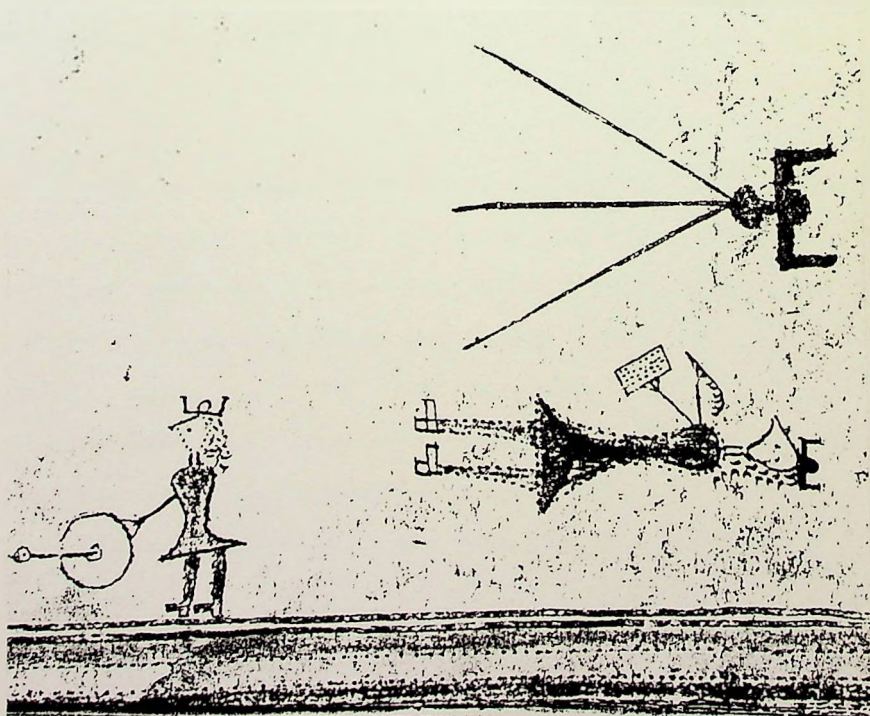
Illus. no. 27 Pictorial detail from Co. Sligo estate map, 1768

INCIDENTAL PICTORIAL DECORATION

Heraldry can be found within the framework of Irish maps to ostentatious advantage. John Speed's map of Ireland contains eleven heraldic images inside the border. Favourable representation of a castle or manor would create the same effect. The cartographer of the Adams estate map of 'Grange' portrays a noble image of the estate owners house

Artistic devices are used to accentuate the power of the owner of the estate, that of deep perspective, dark shading, and details help to embellish the architecture, quite like a wide angled photograph might. The two front lodges, large gardens, towers on either side of the main building, front and rear gates and main castle entrance are the architectural features which are utilised for this purpose.

The surveying instruments are decorative details occasionally added to map design, cleverly giving an indication of contemporary surveying practises. Many Irish estate maps contain images of the cartographers at work or even cherubs working with cartographic tools (illus. no. 1). The tools most often represented are the circumferentor, (a tripod with a large compass resting on it), a thodolite (an updated model of the circumferentor), a linked chain (for measuring distances), and a moving wheel which also recorded distances.

Some of these implements were used by the Costello surveyors of the Sligo estate map and then illustrated upon the map itself. The head cartographer stands beside his circumferentor, a book and quill in his hands to record the details. His assistants are measuring the boundary of the surveyed area with a chain (illus. no. 27). The chain links are echoed on the outline of the map itself, each circular link marked with a number. The chain usually has 66 links, however, there may be as many as 77 points upon the map.

The representation of these cartographers is simplistic, brightly coloured outfits being their attire. An unusually shaped hat is worn by two of the surveyors, it bears a resemblance to the upper part of their main tool - the circumferentor.

The largest group of elements on the map are the mainly non-informative but decorative details. These decorative features include the cartouche, frame, pictorial detail, compass indicator and scale rule, some of which have small functional qualities. The cartouche is generally the single largest, strongest and most ornate feature in this decorative grouping. Within this element the cartographers artistic abilities almost come to life. The cartouche was also the most varied element, contemporary artistic fashions having immense effect on it's rendering by the cartographer. Within the particular group of maps discussed, numerous differences are evident in the cartouche designs. Often simplicity will be the predominant component in cartouche design, or sometimes decoration and beauty may be the more important component.

The   frames design does not follow any historic order. Unpredictability was   the essence of border design.   Often the frame did not reflect the feel   of   the   other   decorative   or   functional element, it was indeed quite   largely   a   separate   element on the map.   The compass indicator and   scale   rule   usually   had   qualities   similar   to each other.   The portrayal   of   surveying   instruments   and   cartographic techniques are among   the   most   interesting   details on Irish estate maps, giving the reader an insight into contemporary map making.

CONCLUSION

While preparing this dissertation I found that variety in Irish estate map cartography of the late seventeenth and eighteenth century was of primary essence. Variety in cartographic methods and instruments were used and also a variety in cartographic artistry was evident. The graphic qualities of the seven estate maps which I discussed were quite different. Each of the maps contained particularly interesting features and often, other undistinguished features too. The map of Mehanah, dated 1770 contained strong colour illuminating techniques while the Adams map, 70 years earlier, possesses notable calligraphic techniques.

Among the several graphic design elements within the maps I discovered that typography was one of the most advanced and attractive features. Over the 150 years of estate cartography the typography varied little in typefaces used, but varied greatly in calligraphic interpretation and presentation. Several of the seven cartographers which I considered used a simple hand written italic script for the basis of their maps typography. Each of the cartographers possessed his own style of calligraphy and applied this in his map making. The contemporary hand written style used by Elkerfley in 1682, is difficult for today's reader to understand. The Costellos in 1768 used a similar typeface but it was both legible and ornate. In the late eighteenth century the cartographers also became expert calligraphers; they explored many areas of calligraphic design including lettering, compositional techniques and incorporation of type into imagery. The influence of contemporary European calligraphy was one of the main reasons for the upsurge in expert typography. In the map of Grange of 1805 the title cartouche boasts a strong legible use of type which is also highly ornate and is used in conjunction with the landscape imagery quite successfully.

Topographical design proved to be either symbolic or representational, the cartographer using his skills to portray the relevant land conditions as realistically and legibly as possible. A cartographer's understanding of how to represent the land most successfully reflected his communicative skills and those of his contemporaries. Settlement is a good topographical example as its portrayal varied enormously in the seven maps I discussed. The earliest map makers used an elevated technique; Peter Duffe in 1713 used this technique on his Dublin map. Later, perspective became popular as it was more representational and allowed cartographers such as John Travers in 1770 to portray quite a realistic view of settlement. The clarity and simplicity of plan drawings attracted the late eighteenth century cartographers. The map makers application of colour to the topographical details was an indication of the cartographers artistic abilities. Simplistic use of colour helped with the legibility of the surveyed area while over-illumination often hindered the maps clarity; such as the map of Co. Monaghan by John Wilson. The character or style of a cartographer's work is most evident in this section of map making. The purpose of the map was also easily ascertained by a study of the topographical details used and how they were used.

> The construction of a map is a mathematical process strictly controlled by measurement and calculation. The completed map must nevertheless be drawn by the hand of the cartographer. This is a free hand process in which the individual style of the draughtsman may be perceived. (Skelton, London 1952).

I considered the artistic qualities of the maps in detail in the third chapter. On each of the seven maps I found that the decorative elements such as the cartouche border of orientation were where often most of the cartographic labour lay. One of the main reasons why the estate maps were over-decorative was that they were being used by the gentry as a kind of status symbol. Possibly a detail of the estate owners house would be inserted, as in the Adams estate map or a landscape drawing of the estate might be contained in the title cartouche as with the Grange estate map Of 1805.

Artistic cartography of the late eighteenth century was a very competitive sphere of design. The cartographic work often comparing favourably to contemporary landscape or figurative artists. Over the 150 years of cartography in Ireland three artistic trends were influential. They were Rococco, Baroque and Romanticism; the majority of the seven estate maps however, did not show these European influences. The perfected cartographic artistry of the later estate maps discussed was primarily influenced by the European cartographers John Rocque and Bernard Scale. They brought new calligraphic and artistic techniques and also superior surveying methods to Ireland. Sherrards and Barafsington in 1805 were most obviously influenced by the naturalistic north points of Bernard Scale and the typographic work of John Rocque. Incidental pictorial detail was one of the most endearing aspects of ancient map making in these seventeenth and eighteenth century maps. I found few Irish examples of pictorial detail, however the Sligo map is quite notable for its incidental imagery.

The noted balance of function and decoration was evident in each of the seven estate maps. Unfortunately in the early nineteenth century decoration eventually lost its importance in map design. The artistic achievements of the estate cartographers became unimportant when the Ordnance Survey came in 1824 to the Phoenix Park, Dublin, in order to fulfil Irish civic needs and was carried out by the military. These cartographers of the eighteenth century seemed to have had little influence on their cartographic successors or on any other important design form. Estate cartography ceased to be made on any large scale after these early Ordnance Surveys were completed, however, "thematic" maps are still being made today for specialist research (Andrews, 1978 pg. 26). They do not however, compare in any way to the early map-making from where so many routes of interesting study could have been followed, cartographic design being only one. A. G. Hogdkiss in <u>Discovering Antique Maps</u> explains:

> They have, however, so much more to offer than mere decoration. They epitomise the geographical knowledge of and the customs of their day; their ornamentation reflects contemporary artistic style and taste; their colouring is often brilliant; their development of techniques by which they are made is full of interest; so too are the map-makers themselves, men such as Mercator – geographer, instrument maker, engraver and scribe, at one time.

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